

1-//WAP to calculate area of circle ,square and a rectangle

```
#include<stdio.h>

float circlearea(float radius);

float squarearea(float side);

float rectanglearea(float length , float breadth);

int main(){

    float length,breadth;

    printf("Enter length:");

    scanf("%f",&length);

    printf("Enter breadth:");

    scanf("%f",&breadth);

    float p=rectanglearea(length,breadth);

    printf("Area of rectangle:%f",p);

    return 0;

}

float circlearea(float radius){

    return 3.14*radius*radius;

}

float squarearea(float side){

    return side*side;

}

float rectanglearea(float length,float breadth){

    return length*breadth;

}
```

2//WAP to compare two strings with and without function

```
#include<stdio.h>

int main(){

    char str1[100];

    printf("Enter first string:");

    scanf("%s",str1);

    char str2[100];
```

```

printf("Enter second string:");

scanf("%s",str2);

int i=0;

while(str1[i]==str2[i] && str1[i]!='\0')

i++;

if(str1[i]>str2[i]){

    printf("string1 is greater than string2");

}

else if(str1[i]<str2[i]){

    printf("string2 is greater than string 1");

}

else

printf("string1 is equal to string2");

return 0;

}

```

3//WAP to take a string from user and count total number of vowels in it

```

#include<stdio.h>

#include<string.h>

int main(){

    int i,count=0;

    char str[100];

    scanf("%[^\n]s",str);

    for(i=0;str[i]!='\0';i++){

        if(str[i]=='a' || str[i]=='e' || str[i]=='i' || str[i]=='o' || str[i]=='u' || str[i]=='A' || str[i]=='E' || str[i]=='I'

        || str[i]=='O' || str[i]=='U')

count++;

    }

    printf("no of vowels in statement:%d",count);

    return 0;
}

```

```
}
```

4-//WAP to take a string from user and count the total number of words in it

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

```
#include<string.h>
```

```
int main(){
```

```
    int i,count=0;
```

```
    char str[100];
```

```
    scanf("%[^\\n]s",str);
```

```
    while(str[i]!='\\0'){
```

```
        if(str[i]==' ')
```

```
            count++;
```

```
            i++;
```

```
    }
```

```
    printf("Total number of words in string :%d",count+1);
```

```
    return 0;
```

```
}
```

5-//WAP to find cube of any number using function

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

```
void cube(int);
```

```
int n;
```

```
int main(){
```

```
    int a;
```

```
    printf("Enter any number:");
```

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

```
    cube(a);
```

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

```
        return 0;
    }
    void cube(int a){
        n=a*a*a;

    }
```

6//WAP to find diameter ,circumference and area of circle using function

```
void diameter(float);
void circumference(float);
void area(float);
int main(){
    float r;
    printf("Enter radius:");
    scanf("%f",&r);
    diameter(r);
    circumference(r);
    area(r);
    return 0;
}

void diameter(float r){
    float d=r+r;
    printf("Diameter:%f\n",d);
}

void circumference(float r){
    float c=2*3.14*r;
    printf("Circumference:%f\n",c);
}

void area(float r){
    float a=3.14*r*r;
    printf("Area:%f",a);
}
```

7//WAP to check given number is even or odd

```
#include<stdio.h>

/*void checkeven();
void checkodd();
int main(){
    int a;
    printf("Enter any number:");
    scanf("%d",&a);
    if(a%2==0)
        checkeven();
    if(a%2!=0)
        checkodd();
    return 0;
}
void checkeven(){
    printf("even number");
}
void checkodd(){
    printf("Odd number");
}*/
int even (int a){
    int i;
    if(a%2==0)
        return 1;

}
```

8-//WAP to print even no. in range

```
#include<stdio.h>

int main(){
    int a,b,i;
```

```

printf("Enter starting range:");

scanf("%d",&a);

printf("Enter ending range:");

scanf("%d",&b);

for(i=a;i<b;i++){

    if(even(i)){

        printf("%d",i);

    }

}

return 0;

}

```

9//WAP to check maximum of some values in array

```

#include<stdio.h>

void checkmaximum();

int main(){

    int n,i;

    printf("Enter size:");

    scanf("%d",&n);

    int a[n];

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

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

        checkmaximum();

    }

    return 0;

}

void checkmaximum(){

    int max=a[0];

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

        if(a[i]>a[0])

```

```

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

```

10//WAP to check number is perfect number

```

void checkperfectno(int);
int sum=0;
int main(){
    int a;
    printf("Enter any number:");
    scanf("%d",&a);
    checkperfectno(a);
    if(sum==a)
        printf("%d is Perfect number",a);
    else
        printf("%d is not a perfect number",a);
    return 0;
}

void checkperfectno(int a){
    int i;
    for(i=1;i<a;i++){
        if(a%i==0)
            sum=sum+i;
    }
}

```

11//WAP to input a 2D array of size m*n display boundary elements in matrix form

```

#include<stdio.h>
int main()
{
    int m,n,i,j;
    printf("no of rows:");
}

```

```

scanf("%d",&m);
printf("no. of columns:");
scanf("%d",&n);
int a[m][n];

    for(i=0;i<m;i++){
        for(j=0;j<n;j++){
            printf("Element a%d%d:",i+1,j+1);
            scanf("%d",&a[i][j]);
        }
    }

    for(i=0;i<m;i++){
        for(j=0;j<n;j++){
            if(i==0 || i==m-1 || j==0 || j==n-1){
                printf("%d ",a[i][j]);
            }
            else{
                printf(" ");
            }
        }
        printf("\n\n");
    }

    return 0;

}

```

12//WAP to input a 2D array of size m*n display boundary elements in matrix form

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

```
int main()
```

```
{
```

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

```
printf("no of rows:");
```

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



```

printf("no. of columns:");
scanf("%d",&n);
int a[m][n];

    for(i=0;i<m;i++){
        for(j=0;j<n;j++){
            printf("Element a%d%d:",i+1,j+1);
            scanf("%d",&a[i][j]);
        }
    }

    for(i=0;i<m;i++){
        for(j=0;j<n;j++){
            if(i==0 || i==m-1 || j==0 || j==n-1){
                printf("%d ",a[i][j]);
            }
            else{
                printf(" ");
            }
        }
        printf("\n\n");
    }

return 0;

}

```

13//WAP to input 2 matrixes and multiply them

```

#include<stdio.h>

int main()
{
    int m,n,i,j,r,s;

    printf("no of rows of first matrix:");
    scanf("%d",&m);

    printf("no. of columns of second matrix:");

```

```

scanf("%d",&n);
printf("no of rows of second matrix:");
scanf("%d",&r);
printf("no. of columns of third matrix:");
scanf("%d",&s);
int a[m][n];
int b[r][s];

    for(i=0;i<m;i++){
        for(j=0;j<n;j++){
            printf("Element a%d%d:",i+1,j+1);
            scanf("%d",&a[i][j]);
        }
    }
    for(i=0;i<r;i++){
        for(j=0;j<s;j++){
            printf("Element b%d%d:",i+1,j+1);
            scanf("%d",&b[i][j]);
        }
    }
    if(n==r){
        for(i=0;i<m;i++){
            for(j=0;j<
        }
    }
}

```

14//WAP to input an array of size $m*n$ and find the sum and average of all the elements

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

```
int main()
```

```
{
```

```

int m,n,i,j,count=0,sum=0;

float avg;

printf("no of rows:");

scanf("%d",&m);

printf("no. of columns:");

scanf("%d",&n);

int a[m][n];

        for(i=0;i<m;i++){
            for(j=0;j<n;j++){

                printf("Element a%d%d:",i+1,j+1);

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

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

                count++;

            }
        }

        printf("sum of all the elements in a matrix :%d\n",sum);

        avg=(float)sum/count;

        printf("Average of all the elements of a matrix:%f",avg);

        return 0;

}

```

15//WAP to input a 2D array and find the sum of all diagonal elements

```

#include<stdio.h>

int main()

{

int m,n,i,j,sum1=0,sum2=0;

printf("no of rows:");

scanf("%d",&m);

printf("no. of columns:");

scanf("%d",&n);

int a[m][n];

```

```

for(i=0;i<m;i++){
for(j=0;j<n;j++){

    printf("Element a%d%d:",i+1,j+1);

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

    }

}

for(i=0;i<m;i++){
for(j=0;j<n;j++){

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

    }

    printf("\n");

}

if(m==n){
for(i=0;i<m;i++){
for(j=0;j<n;j++){

    if(i==j){

        sum1=sum1+a[i][j];

    }

}}

for(i=0;i<m;i++){
for(j=0;j<n;j++){

    if(i+j==n-1){

        sum2=sum2+a[i][j];

    }

}}

printf("Sum of all diagonal elements:%d\n",sum1);
printf("Sum of all anti diagonal elements:%d",sum2);

}

else{

    printf("Not a square matrix");

```

```

    }

    return 0;

}

```

16//Write a c program to take 2 3 by 3 array from user and find the sum of them in matrix form

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

```

int main(){

    int a[3][3],b[3][3],sum[3][3],i,j;

    printf("First array\n");

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

        for(j=0;j<3;j++){

            printf( "Enter the element a%d%d :",i+1,j+1);

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

        }

    }

    printf("Second array\n");

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

        for(j=0;j<3;j++){

            printf( "Enter the element b%d%d :",i+1,j+1);

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

        }

    }

    printf("Matrix after adding both the array is\n");

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

        for(j=0;j<3;j++){

            sum[i][j]=a[i][j]+b[i][j];

            printf("%d ",sum[i][j]);

        }

        printf("\n\n");

    }

    return 0;
}

```

```
}
```

17//WAP to print transpose of a matrix

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

```
int main(){
```

```
    int a[3][3],b[3][3],i,j;
```

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

```
        for(j=0;j<3;j++){
```

```
            printf("Element a%d%d:",i+1,j+1);
```

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

```
        }
```

```
    }
```

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

```
        for(j=0;j<3;j++){
```

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

```
        }
```

```
    }
```

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

```
        for(j=0;j<3;j++){
```

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

```
        }
```

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

```
    }
```

```
    return 0;
```

```
}
```

18//WAP to input an array of n number of elements and find the largest element in array

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

```
int main(){
```

```
    int n,i;
```

```
    printf("Enter the size of array:");
```

```

scanf("%d",&n);

int a[n];

for(i=0;i<n;i++){
    scanf("%d",&a[i]);

}

int max=a[0];

for(i=1;i<n;i++){
    if(max<a[i])
        max=a[i];
}

printf(" largest element: %d",max);

return 0;

}

```

19//Write a c program to take an array form user and delete an elements from all positons which is told by user

```

#include<Stdio.h>

int main(){
    int a[100];

    int n,i,b,j;

    printf("no of elements:");

    scanf("%d",&n);

    printf("Value to be deleted:");

    scanf("%d",&b);

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

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

    i=0;

    while(i<n){
        if(a[i]==b){
            for(j=1;j<n;j++)

```

```

        a[j]=a[j+1];

        n--;

    }

    else

        i++;

    }

    for(i=0;i<n-1;i++){

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

    }

    return 0;

}

```

20 WAP to left rotate r elements of an array

```

#include<stdio.h>

//1 5 4 3 2

//two elements rotate : 4 3 2 1 5

int main(){

    int n,i,j,r;

    printf("Enter the size of array:");

    scanf("%d",&n);

    printf("Enter elements to be rotated:");

    scanf("%d",&r);

    int a[n];

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

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

    }

    for(i=0;i<r;i++){

        int t=a[0];

        for( j=0;j<n-1;j++)

        {

            a[j]=a[j+1];

```



```

    }
    a[n-1]=t;
    }
    for( i=0;i<n;i++)
    printf("%d",a[i]);
    return 0;

}

```

21 Pyramid pattern

```

#include<stdio.h>

int main(){
    int n,i,j,k;
    scanf("%d",&n);
    for(i=1;i<=n;i++){
        for(j=1;j<i;j++){

            printf(" ");

        }
        for(k=n;k>=i;k--){

            printf("* ");

        }
        printf("\n");
    }

    return 0;
}

```

22//c program to find the eligibility of admission for a professional course based on following criteria

```

#include<stdio.h>

```

```

int main()
{
    int p,c,m,totalmarks;
    printf("Enter marks of physics\n:");
    scanf("%d",&p);
    printf("Enter marks of chemistry\n:");
    scanf("%d",&c);
    printf("Enter marks of maths\n:");
    scanf("%d",&m);
    totalmarks=(p+c+m);
    printf("Your total marks is %d\n",totalmarks);
    if(p>=55 && c>=50 && m>=65 && totalmarks>=180){
        printf("YOU ARE ELIGIBLE FOR THE ADMISSION \n");
    }
    else{
        printf("YOU ARE NOT ELIGIBLE FOR ADMISSION");
    }
    return 0;
}

```

23//WAP to make a calculator

```

#include<stdio.h>

int main(){
    int a,b;
    scanf("%d %d",&a,&b);
    char ch;
    printf("enter operator");
    scanf("%c",&ch);
    switch(ch){
        case'+':printf("Addition is %d",a+b);
        break;
        case'-':printf("Addition is %d",a-b);
    }
}

```

```
    }  
    return 0;  
}
```

24//c program to accept coordinate point in x and y and determine in which coordinate point lies

```
#include<stdio.h>  
  
int main()  
{  
    int x,y;  
    printf("value of x coordinate:");  
    scanf("%d",&x);  
    printf("value of y coordinate:");  
    scanf("%d",&y);  
    if(x>=0 && y>=0)  
    {  
        printf("x and y is in first quadrant");  
    }  
    else if(x<=0 && y>=0)  
    {  
        printf("x and y is in second quadrant");  
    }  
    else if(x<=0 && y<=0)  
    {  
        printf("x and y is in third quadrant");  
    }  
    else{  
        printf("x and y is in fourth quadrant");  
    }  
  
    return 0;  
}
```

25//C program to count number of digits in a given number

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

```
int main(){
```

```
    int a;
```

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

```
    int count=0;
```

```
    do{
```

```
        a=a/10;
```

```
        count++;
```

```
    }
```

```
        while(a>0);
```

```
    printf("Number of digits in a is %d",count);
```

```
    return 0;
```

```
}
```