

Unit 1

1. WAP to print your name on screen.

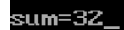
```
#include<stdio.h>
#include<conio.h>
void main()
{
    clrscr();
    printf("arya");
    getch();
}
```



arya_

2. WAP to add 2 n0. & print their sum.

```
#include<stdio.h>
#include<conio.h>
void main()
{ int a=15;
clrscr();
int b=17;
int c;
c=a+b;
printf("sum=%d",c);
getch();
}
```



sum=32_

3. WAP to input 2 no. from user and print their sum.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int a,b,c;

clrscr();

printf("enter first value");

scanf("%d",&a);

printf("enter second value");

scanf("%d",&b);

c=a+b;

printf("sum=%d",c);

getch();

}
```



```
enter first value8
enter second value9
sum=17_
```

4. WAP to show declaration , assignment and values stored of integer data type.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int a,b;

clrscr();


printf("enter the value of a and b");

scanf("%d%d",&a,&b);

printf("a=%d b=%d",a,b);

getch();

}
```



```
enter the value of a and b
67
90
a=67 b=90
```

5. WAP to Enter value of different data type & print them.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int p;

float q;

long int r;

clrscr();

printf("enter the value of p");

scanf("%d",&p);

printf("p is=%d",p);

printf("\nenter the value of q");

scanf("%f",&q);

printf("q is=%f",q);

printf("\nenter the value of r");

scanf("%ld",&r);

printf("r is=%ld",r);

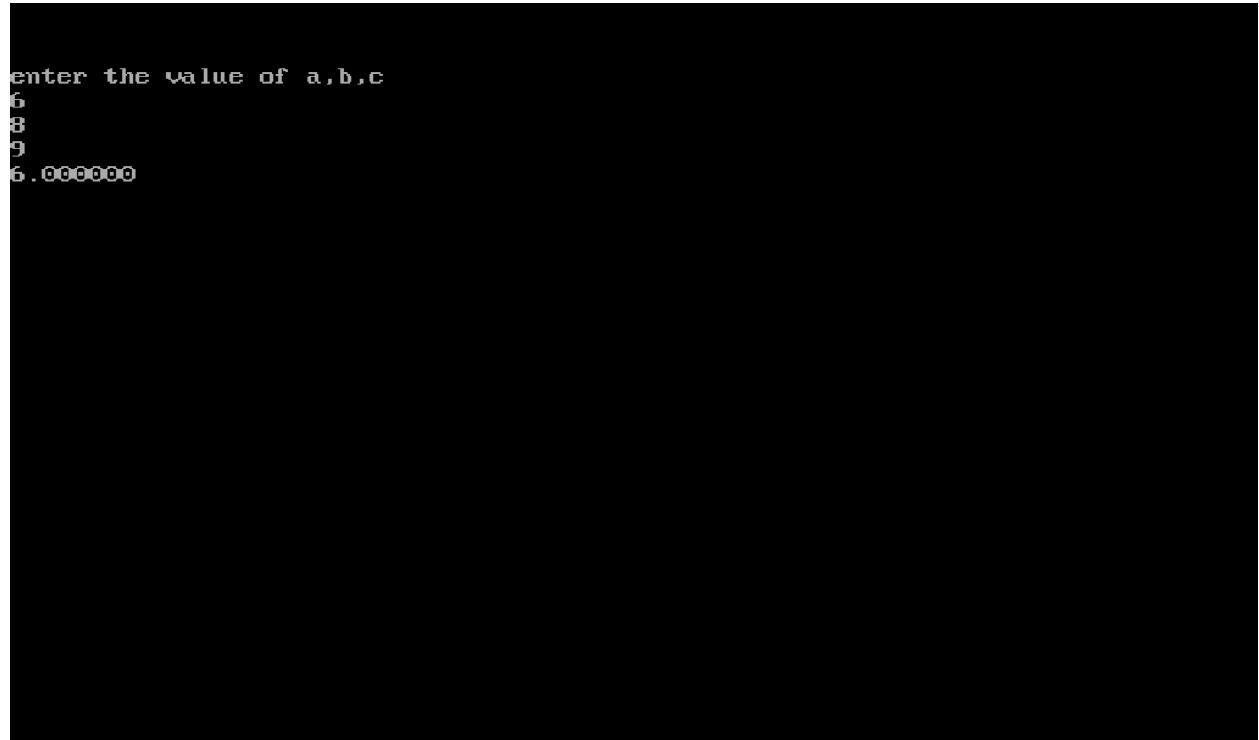
getch();
```

}

```
enter the value of p78  
p is=78  
enter the value of q89  
q is=89.000000  
enter the value of r80  
r is=80_
```

6. WAP to check precedence order by using $a-b/(3+c)*(2-1)$.

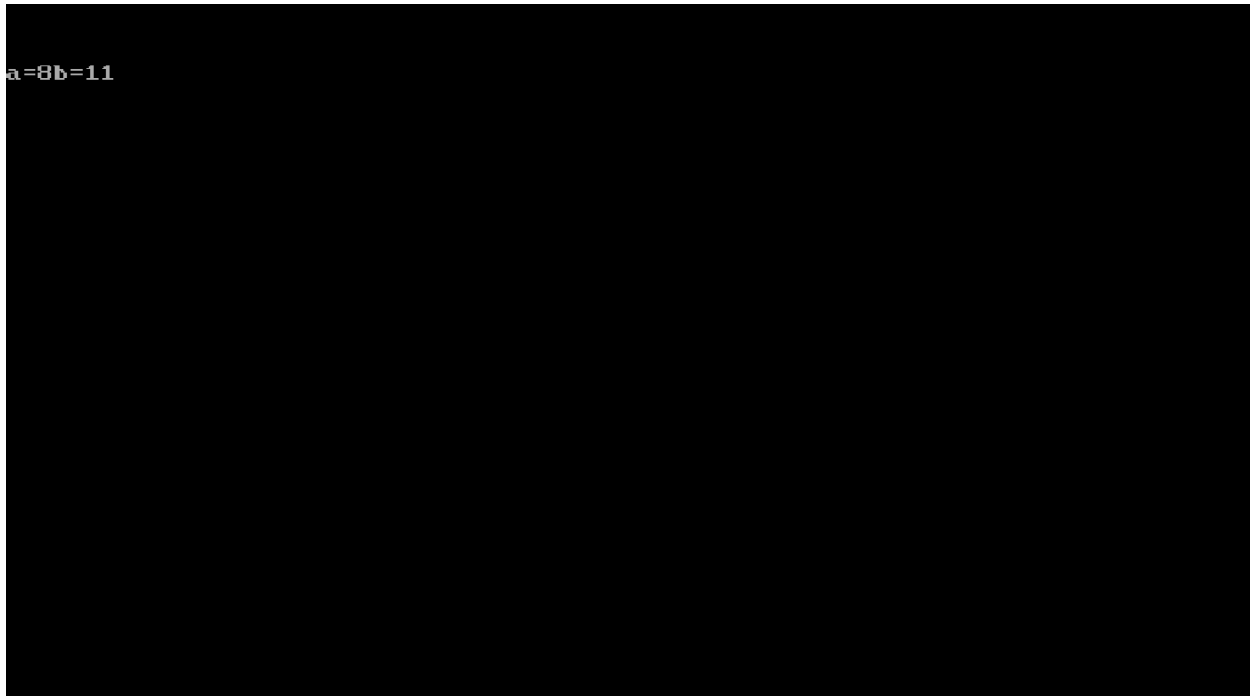
```
#include<stdio.h>
#include<conio.h>
void main()
{int a,b,c;
float d;
clrscr();
printf("enter the value of a,b,c");
scanf("%d%d%d",&a,&b,&c);
d=(a-b/(3+c)*(2-1));
printf("%f",d);
getch();}
```



```
enter the value of a,b,c
6
8
9
6.000000
```

7. WAP to print integer type constants on screen.


```
#include<stdio.h>
#include<conio.h>
void main()
{
int a=8;
int b=11;
clrscr();
printf("a=%d",a);
printf("b=%d",b);
getch();
}
```



a=8b=11

8. WAP to swap 2 no. using third variable.

```
#include<stdio.h>
#include<conio.h>
void main()
{int a,b,c;
clrscr();
printf("enter the value of a,b");
scanf("%d%d",&a,&b);
c=a;
a=b;
b=c;
printf("a=%d",a);
printf("b=%d",b);
getch();}
```



```
enter the value of a,b
9
70
a=70b=9
```

9.WAP to Evaluate percentage of a student.

```
#include<stdio.h>

#include<conio.h>

void main()

{ int s1,s2,s3,s4,s5,sum;

int total=500;

float per;

clrscr();

printf("\n Enter marks of 5 subject:");

scanf("%d%d%d%d%d",&s1,&s2,&s3,&s4,&s5);


sum=s1+s2+s3+s4+s5;

printf("\n sum=%d",sum);

per=(sum*100)/total;

printf("\n percentage:%f",per);

getch();}
```




```
Enter marks of 5 subject:34
45
42
40
35

sum=196
percentage:39.000000_
```

10. WAP to convert no of days into months.

```
#include<stdio.h>
#include<conio.h>
void main()
{ clrscr();
int months,days;
printf("enter days\n");
scanf("%d",&days);
months=days/30;
days=days%30;
printf("months=%d days=%d",months,days);
getch();
}
```



```
enter days
26
months=2 days=26
```

11.WAP to show single character input using getchar().

```
#include<stdio.h>
#include<conio.h>
void main()
{
char ch;
clrscr();
ch=getchar();
printf("input char is:%c",ch);
getch();
}
```



```
hello
input char is:h_
```

12. WAP to show and take input by scanf().

```
#include<stdio.h>

#include<conio.h>

void main()

{

char c;

clrscr();

scanf("%c",&c);

printf("first character is:%c",c);

getch();}
```

```
print
first character is:p
```

13. WAP to enter some float value & typecast into integer type.

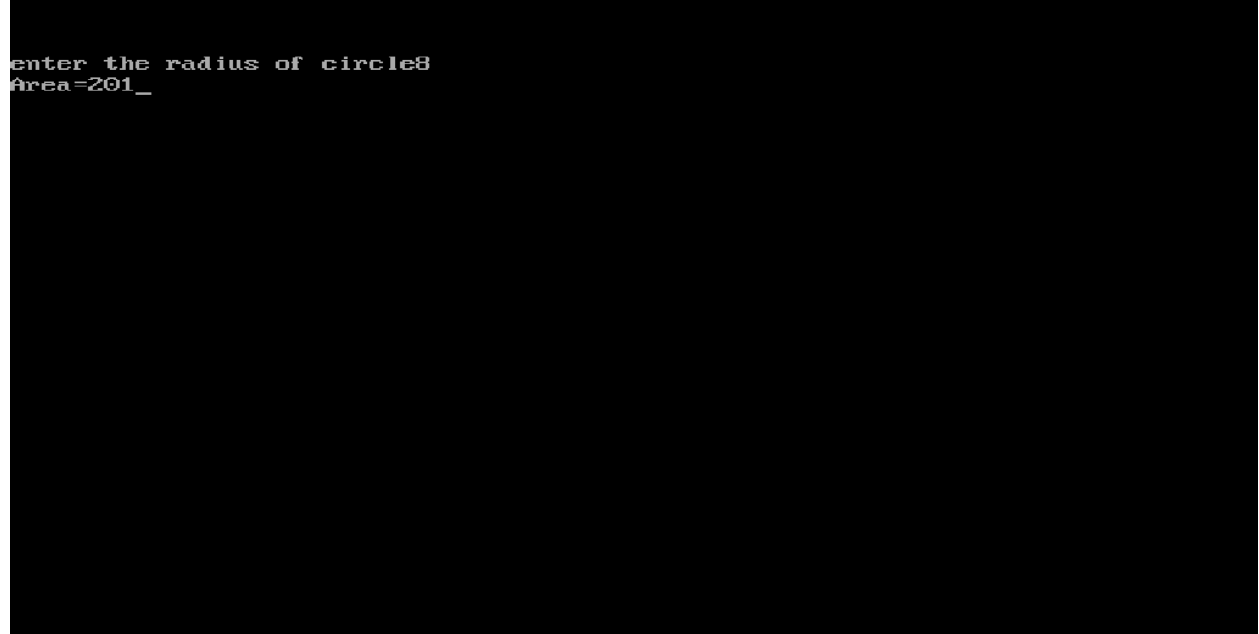
```
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b;
float c;
clrscr();
printf("enter value of a and b");
scanf("%d%d",&a,&b);
c=(float)a/b;
printf("div=%f",c);
getch();
}
```



```
enter value of a and b
3
2
div=1.500000_
```

14. WAP to show use of preprocessor for define Macro substitution.

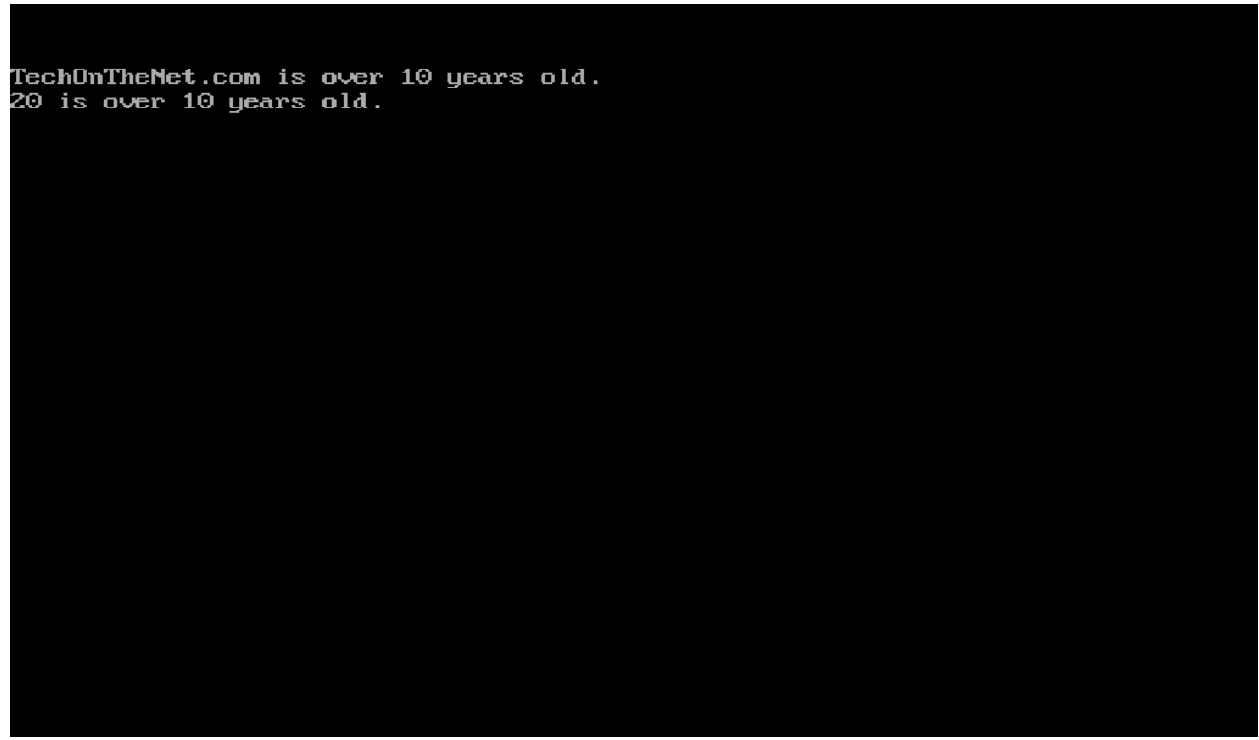
```
#include<stdio.h>
#include<conio.h>
#define PI 3.15
void main()
{
int r, area;
clrscr();
printf("enter the radius of circle");
scanf("%d",&r);
area=PI*r*r;
printf("Area=%d",area);
getch();
}
```



```
enter the radius of circle8
Area=201_
```

15. WAP for undefined Macro substitution. Or 17.WAP for testing macro substitution.

```
#include <stdio.h>
#define NAME "TechOnTheNet.com"
#define AGE 10
int main()
{
    printf("%s is over %d years old.\n", NAME, AGE);
    #undef NAME
    #define NAME 20
    printf("%d is over %d years old.\n", NAME, AGE);
    return 0;
}
```

A screenshot of a terminal window with a black background and white text. The output shows two lines: "TechOnTheNet.com is over 10 years old." followed by "20 is over 10 years old." on the next line.

```
TechOnTheNet.com is over 10 years old.
20 is over 10 years old.
```

/* plz ctrl+f9 then alt+f5*/

16.WAP for specify files to include.

```
#include<stdio.h>
```

```
#include<macro.cpp>
```

```
int main()
```

```
{
```

```
    printf("%s is over %d years old.\n", NAME, AGE);
```

```
    #undef NAME
```

```
    #define NAME 20
```

```
    printf("%d is over %d years old.\n", NAME, AGE);
```

```
    getch();
```

```
    return 0;
```

```
}
```

19. WAP for specify end of if.

```
#include<stdio.h>

#include<conio.h>

void main()

{int a,b;

clrscr();

printf("enter the value of a,b");

scanf("%d%d",&a,&b);

if(a>b){

printf("a is greatest");

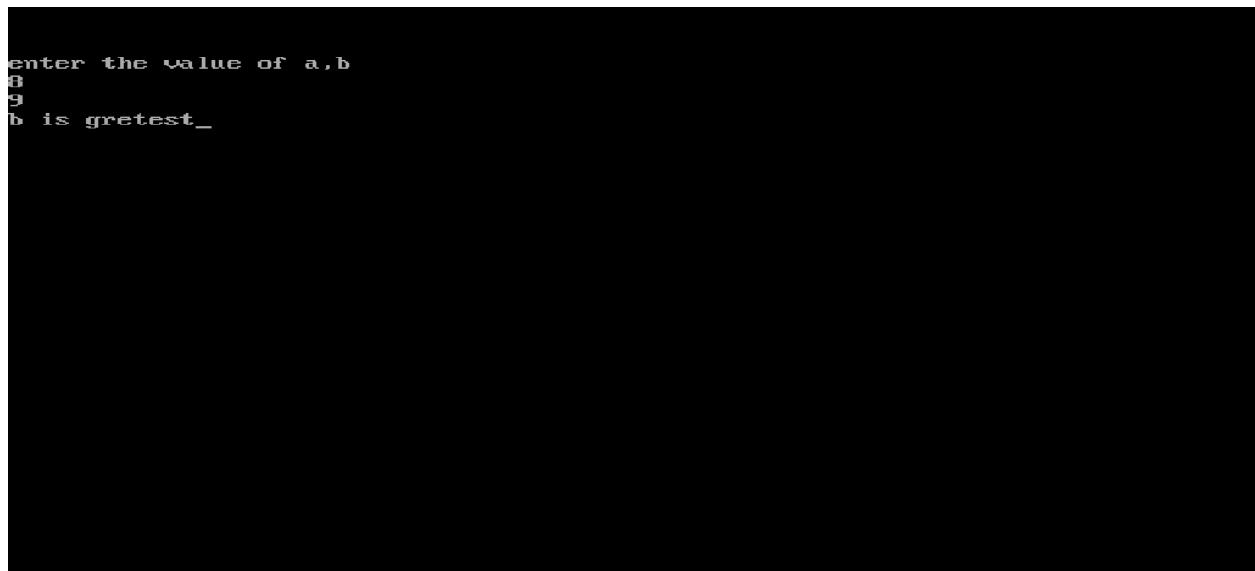
} //endif

else

{printf("b is gretest");

}

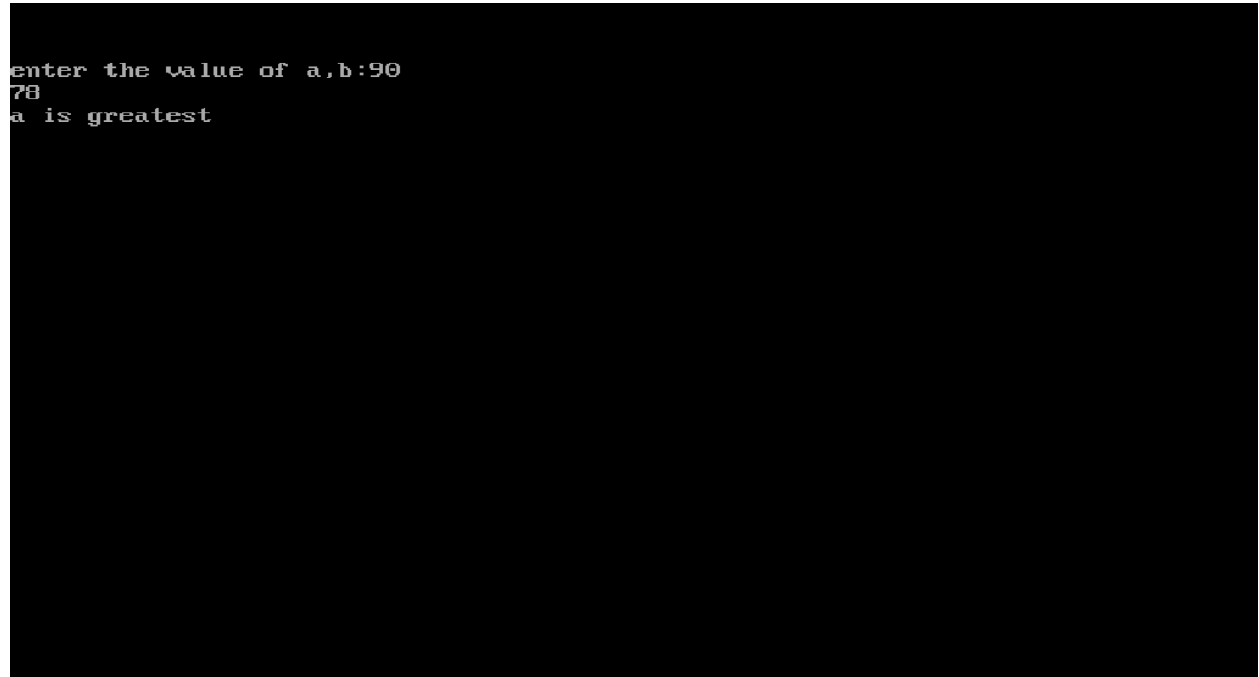
getch();}
```



```
enter the value of a,b
9
9
b is gretest_
```

20. find & print larger no between given 2 no.

```
#include<stdio.h>
#include<conio.h>
void main()
{ int a,b;
clrscr();
printf("enter the value of a,b:");
scanf("%d%d",&a,&b);
if(a>b)
{ printf("a is greatest "); }
else
{printf("b is greatest");}
getch();}
```



```
enter the value of a,b:90
78
a is greatest
```

Unit 2

1. write a program for check that given two number have which relation small big or equal.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int a,b;

clrscr();

printf("enter the value of a & b");

scanf("%d%d",&a,&b);

if(a==b)

{

printf("the number is equal"); }

else if(a>b) {

printf("the number a is greater than b");

}

else

printf("number a is small than b");

getch();

}
```

2.write a program to print address of variable along with its value.

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
int i=3;
```

```
clrscr();
```

```
printf("\naddress of i=%u",&i);
```

```
printf("\n Value of i =%d",i);
```

```
getch();
```

```
}
```

3. write a c program to illustrate use of * operator to access values pointed by pointer.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int i=3;

int *j;

clrscr();

j=&i;

printf("\n Address of i=%u",&i);

printf("\n Address of i=%u",j);

printf("\n Address of j=%u",&j);

printf("\n value of j=%u",j);

printf("\n value of i=%d",i);

printf("\n value of i=%d",*(&i));

printf("\n value of i=%d",*j);

getch();

}
```

4.write a c program to illustrate use of pointer in arithmetic operation.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int *p1,*p2,sum;
clrscr();
printf("enter two number:");
scanf("%d%d",&*p1,&*p2);
sum=*p1 + *p2;
printf("sum=%d",sum);
getch();
}
```

5. write a c program for reverse the element of array.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[5],b[5],i,j;
clrscr();
printf("enter the array elements\n");
for(i=0;i<5;i++)
scanf("%d",&a[i]);
for(i=4,j=0;i>=0;i--,j++)
b[j]=a[i];
printf("reverse array is \n");
for(j=0;j<5;j++)
printf("%d\n",b[j]);
getch();
}
```


6.write a c program for print the following pattern.

1

22

333

4444

55555

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
int n,i,j;
```

```
clrscr();
```

```
printf("enter the number of lines");
```

```
scanf("%d",&n);
```

```
printf("the pattern is\n");
```

```
for(i=1;i<=n;i++)
```

```
{
```

```
for(j=1;j<=i;j++)
```

```
printf("%d",i);
```

```
printf("\n");
```

```
}
```

```
getch();}
```

7.write a c program for sum of array elements using pointers.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int a[5],i,sum=0;

int *ptr;

printf("enter the elements for array");

for(i=0;i<5;i++)

scanf("%d",&a[i]);

ptr=a;

for(i=0;i<5;i++)

{

sum=sum+ *ptr;

ptr++;

}

printf("the sum of array elements : %d",sum);

getch();

}
```

8.write a c program for find smallest number in an array.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int a[5],min,i;

clrscr();

printf("enter the element for the array:");

for(i=0;i<5;i++)

scanf("%d",&a[i]);

min=a[0];

for(i=1;i<5;i++)

{

if(min>a[i])

min=a[i];

}

printf("minimum no=%d",min);

getch();

}
```

9.write a c program for checking weather two number are equal or not.

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
Void main()
```

```
{
```

```
Int a,b;
```

```
Clrscr();
```

```
Printf("enter the value of a and b");
```

```
Scanf("%d%d",&a,&b);
```

```
If(a==b)
```

```
Printf("the number is equal ");
```

```
Else
```

```
Printf ("the number is not equal ");
```

```
getch();
```

```
}
```

10. write a c program to find largest among three number.

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
Void main()
```

```
{
```

```
Int a,b,c;
```

```
Clrscr();
```

```
Printf("enter the value of a and b and c");
```

```
Scanf("%d%d%d",&a,&b,&c);
```

```
If((a>b)&&(a>c))
```

```
Printf("a is greater");
```

```
If((b>c)&&(b>a))
```

```
Printf("b is greater");
```

```
If((c>a)&&(c>b))
```

```
Printf("c is greatest");
```

```
getch();
```

```
}
```

11. write a c program to determine if no is even or odd.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int n ;
clrscr();
printf("enter any number ");
scanf("%d",&n);
if (n%2==0)
printf("no is even");
else
printf("no is odd");
getch();
}
```

12. write a c program for print the following pattern.

*

**

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
int i,j;
```

```
clrscr();
```

```
for(i=1;i<=5;i++)
```

```
{
```

```
for(j=1;j<=i;j++)
```

```
printf("*");
```

```
printf("\n");
```

```
}
```

```
getch();
```

```
}
```

13. write a c program to find whether given no is prime no. or not.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int i,n,r=0;

clrscr();

printf("enter any number");

scanf("%d",&n);

for(i=2;i<=n-1;i++)

{

if(n%i==0)

r=1;

break;

}

if(r==0)

printf("prime number");

else

printf("not prime");

getch();

}
```


14. write a program to find largest number in an array.

```
#include<stdio.h>

#include<conio.h>

void main()

{

Int a[5],max,i;

clrscr();

printf("enter the element for the array");

for(i=0;i<5;i++)

scanf("%d",&a[i]);

max=a[0];

for(i=1;i<5;i++)

{

if(max<a[i])

max=a[i];

}

printf("maximum no =%d",max);

getch();

}
```

15. write a program for showing addition of 2 matrix.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int a[3][2],b[3][2],c[3][2],i,j;

clrscr();

printf("enter the value for matrix 1:");

for(i=0;i<3;i++)

{

for(j=0;j<2;j++)

scanf("%d",&a[i][j]);

}

Printf("enter the value for matrix 2:");

for(i=0;i<3;i++)

{

for(j=0;j<2;j++)

scanf("%d",&b[i][j]);

}

for(i=0;i<3;i++)

{

for(j=0;j<2;j++)
```

```
c[i][j]=a[i][j]+b[i][j];
}
printf("sum of matrix is \n");
for(i=0;i<3;i++)
{
for(j=0;j<2;j++)
{
printf("%d\t",c[i][j]);
}
printf("\n");

}
getch();
}
```

16. write a program for showing multiplication of 2 matrix.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int a[3][2],b[3][2],c[3][2],i,j;

clrscr();

printf("enter the value for matrix 1:") ;

for(i=0;i<3;i++)

{

for(j=0;j<2;j++)

scanf("%d",&a[i][j]);

}

Printf("enter the value for matrix 2:");

for(i=0;i<3;i++)

{

for(j=0;j<2;j++)

scanf("%d",&b[i][j]);

}

for(i=0;i<3;i++)

{

for(j=0;j<2;j++)
```

```
c[i][j]=a[i][j]*b[i][j];
}
printf("multiply of matrix is \n");
for(i=0;i<3;i++)
{
for(j=0;j<2;j++)
{
printf("%d\t",c[i][j]);
}
printf("\n");

}
getch();
}
```

17. write a program to enter 15 values in array & print their sum.

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
int a[15],i,sum=0;
```

```
clrscr();
```

```
printf("enter elements of an array:");
```

```
for(i=0;i<15;i++)
```

```
scanf("%d",&a[i]);
```

```
for(i=0;i<15;i++)
```

```
sum=sum+a[i];
```

```
printf("sum=%d",sum);
```

```
getch();
```

```
}
```

18. write a c program to check whether given no is armstrong or not.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int num,r,sum=0,temp;
printf("enter a number");
scanf("%d",&num);
temp=num;
while(num!=0)
{
r=num%10;
num=num/10;
sum=sum+(r*r*r);
}
if(sum==temp)
printf("%d is an Armstrong number",temp);
else
printf("%d is not an Armstrong number",temp);
getch();
}
```

19. write a program to enter 10 values in an array.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int a[10],i;

clrscr();

printf("enter element of array");

for(i=0;i<10;i++)

scanf("%d",&a[i]);

for(i=0;i<10;i++)

printf("%d",a[i]);

getch();

}
```


20. write a c program to show integer 0 through 9.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int i;
clrscr();
for(i=0;i<=9;i++)
{
Printf(“%d\n”,i);
getch();
}
```

21. write a program to enter any number then show according to that number months name using switch case.

```
#include <stdio.h>

#include<conio.h>

void main()

{

int i ;

clrscr();

printf("enter the value of i");

scanf("%d",&i);

switch(i)

{

Case 1:

Printf("January");

break;

case 2:

printf("Feburary");

break;

case 3:

printf("March");

break;

case 4:
```

```
printf("April");
```

```
break;
```

```
case 5:
```

```
printf("May");
```

```
break;
```

```
case 6:
```

```
printf("June");
```

```
break;
```

```
case 7:
```

```
printf("July");
```

```
break;
```

```
case 8:
```

```
printf("August");
```

```
break;
```

```
case 9:
```

```
printf("Sepetember");
```

```
break;
```

```
case 10:
```

```
printf("October");
```

```
break:
```

```
case 11:
```

```
printf("November");
```

```
break;
```

```
case 12:
```

```
printf("December");
```

```
break;
```

```
default:
```

```
printf("wrong input");
```

```
}
```

```
getch();
```

```
}
```

22. write a c program to determine Fibonacci series.

```
#include<stdio.h>

#include<conio.h>

void main()

{

    int a=0,b=1,i,sum,n,j=0,m;

    clrscr();

    printf(" Please Enter value for N: ");

    scanf("%d",&n);

    printf("\n PLEASE ENTER THE CHECKING NO.: ");

    scanf("%d",&m);

    printf("\n\n\t\t\t IT IS FEBONACCI SERIES \n ");

    printf("%d ",a);

    printf("%d ",b);

    for(i=2;i<n;i++)

    {

        sum = a+b;

        a = b;

        b = sum;

        if(sum==m)

            j=1;

        printf("%d ",sum);
```

```
}  
if(j==1)  
    printf("\n\n\t\t\t %d IT IS FEBONNACI NUMBER. ",m);  
else  
    printf("\n\n\t\t\t %d IT IS NOT FEBONNACI NUMBER. ",m);  
getch();  
}
```

23. write a c program for sort the elements of array in ascending order.

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
int a[5],temp,j,l;
```

```
clrscr();
```

```
printf("enter the elements of array");
```

```
for(i=0;i<5;i++)
```

```
scanf("%d",&a[i]);
```

```
for(i=0;i<5;i++)
```

```
{
```

```
for(j=i+1;j<5;j++)
```

```
{
```

```
if(a[i]>a[j])
```

```
{
```

```
temp=a[i];
```

```
a[i]=a[j];
```

```
a[j]=temp;
```

```
}}}
```

```
for(i=0;i<5;i++)
```

```
printf("%d",a[i]);
```

```
getch();
```

```
}
```


24. write a c program to enter marks of 10 student and check their division.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int total,sum[10],i,j;

float p;

clrscr();

printf("please enter the total marks");

scanf("%d",&total);

for(i=0;i<10;i++)

{

printf("\n please enter the marks obtained by students");

scanf("%d",&sum[i]);

j=sum[i];

p=(j*100.0)/total;

printf("percentage=%f",p);

if(p>=60)

{

printf("\n first division");

}

else if(p>=45 && p<60)
```

```
{  
printf("\n second division");  
else if (p>=33 && p<45)  
{  
printf("\n third division");  
else  
{  
printf("\n fail");  
}  
}  
getch();  
}
```

25. write a c program using pointer to find length of character string.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int i=0;

char a[10];

char *p;

clrscr();

printf("enter a string\n");

gets(a);

p=a;

while(*p!='\0')

{

i++;

p++;

}

printf("length of string is ::%d",i);

getch();

}
```

26.write a c program to exchange values stored in 2 location in array using pointer.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int a[5],b[5],c[5],i;

clrscr();

printf("enter the elements of first array");

for(i=0;i<5;i++)

scanf("%d",&a[i]);

printf("enter the elements of second array");

for(i=0;i<5;i++)

scanf("%d",&b[i]);

printf("array before swapping" );

printf("\n first array");

for(i=0;i<5;i++)

{

printf("%d",a[i]);

}

printf("\n second array");

for(i=0;i<5;i++)
```

```
{
printf("%d",b[i]);
}
for(i=0;i<5;i++)
{
c[i]=a[i];
a[i]=b[i];
b[i]=c[i];
}
printf("\n array after swapping");
printf("\n first array");
for(i=0;i<5;i++)
{
printf("%d",a[i]);
}
printf("second array");
for(i=0;i<5;i++)
{
printf("%d",b[i]);
}
getch();}
```

27. write a c program to enter height and weight of 10 student & count no of boys with weight less than 50 kg & height greater than 170 cm.

```
#include<stdio.h>

#include<conio.h>

void main()

{

clrscr();

int h[10],w[10],count=0,i,j;

for(i=0;i<=10;i++)

{

printf("enter the hight of boys");

scanf("%d",&h[i]);

printf("enter the weight of boys");

scanf("%d",&w[j]);

}

for(i=0;i<=10;i++)

{

if(h[i]>170 && w[j]<50)

{

printf("\nAccepted");

count=count+1;

}

}
```

```
else
{
printf("\nrejected");
}
}
printf("\n no of boys=%d",count);
getch();
}
```

28. write a c program to add number of array .

```
#include<stdio.h>
#include<conio.h>
void main( )
{
    int n,m,i,j,k,c[40],a[20],b[20];
    clrscr ();
    printf("Enter how many elements for array A?:\n");
    scanf("%d",&n);
    printf ("Enter how many elements for array B?:\n");
    scanf("%d",&m);
    printf("Enter elements for A:-\n");
    for(i=0;i<n;i++)
    scanf("%d",&a[i]);
    printf("Enter elements for B:-\n");
    for(j=0;j<m;j++)
    scanf("%d",&b[j]);
    i=j=k=0;
    while(i<n&& j<m)
    {
        if(a[i]<b[j])
            c[k++]=a[i++];
        else
```



```
if(a[i]>b[j])
c[k++]=b[j++];
else
{
    c[k++]=b[j++];
    i++;
    j++;
}
}
if(i<n)
{
    int t;
    for(t=0;t<n;t++)
        c[k++]=a[i++];
}
if(j<m)
{
    int t;
    for(t=0;t<m;t++)
    {
        c[k++]=b[j++];
    }
}
```

```
printf("\n\n Merged Array C:\n\n")
for(k=0;k<(m+n);k++)
printf("\t \n %d ",c[k]);
getch();
}
```

30. write a c program for counting the number of an array.

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void main()
{
int a[10],j=0,i;
a[0]='0';
a[1]='1';
a[2]='2';
a[3]='3';
a[4]='4';
a[5]='5';
for(i=0;i<10;i++)
{
if(a[i]=='10')
{
}
else
{
j=j+1;
}
}
}
```

```
printf("%d",j);  
system("pause");  
getch();  
}
```

Unit 3

1.WAP for illustrate assignment of initial values to member of structure.

```
#include <stdio.h>
#include<conio.h>
int main()
{
    struct student
    {
        char *name;
        introllno;
        float totalmark;
    };
    struct student stud1={"Ashraf",1,98};
    struct student stud3= {"Rahul",3,97};
    struct student stud2={"Vineeth",2,99};
    clrscr();
    printf("STUDENTS DETAILS:\nRoll number:%d\n\nName:%s\n\nTotal
mark:%.2f\n",stud1.rollno,stud1.name,stud1.totalmark);
    printf("\nRoll number:%d\n\nName:%s\n\nTotal
mark:%.2f\n",stud2.rollno,stud2.name,stud2.totalmark);
    printf("\nRoll number:%d\n\nName:%s\n\nTotal
mark:%.2f\n",stud3.rollno,stud3.name,stud3.totalmark);
    getch();
    return 0;
}
```

2.WAP for entering details of a student using structure.

```
#include <stdio.h>

struct student{
char name[50];
int roll;
int marks;
};

void main(){
struct student s[3];
inti;
clrscr();
printf("Enter information of students:\n");
for(i=0;i<3;++i)
{
s[i].roll=i+1;
printf("\nFor roll number %d\n",s[i].roll);
printf("Enter name: ");
scanf("%s",s[i].name);
printf("Enter marks: ");
scanf("%d",&s[i].marks);
printf("\n");
}
getch();}
```

3.WAP for print all details – name, roll no., id marks etc of a student.

```
#include <stdio.h>

struct student{
char name[50];

int roll;

int marks;

};

int main(){

struct student s[3];

inti;

for(i=1;i<=3;i++){

printf("Enter information of students:\n\n");

printf("Enter name: ");

scanf("%s",s[i].name);

printf("Enter roll number: ");

scanf("%d",&s[i].roll);

printf("Enter marks: ");

scanf("%d",&s[i].marks);

printf("\n");

}

printf("\nDisplaying Information\n");

for(i=1;i<=3;i++){
```

```
printf("Name: %s\n",s[i].name);  
printf("Roll: %d\n",s[i].roll);  
printf("Marks: %d\n",s[i].marks);}  
getch();  
return 0;  
}
```


4.WAP for comparison of structure variables.

```
#include<stdio.h>
struct class
{
int number;
char name[20];
float marks;
};
main()
{
int x;

struct class student1 = {111,"Rao",72.50};
struct class student2 = {222,"Reddy", 67.00};
struct class student3;
clrscr();
    student3 = student2;

    x = ((student3.number == student2.number) &&
        (student3.marks == student2.marks)) ? 1 : 0;

if(x == 1)
{
printf("\nstudent2 and student3 are same\n\n");
printf("%d %s %f\n", student3.number,
        student3.name,
        student3.marks);
}
else
    printf("\nstudent2 and student3 are different\n\n");
getch();
}
```

5.WAP for calculate subject-wise total of student using structure.

```
#include<stdio.h>
#include<conio.h>
struct marks
{
int sub1,sub2,sub3,total;
};
void main()
{
clrscr();
int i;
struct marks student[3]={{45,67,81,0}
                        ,{75,53,69,0}
                        ,{57,36,71,0}};
struct marks total;
for(i=0;i<=2;i++)
{
student[i].total=student[i].sub1+student[i].sub2+student[i].sub3;
total.sub1=total.sub1+student[i].sub1;
total.sub2=total.sub2+student[i].sub2;
total.sub3=total.sub3+student[i].sub3;
total.total=total.total+student[i].total;
```

```
}  
  
printf("student total\n");  
  
for(i=0;i<=2;i++)  
  
printf("student[%d] %d\n",i+1,student[i].total);  
  
printf("\n subject total\n");  
  
printf("%s %d\n%s %d\n%s %d\n","subject 1:",total.sub1,"subject  
2:",total.sub2,"subject 3:",total.sub3);  
  
printf("\n grand total=%d\n",total.total);  
  
getch();  
  
}
```

6. WAP for take marks of student's array & find their percentage and print them.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int total,sum[10],i,j;

float p;

clrscr();

printf("please enter the total marks");

scanf("%d",&total);

for(i=0;i<10;i++)

{

printf("\n please enter the marks obtained by students");

scanf("%d",&sum[i]);

j=sum[i];

p=(j*100.0)/total;

printf("percentage=%f",p);

}

getch();

}
```

7. WAP using array of structure for showing students marks of every subject as well as grand total.

```
#include <stdio.h>

#include <conio.h>

int main()
{
struct student
    {
        introllno;
        char name[5];
        int sub1,sub2,sub3;
        inttotalmark;
    }stud[5];

intn,i;

clrscr();

printf("Enter total number of students\n\n");

scanf("%d",&n);

for(i=0;i<n;i++)
    {
        printf("Enter details of %d-th student\n",i+1);
        printf("Name:\n");
        scanf("%s",&stud[i].name);
        printf("Roll number:\n");
```

```
scanf("%d",&stud[i].rollno);
printf("Subject 1 : \n");
scanf("%d",&stud[i].sub1);
printf("Subject 2 : \n");
scanf("%d",&stud[i].sub2);
printf("Subject 3 : \n");
scanf("%d",&stud[i].sub3);
stud[i].totalmark = stud[i].sub1+stud[i].sub2+stud[i].sub3;

printf("Total mark: %d\n",stud[i].totalmark);
}

printf("STUDENTS DETAILS:\n");
for(i=0;i<n;i++)
{
printf("\nRoll number:%d\n",stud[i].rollno);
printf("Name:%s\n",stud[i].name);
printf("Total mark:%d\n",stud[i].totalmark);
}

getch();
return 0;
}
```

8. WAP for open an existing data file.

```
#include <stdio.h>
#include <stdlib.h>

int main()
{
    FILE *fp = fopen("test.txt", "w");
    clrscr();
    if (fp == NULL)
    {
        puts("Couldn't open file");
        exit(0);
    }
    else
    {
        fputs("create a new file", fp);
        puts("Done");
        fclose(fp);
    }
    getch();
    return 0;
}
```

9.WAP for read content of data file.

```
#include <stdio.h>
#include <stdlib.h>

void main()
{
    FILE *fptr;
    char filename[15];
    charch;
    clrscr();
    printf("Enter the filename to be opened \n");
    scanf("%s", filename);
    /* open the file for reading */
    fptr = fopen(filename, "r");
    if (fptr == NULL)
    {
        printf("Cannot open file \n");
        exit(0);
    }
    ch = fgetc(fptr);
    while (ch != EOF)
    {
        printf ("%c", ch);
        ch = fgetc(fptr);
    }
    fclose(fptr);
    getch();
}
```


10.Wap for read content of data file character by character basis and display them.

```
#include<stdio.h>

void main(){

    FILE *fp;

    intch;

    char filename[20];

    clrscr();

    printf("\n Enter the filename: ");

    scanf("%s",&filename);

    fp = fopen(filename,"r");

    if(fp==NULL) {

        printf("\n Error Opening the file");

        exit(1); }

    ch = fgetc(fp);

    while(ch!=EOF)

        {

        putchar(ch);

        ch = fgetc(fp);

        }

    fclose(fp);

    getch();

}
```

11.WAP for find sum of number stored in data file.

```
#include<stdio.h>
int main()
{
int count;
int sum=0;
    FILE *inFile, *outFile;
charfname[20];
clrscr();
printf("Enter a file name: ");
gets(fname);

inFile = fopen(fname, "r");
if (inFile == NULL)
    {
        printf("\nFailed to open file.\n");
        exit(1);
    }
while(fscanf(inFile,"%d",&count)!=EOF)
    {
        printf("%-7d\n",count);
        sum +=count;
    }

    printf("The sum is := %d\n" ,sum);
fclose(inFile);
getch();
}
```

12. WAP to store 100 lines in a data file.

```
#include<stdio.h>

#include<conio.h>

main()

{

FILE *fp;

inti;

if((fp=fopen("lines.dat","w+"))=NULL)

printf("\n ERROR-cannot open file\n");

else

{ for(i=1;i<=100;i++)

fprintf(fp,"\n");

}

fclose(fp);

getch();

}
```

13. WAP for creating file containing customer record

```
#include<stdio.h>
struct customer
{
int code;
char name[30];
char address[50];
char phone[10];
}cust;

FILE *fp1,*fp2;
void main()
{
charch='y';
inti=1;
if (fp1==NULL)
{
fp1=fopen("customer.txt","w");
if (fp1==NULL)
{
printf ("\nUnable to create customer.txt file");
getch();
exit();
}
printf ("\nNo Data found in customer.txt. Add new records");
while (1)
{
printf ("\nEnter Customer Code:-> ");
flushall();
scanf ("%d",&cust.code);
printf ("\nEnter Customer Name:-> ");
flushall();
gets(cust.name);
printf ("\nEnter Customer Address:-> ");
```

```
flushall();
gets(cust.address);
printf ("\nEnter Customer Phone Number:-> ");
flushall();
gets(cust.phone);
    fwrite(&cust, sizeof(cust),1,fp1);
printf ("\nDo u want to add more records (y/n):->");
scanf("%c",&ch);
if (ch=='n' || ch=='N')break;
    }
fclose(fp1);
    //fp1=fopen("customer.txt","r");
clrscr();
}}
```

14. WAP for copying a data file.

```
#include<stdio.h>
int main(){
    FILE *p,*q;
    char file1[20],file2[20];
    charch;
    printf("\nEnter the source file name to be copied:");
    gets(file1);
    p=fopen(file1,"r");
    if(p==NULL){
        printf("cannot open %s",file1);
        exit(0);
    }
    printf("\nEnter the destination file name:");
    gets(file2);
    q=fopen(file2,"w");
    if(q==NULL){
        printf("cannot open %s",file2);
        exit(0);
    }
    while((ch=getc(p))!=EOF)
        putc(ch,q);
    printf("\nCOMPLETED");
    fclose(p);
    fclose(q);
    getch();
    return 0;
}
```

15. WAP to average of number stored in a data file.

```
#include<stdio.h>
#include<conio.h>
main()
{
FILE *fpin,*fpout;
floatval,avg,sum =0;
int count=0;
if((fpin=fopen("values.txt","r"))==NULL)
printf("\n ERROR-CANNOT OPEN FILE\n");
else{
while(!feof(fpin))
{
fscanf(fpin,"%f",&val);
sum +=val;
count++;
}
}
avg =sum/count;
if((fpout=fopen("average.txt","w"))==NULL)
printf("\N ERROR-CANNOT OPEN FILE\n");
else
fprintf(fpout,"The average of number of file average.txt is %.3f\n",avg);
printf("Done");
fclose(fpin);
fclose(fpout);
getch();
}
```

16. WAP for counting no. of characters in a file.

```
#include<stdio.h>

#include<conio.h>

void main()

{

charch;

int count=0;

FILE *fptr;

clrscr();

fptr=fopen("text.txt","w");

if(fptr==NULL)

{

printf("File can't be created\n");

getch();

exit(0);

}

printf("Enter some text and press enter key:\n");

while((ch=getche())!='\r')

{

fputc(ch,fptr);

}

fclose(fptr);

fptr=fopen("text.txt","r");
```



```
printf("\nContents of the File is:");  
while((ch=fgetc(fptr))!=EOF)  
{  
count++;  
printf("%c",ch);  
}  
fclose(fptr);  
printf("\nThe number of characters present in file is: %d",count);  
getch();  
}
```

17. WAP for storing no in binary format.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[20];
intdec,i=0,j;
clrscr();
printf("enter the decimal number");
scanf("%d",&dec);
while(dec>0)
{
a[i]=dec%2;
i++;
dec=dec/2;
}
printf("binary number of given decimal is=");
for(j=i-1;j>=0;j--)
{
printf("%d",a[j]);
}
getch();
}
```

18. WAP for read no & write all odd no to a file.

```
#include<stdio.h>
#include<conio.h>

void main()
{
    FILE *f1,*f2;
    int number,i;
    clrscr();

    printf("Contents of DATA file\n\n");
    f1 = fopen("DATA","w");
    for(i=1;i<=10;i++)
    {
        scanf("%d",&number);
        if(number==-1)break;
        putw(number,f1);
    }
    fclose(f1);

    f1 = fopen("DATA","r");
    f2 = fopen("ODD","w");
    while((number = getw(f1)) != EOF)

    {
        if(number%2!=0)
            putw(number,f2);
    }
    fclose(f1);
    fclose(f2);
    f2 = fopen("ODD","r");

    printf("\n\nContents of ODD file \n\n");
    while((number = getw(f2)) != EOF)
```

```
printf("%4d",number);
```

```
fclose(f2);
```

```
getch();
```

```
}
```

19. Wap for read no & find which no even or odd and display them.

```
#include<stdio.h>
#include<conio.h>
void main()
{
    FILE *f1,*f2,*f3;
    int number,i;
    clrscr();
    printf("Contents of DATA file\n\n");
    f1 = fopen("DATA","w"); /* create a data file */
    for(i=1;i<=10;i++)
    {
        scanf("%d",&number);
        if(number==-1)break;
        putw(number,f1);
    }
    fclose(f1);
    f1 = fopen("DATA","r");
    f2 = fopen("ODD","w");
    f3 = fopen("EVEN","w");
    while((number = getw(f1)) != EOF) /* Read from Data file */
    {
        if(number%2==0)
            putw(number,f3);
        else
            putw(number,f2);
    }
    fclose(f1);
    fclose(f2);
    fclose(f3);
    f2 = fopen("ODD","r");
    f3 = fopen("EVEN","r");
    printf("\n\nContents of ODD file \n\n");
    while((number = getw(f2)) != EOF)
```

```
printf("%4d",number);
printf("\n\nContents of EVEN file \n\n");
while((number = getw(f3)) != EOF)
printf("%4d",number);
fclose(f2);
fclose(f3);
getch();
}
```

20. WAP to open a file which has following data:-item name , number , price ,quantity.

```
#include<stdio.h>

#include<conio.h>

void main()

{

FILE *fp;

int number,quantity,i;

float price,value;

char item[10],filename[10];

clrscr();

printf("Input file name\n");

scanf("%s", filename);

fp = fopen(filename, "w");

printf("Input inventory data\n\n");

printf("item\tnumber\tprice\tQuantity\n");

for(i=1;i<=3;i++)

{

fscanf(stdin,"%s %d %f %d", item, &number, &price, &quantity);

fprintf(fp, "%s %d %.2f %d", item, number, price, quantity);

}

fclose(fp);

fprintf(stdout,"\n\n");
```

```
fp = fopen(filename,"r");
printf("item-name number price quantity value\n");
for(i=1; i<=3; i++)
{
fscanf(fp, "%s %d %f %d", item ,&number, &price, &quantity);
value = price * quantity;
fprintf(stdout,"%-8s %7d %8.2f %8d %11.2f\n",item,number,price,quantity,value);
}
fclose(fp);
getch();
}
```


21 WAP to illustrate error handling in file operations.

```
#include <stdio.h>

void main()
{
char *filename;
FILE *fp1, *fp2;
inti, number;

fp1 = fopen("TEST", "w");
for(i = 10; i<= 100; i += 10)
putw(i, fp1);
fclose(fp1);

printf("\nInput filename\n");
open_file:
scanf("%s", filename);
if((fp2 = fopen(filename, "r")) == NULL)
{
printf("Cannot open the file.\n");
printf("Type filename again.\n\n");
gotoopen_file;
}
Else
for(i = 1; i<= 20; i++)
```

```
{ number = getw(fp2);  
if(feof(fp2))  
{  
printf("\nRan out of data.\n");  
break;  
}  
else  
printf("%d\n", number);  
}  
fclose(fp2);  
}
```

22. WAP to receive filename & text to write text to file.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
int main()
{
FILE *fw,*fr;
char opsn='y';
char *p;
int count=0;

char fname[20];
//for writing records into file
struct student
{
char name[20];
int age;
}s;

printf("Enter the name \n");
scanf("%s", fname);

fw=fopen(fname,"w");
while(opsn=='y')
{
count++;
printf("Enter student name and age\n");
scanf("%s%d",s.name,&s.age);
fprintf(fw,"%3s%3d\n",s.name,s.age);
printf("Wanna enter another record(y|n)\n");
fflush(stdin);
opsn=getche();
}
fclose(fw);
```

```
//for reading records rom file
fr=fopen(fname,"r");

struct st
{
char nm[20];
int ag;
}s2[count];

printf("\nRecord from file is\n");
int i=0,j;
char temp[20];
while(fscanf(fr,"%s%d",s.name,&s.age)!=EOF)
{
strcpy(s2[i].nm,s.name);
s2[i].ag=s.age;
i++;
}
}
//for displaying records
for(i=0;i<count;i++)
printf("\n%s\t\t%d",s2[i].nm,s2[i].ag);
fclose(fr);
}
```

23. WAP for appending items to an existing file.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
int main()
{
FILE *fw,*fr;
char opsn='y';
char *p;
int count=0;

char fname[20];
//for writing records into file
struct student
{
char name[20];
int age;
}s;

printf("Enter the name \n");
scanf("%s", fname);

fw=fopen(fname,"a");
while(opsn=='y')
{
count++;
printf("Enter student name and age\n");
scanf("%s%d",s.name,&s.age);
fprintf(fw,"%3s%3d\n",s.name,s.age);
printf("Wanna enter another record(y|n)\n");
fflush(stdin);
opsn=getche();
}
fclose(fw);
```

```
//for reading records rom file
fr=fopen(fname,"r");
struct st
{
char nm[20];
int ag;
}s2[count];

printf("\nRecord from file is\n");
int i=0,j;
char temp[20];
while(fscanf(fr,"%s%d",s.name,&s.age)!=EOF)
{
strcpy(s2[i].nm,s.name);
s2[i].ag=s.age;
i++;
}
}
//for displaying records
for(i=0;i<count;i++)
printf("\n%s\t\t%d",s2[i].nm,s2[i].ag);
fclose(fr);
}
```

24. wap that uses table of integer whose size specified at run time.

```
#include<stdio.h>

#include<stdlib.h>

#define NULL 0

void main(){

int *p, *table;

int size ;

clrscr();

printf("\n What is the size of table?");

scanf("%d",size);

printf("\n");

if((table = (int*)malloc(size *sizeof(int))) == NULL)

{

printf("No space available \n");

exit(1);

}

printf("\n Input table values\n");

for(p=table; p<table + size; p++)

scanf("%d",p);

for(p= table + size -1; p >= table; p--)

printf("%d is stored at address %u \n",*p,p);

getch();

}
```

25.WAP to store character string by malloc().

```
#include<stdio.h>

#include<stdlib.h>

#define NULL 0

main()

{

char *buffer;

int msize;

buffer=((char *)malloc(sizeof(char *)));

printf("buffer of size %d created \n",buffer);

strcpy(buffer, "HYDERABAD");

printf("\n buffer contains: %s \n",buffer);

free (buffer);

getch();

}
```


26. WAP to modify the existing string to larger strings.

```
#include<stdio.h>

#include<stdlib.h>

#define NULL 0

main()

{

char *buffer;

int msize;

buffer=((char *)malloc(sizeof(char *)));

printf("buffer of size %d created \n",buffer);

strcpy(buffer, "HYDERABAD");

printf("\n buffer contains: %s \n",buffer);

printf("\n Buffer size modified. \n");

printf("\n Buffer still contains : %s \n" ,buffer);

strcpy(buffer, " SECUNDERABAD");

printf("\n Buffer now contains: %s \n",buffer);

free (buffer);

getch();

}
```

27.write a program to illustrate structure with pointer to manipulate elements of an array.

```
#include<stdio.h>

#include<conio.h>

struct invent
{
char *name[20];

int number;

float price;

};

main()
{
struct invent product[3], *ptr;

printf(“ INPUT\n\n”);

for (ptr= product ; ptr< product+3: ptr++)

scanf(“%s %d %f”, ptr->name, &ptr->number, &ptr->price);

printf(“\nOUTPUT\n\n”);

ptr = product;

while(ptr< product +3 )
{

printf(“%-20s %5d %10.2f\n”, ptr->name, ptr->number, ptr->price);

ptr++;

}}
```

28. WAP to count length of String.

```
#include <stdio.h>

void main() {

charstr[20];

int length;

clrscr();

printf("\nEnter any string : ");

gets(str);

length = strlen(str);

printf("The length of the given string is : %d",length);

getch();

}
```

29.Wap for prepare rank list of student using structure.

```
#include<stdio.h>
#include<conio.h>
void main()
{
struct student
{
introllno;
char name[20];
int m1,m2,m3;
floatpercent;
};
Struct student s[20],t;
inti,j,n;
clrscr();
printf("\n enter the limit");
scanf("%d",&n);
for(i=0;i<n;i++)
{
printf("\n enter the roll no\n");
scanf("%d",&s[i].rollno);
printf("\n enter the name \n");
```

```
scanf("%s",s[i].name);
printf("\n enter the mark=");
scanf("%d",&s[i].m1);
printf("\n enter the mark=");
scanf("%d",&s[i].m2);
printf("\n enter the mark=");
scanf("%d",&s[i].m3);
s[i].percent=(s[i].m1+s[i].m2+s[i].m3)/3;
}
for(i=0;i<n-1;i++)
{
for(j=i+1;j<n;j++)
{
if(s[i].percent<s[j].percent)
{
t=s[i];
s[i]=s[j];
s[j]=t;
}
}
}
printf("\n rank\n");
for(i=0;i<n;i++)
```

```
{  
printf("\n rollno=%d",s[i].rollno);  
printf("\n name=%s",s[i].name);  
printf("\n mark1=%d",s[i].m1);  
printf("\n mark2=%d",s[i].m2);  
printf("\n mark3=%d",s[i].m3);  
printf("\n percent=%f",s[i].percent);  
}  
getch();  
}
```

30. WAP for illustrate of pointer using any expression.

```
#include<stdio.h>
#include<conio.h>
void main(){
inta,b, *p1, *p2 ,x ,y, z;
clrscr();
    a = 12;
    b = 4;
p1 =&a;
p2 = &b;
x=*p1 * *p2 - 6;
y = 4* - *p2 / *p1 + 10;
printf("address of a = %u\n", p1);
printf("address of b = %u\n", p2);
printf("\n");
printf("a = %d, b = %d\n ", x, y);
*p2 = *p2 + 3;
*p1 = *p2 - 5;
z = *p1 * *p2 - 6;
printf("\na = %d, b = %d,", a , b);
printf(" z = %d\n",z);
getch();
}
```

Unit 4

1. WAP with multiple functions that do not communicate any data between them.

```
#include<stdio.h>

#include<conio.h>

int add(int ,int);

int mul(int,int);

void main()

{

clrscr();

int s,t,sum,multiply;

sum=add(5,3);

multiply=mul(6,7);

printf("sum=%d",sum);

printf("\nMultiply=%d",multiply);

getch();

}

int add(int x,int y)

{

int z=0;

z=x+y;

return z;
```



```
}  
int mul(int a,int b)  
{  
int c=0;  
c=a*b;  
return c;  
}
```

```
sum=8  
Multiply=42
```

2. WAP for calculate factorial of any no.

```
#include<stdio.h>

#include<conio.h>

long int factorial(int n)
{
int i;
long int prod=1;
if(n>1)
for(i=2;i<=n;i++)
prod*=i;
return(prod);
}

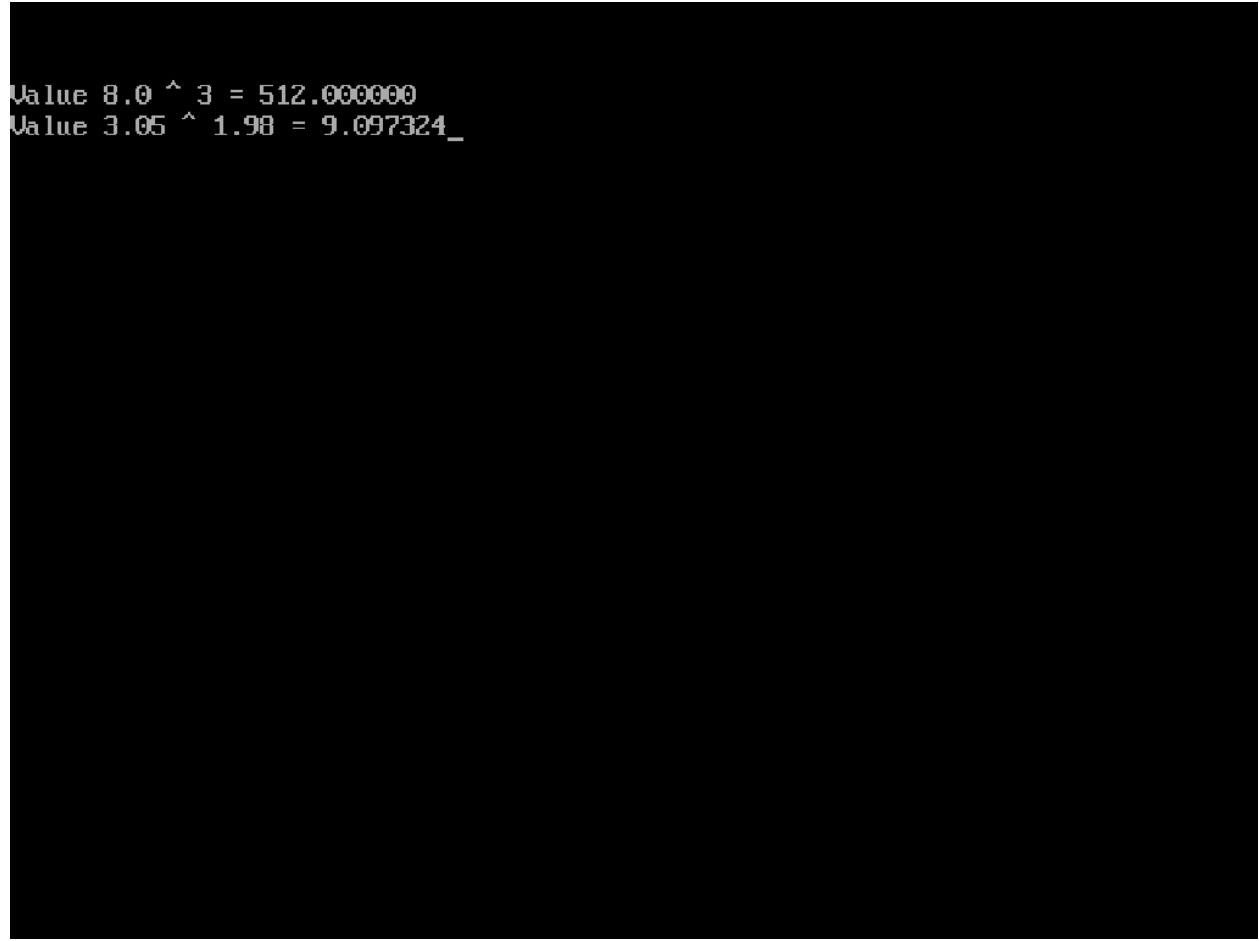
void main()
{
int n;
clrscr();
printf("enter no");
scanf("%d",&n);
printf("\n n=%ld",factorial(n));
getch();
}
```

```
enter no  
5
```

```
n=120
```

3.WAP to show a power function that return double.

```
#include <stdio.h>
#include<conio.h>
#include <math.h>
int main ()
{
    clrscr();
    printf("Value 8.0 ^ 3 = %lf\n", pow(8.0, 3));
    printf("Value 3.05 ^ 1.98 = %lf", pow(3.05, 1.98));
    getch();
    return(0);
}
```



```
Value 8.0 ^ 3 = 512.000000
Value 3.05 ^ 1.98 = 9.097324_
```

4. WAP to calculate standard deviation of an array.

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
int main(void)
{
clrscr();
int x[10],sum=0,i,t,n,mean;float sd;
printf("Enter number to test scores");
scanf("%d",&t);
for(i=0;i<t;i++)
{
scanf("%d",&x[i]);
sum+=x[i];
}
printf("sum=%d",sum);
mean=sum/t;
printf("mean=%d ",mean);
sd=sqrt(((x[i]-mean)*(x[i]-mean))/t);
printf("%d\n%f",mean,sd);
getch();
```

```
return 0;
```

```
}
```

```
Enter number to test scores5
```

```
8
```

```
8
```

```
8
```

```
8
```

```
8
```

```
sum=40mean=8.8
```

```
14.282857
```

5. WAP to find sum of array's elements using function.

```
#include<stdio.h>

#include<conio.h>

void main()

{

clrscr();

static int array[5]={20,40,60,80,100};

int sum;

int addnum(int *ptr);

sum=addnum(array);

printf("sum of all array elements=%5d\n",sum);

getch();

}

int addnum(int *ptr)

{

int index,total=0;

for(index=0; index<5;index++)

{

total+=*(ptr+index);}

return(total);

}
```

```
sum of all array elements= 300
```


6 .WAP to sort array's element using function.

```
#include<stdio.h>

#include<conio.h>

void sort(int m,int x[]);

void main()

{

clrscr();

int i;

int marks[5]={40,90,73,81,35};

printf("marks before sorting\n");

for(i=0;i<5;i++)

printf("%d",marks[i]);

printf("\n");

sort(5,marks);

printf("marks after sorting\n");

for(i=0;i<5;i++)

printf("%4d",marks[i]);

printf("\n");

getch();

}

void sort(int m,int x[])

{

int i,j,t;
```

```
for(i=1;i<=m-1;i++)
for(j=1;j<=m-1;j++)
if(x[j-1]=x[j])
{
t=x[j-1];
x[j-1]=x[j];
x[j]=t;
}
}
```

7. WAP for illustrate working of auto variable.

```
#include<stdio.h>

#include<conio.h>

void function1(void);

void function2(void);

void main()

{

clrscr();

int m=1000;

function2();

printf("%d\n",m);

getch();

}

void function1(void)

{

int m=10;

printf("%d\n",m);

}

void function2(void)

{

int m=100;

function1();

printf("%d\n",m);}

}
```

8. WAP for illustrate property of global variable.

```
#include<stdio.h>

#include<conio.h>

int fun1(void);

int fun2(void);

int fun3(void);

int x;    /*globe*/

void main()

{

clrscr();

x=10;    /*globe*/

printf("x=%d\n",x);

printf("x=%d\n",fun1());

printf("x=%d\n",fun2());

printf("x=%d\n",fun3());

getch();

}

int fun1(void)

{

x=x+10;

return(x);

}

int fun2(void)
```

```
{  
int x; /*local*/  
x=1;  
return(x);  
}  
int fun3(void)  
{  
x=x+10; /*global*/  
return(x);  
}
```

9. WAP for illustrate of static variable.

```
#include<stdio.h>
#include<conio.h>
void start(void);
void main()
{
clrscr();
int i;
for(i=1;i<=3;i++)
start();
getch();
}
void start(void)
{
static int x=0;
x=x+1;
printf("x=%d\n",x);
}
```

10.WAP for write a power function using prototype.

```
#include<stdio.h>

#include<conio.h>

int sum(int,int);

int main(void)

{

clrscr();

int total;

total=sum(2,3);

printf("total is:%d\n",total);

getch();

return 0;

}

int sum(int a,int b)

{

return a+b;

}
```

11. WAP for find sum of 2 no using call by value.

```
#include<stdio.h>

#include<conio.h>

void sum(int a, int b)

{

int sum;

sum=a+b;

}

int main()

{

clrscr();

int x=20,y=30;

printf("a=%d b=%d",x,y);

sum(x,y);

getch();

return 0;

}
```


12. WAP for find sum of 2 no using call by reference.

```
#include<stdio.h>

#include<conio.h>

void sum(int a,int b);

int main()

{

clrscr();

int p,q;

printf("enter the value of p and q");

scanf("%d%d",&p,&q);

printf("a=%d b=%d",p,q);

sum(p,q);

getch();

return 0;

}

void sum(int a,int b)

{

int add;

add=a+b;

}
```

13.WAP for defining structure members.

```
#include<stdio.h>

#include<conio.h>

struct employee

{

char name[20];

int age;

float salary;

};

int main()

{

clrscr();

struct employee emp;

printf("enter the name ,age,salary of a employee");

scanf("%s%d%f",emp.name,&emp.age,&emp.salary);

printf("name=%s age=%d salary=%f",emp.name,emp.age,emp.salary);

getch();

return 0;

}
```

14. WAP for assigning values of structure members.

```
#include<stdio.h>

#include<conio.h>

struct date
{
int month;
int day;
int year;
};

int main()
{
clrscr();

struct date today;

today.month=10;
today.day=14;
today.year=2015;

printf("todays date is:%d/%d/%d\n",today.month,today.day,today.year);

getch();

return 0;
}
```

15. WAP compare structure members.

```
#include<stdio.h>

#include<conio.h>

struct class
{
int number;
char name[20];
float marks;
};

void main()
{
clrscr();

int x;

struct class student1={ 111,"ram",72.50};
struct class student2={222,"mohan",67.90};
struct class student3;

student3=student2;

x=((student3.number==student2.number)&&(student3.marks==student2.marks))?1
:0;

if(x==1)
{
printf("\nstudent 2 and student 3 are same\n");
printf("%d%s%f\n",student3.number,student3.name,student3.marks);
```

```
}  
else  
printf("\n student2 and student3 are different\n");  
getch();  
}
```

16.WAP to calculate total marks of students using structure.

```
#include<stdio.h>

#include<conio.h>

struct student

{

int sub1,sub2,sub3;

};

int main()

{

clrscr();

struct student s[5];

int i,total=0;

for(i=0;i<=2;i++)

{

printf("/n Enter marks in three subject=");

scanf("%d%d%d",&s[i].sub1,&s[i].sub2,&s[i].sub3);

total=s[i].sub1+s[i].sub2+s[i].sub3;

printf("/n Total marks of s[%d] student=%d",i,total);

}

getch();

}
```

17. WAP to find division of student using structure.

```
#include<stdio.h>

#include<conio.h>

struct student

{

float m1,m2,m3,m4,m5;

float avg,per;

};

void main()

{

clrscr();

struct student std;

printf("enter 5 subject marks:");

scanf("%f%f%f%f%f",&std.m1,&std.m2,&std.m3,&std.m4,&std.m5);

std.per=(std.m1+std.m2+std.m3+std.m4+std.m5)*100/500;

printf("student get %0.2f percentage.\n",std.per);

if(std.per>=60)

{

printf("1 st Division");

}

else if(std.per>=50 && std.per<=59)

printf("2nd Division");

else if(std.per>=40 && std.per<=49)
```

```
printf("3rd Division");  
else if(std.per<40)  
printf("fail");  
getch();  
}
```


18. WAP to represent the 3 subjects of every student using array.

```
#include<stdio.h>

#include<conio.h>

void main()

{

clrscr();

struct marks

{

int sub[3];

int total;

};

struct marks student[3]={45,67,80,0,77,69,0,57,36,71,0};

struct marks total; int i,j;

for(i=0;i<=2;i++)

{

for(j=0;j<=2;j++)

{

student[i].total+=student[i].sub[j];

total.sub[j]+=student[i].sub[j];

}

total.total+=student[i].total;

}

printf("student total\n\n");
```

```
for(i=0;i<=2;i++)
printf("student[%d] %d\n",i+1,student[i].total);
printf("\n subject total\n\n");
for(j=0;j<=2;j++)
printf("subject-%d %d\n",j+1,total.sub[j]);
printf("\n grands total=%d\n",total.total);
getch();
}
```

19. WAP to print student & subject-wise marks using array with structure.

```
#include<stdio.h>

#include<conio.h>

struct marks

{

int sub1,sub2,sub3,total;

};

void main()

{

clrscr();

int i;

struct marks student[3]={{45,67,81,0}

                        ,{75,53,69,0}

                        ,{57,36,71,0}};

struct marks total;

for(i=0;i<=2;i++)

{

student[i].total=student[i].sub1+student[i].sub2+student[i].sub3;

total.sub1=total.sub1+student[i].sub1;

total.sub2=total.sub2+student[i].sub2;

total.sub3=total.sub3+student[i].sub3;

total.total=total.total+student[i].total;

}
```

```
printf("student total\n");  
for(i=0;i<=2;i++)  
printf("student[%d] %d\n",i+1,student[i].total);  
printf("\n subject total\n");  
printf("%s %d\n%s %d\n%s %d\n", "subject 1:",total.sub1,"subject  
2:",total.sub2,"subject 3:",total.sub3);  
printf("\n grand total=%d\n",total.total);  
getch();  
}
```

20. WAP for illustrate method of sending structure as parameter to function.

```
#include<stdio.h>

#include<conio.h>

struct stores
{
char name[20];
float price;
int quantity;
};

struct store update(struct store product,float p,int q);

float mul(struct stores stock);

void main()
{
clrscr();

float p_increment,value;
int q_increment;

struct store item={"XYZ",25.75,12};

printf("\n input increment values:");

printf("price increment and quantity increment\n");

scanf("%f %d",&p_increment,&q_increment);

item=update(item,p_increment,q_increment);

printf("updated values of item\n");

printf("name:%s",item.name);
```

```
printf("price:%f\n",item.price);
printf("Quantity:%d\n",item.quantity);
value=mul(item);
printf("\n values of the item=%f\n",value);
getch();
}

struct stores update(struct stores product,float p, int q)
{
product.price+=p;
product.quantity+=q;
return(product);
}

float mul(struct stores stock)
{
return(stock.price*stock.quantity);
}
```

21. WAP to print address of variable along with its value.

```
#include<stdio.h>

#include<conio.h>

void main()

{

clrscr();

int x;

char a;

float p,q;

a='A';

x=125;

p=10.25,q=18.76;

printf("%c is stored at addr %u.\n",a,&a);

printf("%d is stored at addr %u.\n",x,&x);

printf("%f is stored at addr %u.\n",p,&p);

printf("%f is stored at addr %u.\n",q,&q);

getch();

}
```

22. WAP to illustrate use of * operator for access values.

```
#include<stdio.h>

#include<conio.h>

void main()

{

clrscr();

int x,y;

int *ptr;

x=10;

ptr=&x;

y=*ptr;

printf("value of x is:%d\n",x);

printf("%d is stored at addr %u\n",x,&x);

printf("%d is stored at addr %u\n",&x,&x);

printf("%d is stored at addr %u\n",*ptr,ptr);

printf("%d is stored at addr %u\n",ptr,&ptr);

printf("%d is stored at addr %u\n",y,&y);

*ptr=25;

printf("\n Now x=%d\n",x);

getch();

}
```


23. WAP to illustrate use of pointer in arithmetic operation.

```
#include<stdio.h>

#include<conio.h>

void main()

{

clrscr();

int a,b,*p1,*p2,x,y,z;

a=12;

b=4;

p1=&a;

p2=&b;

x=*p1* *p2-6;

y=4* - *p2 / *p1+10;

printf("address of a =%u\n",p1);

printf("address of b=%u\n",p2);

printf("\n");

printf("a=%d,b=%d\n",a,b);

printf("x=%d,y=%d\n",x,y);

*p2=*p2+3;

*p1=*p2-5;

z=*p1 * *p2-6;

printf("\n a=%d,b=%d," ,a,b);

printf("z=%d\n",z);
```

```
getch();
```

```
}
```

24. WAP using pointer to compare sum of all elements of an array.

```
#include<stdio.h>

#include<conio.h>

void main()

{

clrscr();

int *p,sum,i;

int x[5]={5,9,6,3,7};

i=0;

p=x;

printf("Element value address\n");

while(i<5)

{

printf("x[%d] %d %u\n",i,*p,p);

sum=sum+ *p;

i++,p++;

}

printf("\n sum=%d",sum);

printf("\n &x[0]=%u\n",&x[0]);

printf("\n p=%u\n",p);

getch();

}
```

25. WAP using pointer to determine length of character string.

```
#include<stdio.h>

#include<conio.h>

void main()

{

clrscr();

char *name;

int length;

char *cptr=name;

name="DELHI";

printf("%s\n",name);

while(*cptr!="\0")

{

printf("%c is stored at address %u\n",*cptr,cptr);

cptr++;

}

length=cptr-name;

printf("\n length of the string=%d\n",length);

getch();

}
```

26. WAP to illustrate use of structure pointer.

```
#include<stdio.h>

#include<conio.h>

struct name
{
int a;
float b;
};

int main()
{
clrscr();

struct name *ptr,p;

ptr=&p;

printf("Enter integer value");

scanf("%d",&ptr->a);

printf("a=%d",(*ptr).a);

printf("enter no");

scanf("%f",&(*ptr).b);

printf("Displaying:");

printf("%d%f",(*ptr).a,(*ptr).b);

getch();

return 0;

}
```

27. WAP to illustrate relation between array elements and their address.

```
#include<stdio.h>

#include<conio.h>

const int MAX=3;

int main()

{

clrscr();

int var[]={ 10,100,200};

int i,*ptr[MAX];

for(i=0;i<MAX;i++)

{

ptr[i]=&var[i];

}

for(i=0;i<MAX;i++)

{

printf("value of var[%d]=%d\n",i,*ptr[i]);

}

getch();

return 0;

}
```

28. WAP for re-ordering list of no.

```
#include<stdio.h>

#include<conio.h>

#define SIZE 100

void reorder(int n, int x[]);

void main()

{

clrscr();

int i,n,x[SIZE];

printf("\n how many numbers will be entered?");

scanf("%d",&n);

for(i=0;i<n;i++)

{

printf("i=%d x=",i+1);

scanf("%d",&x[i]);

}

reorder(n,x);

printf("\n\nReoreded list of numbers:\n\n");

for(i=0;i<n;i++)

printf("i=%d x=%d\n",i+1,x[i]);

getch();

}

void reorder(int n,int x[])
```

```
{  
int i,item,temp;  
for(item=0;item<n-1;++item)  
for(i=item+1;i<n;++i)  
if(x[i]<x[item])  
{  
temp=x[item];  
x[item]=x[i];  
x[i]=temp;  
}  
return;  
}
```


29. WAP for 2 pointer variable point to first and last elements of an array.

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
clrscr();
```

```
int *px,*py;
```

```
static int a[6]={ 1,2,3,4,5,6};
```

```
px=&a[0];
```

```
py=&a[5];
```

```
printf("%d",*px);
```

```
printf("\n%d",*py);
```

```
getch();
```

```
}
```

30.WAP for adding two matrix using pointers.

```
#include <stdio.h>

#include<conio.h>

void add (int (*Mat1)[2][2], int (*Mat2)[2][2])
{
int Product[2][2];
int sum;
for(int i=0; i<2; i++)
{
for(int j=0; j<2; j++)
{
sum = 0;
/* de-referencing the pointer to array */
sum += ((*Mat1)[i][j])+ ( *Mat2)[i][j]);
Product[i][j] = sum;
}
}
for(int i=0; i<2; i++)
{
for(int j=0; j<2; j++)
{

printf(“%d”,Product[i][j]);
}

}

}

void main()
{
int Matrix1[2][2] = { {1,2},
{3,4} };
int Matrix2[2][2] = { {1,2},
{3,4} };
add (&Matrix1, &Matrix2);

}
```

31. WAP for multiply two matrix using pointers.

```
#include <stdio.h>

#include<conio.h>
void Mult (int (*Mat1)[2][2], int (*Mat2)[2][2])
{
int Product[2][2];
int sum;
for(int i=0; i<2; i++)
{
for(int j=0; j<2; j++)
{
sum = 0;
for (int k=0; k<2; k++)
{
/* de-referencing the pointer to array */
sum += ((*Mat1)[i][k])* (*Mat2)[k][j]);
}
Product[i][j] = sum;
}
}
for(int i=0; i<2; i++)
{
for(int j=0; j<2; j++)
{

printf(“%d”,Product[i][j]);
}}

}
void main()
{
int Matrix1[2][2] = { {1,2},
{3,4} };
int Matrix2[2][2] = { {1,2},
{3,4} };
Mult (&Matrix1, &Matrix2);

}
```

32. WAP for re-ordering list of string.

```
#include<stdio.h>
int main(){
    int i,j,n;
    char str[20][20],temp[20];
    puts("Enter the no. of string to be sorted");
    scanf("%d",&n);
    for(i=0;i<=n;i++)
        gets(str[i]);
    for(i=0;i<=n;i++)
        for(j=i+1;j<=n;j++){
            if(strcmp(str[i],str[j])>0){
                strcpy(temp,str[i]);
                strcpy(str[i],str[j]);
                strcpy(str[j],temp);
            }
        }
    printf("The sorted string\n");
    for(i=0;i<=n;i++)
        puts(str[i]);
    return 0;
}
```

33.WAP for adding 2 no using function which has no return type and no argument.

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
void sum(void);
```

```
sum();
```

```
getch();
```

```
}
```

```
void sum(void)
```

```
{
```

```
int a,b,c;
```

```
printf("enter the value of a and b\n");
```

```
scanf("%d%d",&a,&b);
```

```
c=a+b;
```

```
printf("sum is=%d",c);
```

```
}
```

34. WAP for multiply 2 no using function which has return type but no argument.

```
#include<stdio.h>

#include<conio.h>

void main()

{

clrscr();

int Sum(void);

int sum;

sum=Sum();

printf("sum is=%d",sum);

getch();

}

int Sum(void)

{

int a,b,c;

printf("enter the value of a and b");

scanf("%d%d",&a,&b);

c=a*b;

return c;

}
```

35. WAP for find larger no between 2 no using function.

```
#include<stdio.h>

#include<conio.h>

maximum(int x, int y)
{
int z;
z=(x>=y)?x:y;
printf("\n maximum value=%d",z);
return 0;
}

void main()
{
clrscr();
maximum(67,89);
getch();
}
```

36. WAP for arrange array's element in ascending order.

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
clrscr();
```

```
int a[5],temp,j,i;
```

```
printf("enter the element of array");
```

```
for(i=0;i<5;i++)
```

```
scanf("%d",&a[i]);
```

```
for(i=0;i<5;i++)
```

```
{
```

```
for(j=i+1;j<5;j++)
```

```
{
```

```
if(a[i]>a[j])
```

```
{
```

```
temp=a[i];
```

```
a[i]=a[j];
```

```
a[j]=temp;
```

```
}
```

```
}
```

```
}
```

```
for(i=0;i<5;i++)
```



```
printf("%d",a[i]);
```

```
getch();
```

```
}
```

37. WAP for arrange array's element in descending order.

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
clrscr();
```

```
int a[5],temp,j,i;
```

```
printf("enter the element of array");
```

```
for(i=0;i<5;i++)
```

```
scanf("%d",&a[i]);
```

```
for(i=0;i<5;i++)
```

```
{
```

```
for(j=i+1;j<5;j++)
```

```
{
```

```
if(a[i]<a[j])
```

```
{
```

```
temp=a[i];
```

```
a[i]=a[j];
```

```
a[j]=temp;
```

```
}
```

```
}
```

```
}
```

```
for(i=0;i<5;i++)
```

```
printf("%d",a[i]);
```

```
getch();
```

```
}
```

38.WAP for add 2 no using function that has no return type but has arguments.

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
void sum(int,int);
```

```
int a,b;
```

```
printf("enter the value of a and b\n");
```

```
scanf("%d%d",&a,&b);
```

```
sum(a,b);
```

```
getch();
```

```
}
```

```
void sum(int x,int y)
```

```
{
```

```
int c;
```

```
c=x+y;
```

```
printf(" sum=%d",c);
```

```
}
```

39. WAP for find factorial of given no using function with return type and argument.

```
#include<stdio.h>

#include<conio.h>

int main()
{
int Fact(int);
int num,fact;
printf("enter the number\n");
scanf("%d",&num);
fact=Fact(num);
printf("Factorial=%d",fact);
getch();
return 0;
}

int Fact(int n)
{
int i,f=1;
for(i=n;i>=1;i--)
{
f=f*i;
}
return f;}

```

40. WAP for counting the no of element of an array.

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
#include<stdlib.h>
```

```
void main()
```

```
{
```

```
int a[10],j=0,i;
```

```
a[0]='0';
```

```
a[1]='1';
```

```
a[2]='2';
```

```
a[3]='3';
```

```
a[4]='4';
```

```
a[5]='5';
```

```
for(i=0;i<10;i++)
```

```
{
```

```
if(a[i]=='10')
```

```
{
```

```
}
```

```
else
```

```
{
```

```
j=j+1;
```

```
}
```

```
}
```

```
printf("%d",j);  
system("pause");  
getch();  
}
```