EVEN NUMBER AND ODD NUMBER

```
#include<stdio.h>
int main(){
        int n;
        printf("Enter the number:\n");
        scanf("%d",&n);
        if(n%2==0){
                printf("%d is an Even number\n",n);
        }else{
                printf("%d is an Odd number\n",n);
        }
        return 0;
}
```

SUM OF EVEN AND ODD

```
#include<stdio.h>
int main(){
        int n,I,even_sum=0,odd_sum=0;
        printf("enter the value:");
        scanf("%d",&n);
        for(i=1;i<=n;i++){
                if(i%2==0){
                  even_sum+=i;
                }else{
                  odd_sum+=i;
                }
        }
        printf("Sum of even numbers:%d\n",even_sum);
        printf("Sum of odd numbers:%d\n",odd_sum);
        return 0;
}
```

POSITIVE AND NEGATIVE

```
#include<stdio.h>
int main(){
        int n;
        printf("Enter an integer:\n");
        scanf("%d",&n);
        if(n<0){
                printf("Number is Negative\n");
        }else if(n>0){
                printf("Number is positive\n");
        }else{
                printf("Number is zero");
        }
        return 0;
}
```

LARGEST AMONG 3 NUMBERS

```
#include<stdio.h>
int main(){
        int a,b,c;
        printf("Enter the values of a,b,c:\n");
        scanf("%d %d %d",&a,&b,&c);
        if(a>b&&a>c)
          printf("A is greater\n",a);
        else if(b>a&&b>c)
          printf("B is greater\n",b);
        else
          printf("C is greater\n",c);
        return 0;
}
```

SWAPPING TWO NUMBERS

```
#include<stdio.h>
int main()
{
        int a,b,temp;
        printf("enter two numbers:\n");
        scanf("%d %d",&a,&b);
        printf("Before swapping: a=%d,b=%d\n",a,b);
        temp=a;
        a=b;
        b=temp;
        printf("After swapping: a=%d,b=%d",a,b);
        return 0;
}
```

DIVISIBLE BY 5

```
#include<stdio.h>
int main(){
        int n,i;
        int count=0,sum=0;
        printf("Enter the value of n:\n");
        scanf("%d",&n);
        for(i=1;i<=n;i++){
                if(i%5==0){
                  count++;
                  sum+=i;
                }
        }
        printf("The no.of integers divisible by 5 is:%d\n",count);
        printf("The sum of integers divisible by 5 is:%d\n",sum);
        return 0;
}
```

Swapping without using temporary variable:

```
#include<stdio.h>
int main()
{
        int a,b;
        printf("enter two numbers:\n");
        scanf("%d %d",&a,&b);
        printf("Before swapping:
a=%d,b=%d\n",a,b);
        a=a+b;
        b=a-b;
        a=a-b;
   printf("After swapping: a=%d,b=%d",a,b);
        return 0;
}
```

EQUAL

```
#include<stdio.h>
int main(){
        int a,b;
        printf("Enter two numbers:");
        scanf("%d %d",&a,&b);
        if(a==b)
          printf("Numbers are equal\n");
        else
          printf("Numbers are not equal\n");
        return 0;
}
```

SUM OF DIGITS IN A NUMBER

```
#include<stdio.h>
int main(){
        int n,digit,sum=0;
        printf("Enter a number:\n");
        scanf("%d",&n);
        while(n!=0){
                digit=n%10;
                sum+=digit;
                n/=10;
        }
        printf("Sum of digits:%d\n",sum);
        return 0;
}
```

INCREMENT BY 1

```
#include<stdio.h>
int main(){
	int arr[]={1,2,3,4,5};
	int n=sizeof(arr)/sizeof(arr[0]);
	for(int i=0;i<n;i++){
		arr[i]+=1;
	}
	printf("New array: ");
	for(int i=0;i<n;i++){
		printf("%d",arr[i]);
	}
	return 0;
}
```

MULTIPLICATION TABLE

```
#include<stdio.h>
int main(){
	int n,i;
	printf("Enter a number:\n");
	scanf("%d",&n);
	for(i=1;i<=10;i++){
		printf("%d*%d=%d\n",n,i,n*i);
	}
	return 0;
}
```

VOWELS & CONSONANTS

```
#include<stdio.h>
int main(){
        char c;
        int lowercase_vowel,uppercase_vowel;
        printf("enter an alphabet:");
        scanf("%c",&c);
        lowercase_vowel=(c=='a'||c=='e'||c=='i'||c=='o'||c=='u');
        uppercase_vowel=(c=='A'||c=='A'||c=='I'||c=='O'||c=='U');
        if(lowercase_vowel||uppercase_vowel)
        printf("%c is a vowel",c);
        else
        printf("%c is a consonant",c);
        return 0;
}
```

HEIGTH OF THE PERSON

```
#include<stdio.h>
int main(){
        float h;
        printf("Enter height:");
        scanf("%d",&h);
        if(h<0){
          printf("Invalid height");
        }else if(h<150){
          printf("Drawf");
        }else if(h>=150&&h<=195){
          printf("Average height");
        }else{
          printf("Taller");
   return 0;
}
```

PRIMENUMBER

```
#include<stdio.h>
int main(){
	int n,i,count=0;
	printf("enter a number:");
	scanf("%d",&n);
	for(i=1;i<=n;i++){
		if(n%i==0){
			count++;
		}
	}
	if(count==2)
		printf("%d is a prime number",n);
	else
		printf("%d is not a prime number",n);
	return 0;
}
```

PERFECT NUMBER

```
#include<stdio.h>
int main(){
	int num,sum=0;
	printf("enter the number\n");
	scanf("%d",&num);
	for(int i=1;i<num;i++){
		if(num%i==0){
			sum+=i;
		}
	}
```

COMPOSITE NUMBER

Same as this program but in the for loop n%i!=0 should be there instead of n%i==0 and print composite number instead of prime number

```
        if(sum==num){
                printf("%d is a perfect number",num);
        }else{
                printf("%d is not a perfect number",num);
        }
        return 0;
}
```

ARMSTRONG NUMBER

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

REVERSE NUMBER

```
#include<stdio.h>
int main(){
        int num,remainder,rev=0;
        printf("enter the number:");
        scanf("%d",&num);
        while(num!=0)
        {
                remainder=num%10;
                rev=rev*10+remainder;
                num=num/10;
        }
        printf("the reversed number is:%d\n",rev);
return 0;
}
```

PALINDROME NUMBER

```
#include<stdio.h>
int main(){
        int n,num,remainder,rev=0;
        printf("enter the number:");
        scanf("%d",&num);
        n=num;
        while(num!=0)
        {
                remainder=num%10;
                rev=rev*10+remainder;
                num=num/10;
```

```
        }
        if(n==rev)
          printf("Is a Palindrome");
        else
          printf("Is not a Palindrome");
return 0;
}
```

BINARY ADDITION

```
#include<stdio.h>
int addBinary(int a, int b){
        while(b!=0){
                int carry=(a&b)<<1;
                a=a^b;
                b=carry;
        }
        return a;
}
int main(){
        int binary1,binary2;
        printf("enter 1st binary number: ");
        scanf("%d",&binary1);
        printf("Enter 2nd binary number: ");
        scanf("%d",&binary2);
        int sum=addBinary(binary1,binary2);
        printf("Sum of the binary numbers:%d\n",sum);
        return 0;
}
```

PRIMENUMBER IN GIVEN RANGE

```
#include<stdio.h>
int main(){
        int a,b,i,j,flag;
        printf("enter the lower limit:");
        scanf("%d",&a);
        printf("Enter the upper limit:");
        scanf("%d",&b);
        printf("\nPrime numbers between %d and %d are:",a,b);
        for(i=a;i<=b;i++){
                if(i==1||i==0)
                  continue;
         flag=1;
            for(j=2;j<=i/2;++j){
                    if(i%j==0){
                            flag=0;
                            break;
                    }
                    }
                    if(flag==1)
                     printf("%d\n",i);
        }
        return 0;
}
```

LEAP YEAR

```
#include<stdio.h>
int main(){
        int year;
        printf("enter a year:");
```

```
        scanf("%d",&year);
        if(year%400==0){
                printf("%d is a leap year",year);
        }else if(year%100==0){
                printf("%d is not a leap year",year);
        }else if(year%4==0){
                printf("%d is a leap year",year);
        }else{
                printf("%d is not a leap year",year);
        }
        return 0;
}
```

FIBONACCI SERIES

```
#include<stdio.h>
int main()
{
        int i,n,t1=0,t2=1;
        int nextterm=t1+t2;
        printf("enter number of elements:");
        scanf("%d",&n);
        printf("Fibonacci series:%d,%d,",t1,t2);
        for(i=3;i<=n;++i){
                printf("%d,",nextterm);
                t1=t2;
                t2=nextterm;
                nextterm=t1+t2;
        }
        return 0;
}
```

FACTORIAL NUMBER

```
#include <stdio.h>
int main(){
        int n;
        printf("enter a number:");
        scanf("%d",&n);
        int product=1;
        int i;
        for(i=1;i<=n;i++){
                product*=i;
        }
        printf("Factorial of %d is %d\n",n,product);
        return 0;
}
```

FLOYD'S TRIANGLE

```
#include<stdio.h>
int main(){
        int r,i,j,n=1;
        printf("Enter no.of rows: ");
        scanf("%d",&r);
        for(i=1;i<=r;i++){
                for(j=1;j<=i;++j){
                        printf("%d\t",n);
                        ++n;
                }
                printf("\n\n");
        }
        return 0;
}
```

OUTPUT:-

```
Enter no.of rows: 5
1
2       3
4       5       6
7       8       9       10
11      12      13      14      15
```

PASCAL TRIANGLE

```
#include<stdio.h>
void printPascal(int n){
        for(int j=1;j<=n;j++){
                int B=1;
                for(int i=1;i<=j;i++){
                        printf("%d",B);
                        B=B*(j-i)/i;
                }
                printf("\n");
        }
}
int main(){
        int rows;
        printf("Enter no.of rows: ");
        scanf("%d",&rows);
        printPascal(rows);
        return 0;
}
```

OUTPUT:-

```
Enter no.of rows: 5
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
```

STAR PATTERN

```
#include<stdio.h>
int main(){
        int rows,i,j;
        printf("Enter no.of rows: ");
        scanf("%d",&rows);
        for(i=1;i<=rows;i++){
                for(j=1;j<=i;j++){
                        printf("*");
                }
                printf("\n");
```

OUTPUT:-

```
*
**
***
****
*****
```

```
        }
        return 0;
}
```

AREA OF CIRCLE

```
#include<stdio.h>
int main(){
        int r;
        float area,pi=3.14159;
        printf("Enter the radius: ");
        scanf("%d",&r);
        area=pi*r*r;
        printf("Area of the circle:%.2f",area);
        return 0;
}
```

AREA OF TRIANGLE

```
#include<stdio.h>
int main(){
        int base,height;
        float area;
        printf("Enter the base: ");
        scanf("%d",&base);
        printf("Enter the height: ");
        scanf("%d",&height);
        area=0.5*base*height;
        printf("Area of the triangle:%.2f",area);
        return 0;
}
```

GCD AND LCM

```
#include<stdio.h>
int findGCD(int n1,int n2){
	while(n2!=0){
		int temp=n2;
		n2=n1%n2;
		n1=temp;
	}
	return n1;
}
int findLCM(int n1,int n2){
	int gcd=findGCD(n1,n2);
	int lcm=(n1*n2)/gcd;
	return lcm;
}
int main(){
	int n1,n2;
	printf("Enter two numbers: ");
	scanf("%d %d",&n1,&n2);
	int gcd=findGCD(n1,n2);
	int lcm=findLCM(n1,n2);
	printf("GCD of %d and %d =%d\n",n1,n2,gcd);
	printf("LCM of %d and %d =%d\n",n1,n2,lcm);
	return 0;
}
```

HCF OF TWO NUMBERS

```
#include<stdio.h>
int findHCF(int n1,int n2){
        while(n2!=0){
                int temp=n2;
                n2=n1%n2;
                n1=temp;
        }
        return n1;
}
int main(){
        int n1,n2;
        printf("Enter two numbers: ");
        scanf("%d %d",&n1,&n2);
        int hcf=findHCF(n1,n2);
        printf("HCF of %d and %d =%d\n",n1,n2,hcf);
        return 0;
}
```

COMPARE TWO STRINGS

```
#include<stdio.h>
#include<string.h>
int main(){
        char s1[10]="abcd",s2[10]="abcd";
        printf("Enter strings: ");
        scanf("%s""%s",s1,s2);
   if(strcmp(s1,s2)==0){
        printf("Both are equal");
        }else{
                printf("Both are not equal");
```

```
        }
        return 0;
}
```

STRING PALINDROME

```
#include<stdio.h>
#include<string.h>
int main(){
        char str[100];
        int i,len,flag=0;
        printf("Enter the string: ");
        gets(str);
        len=strlen(str);
        for(i=0;i<len;i++){
                if(str[i]!=str[len-i-1]){
                        flag=1;
                        break;
                }
        }
        if(flag==0){
                printf("%s is a palindrome string",str);
        }else{
                printf("%s is not a palindrome string",str);
        }
        return 0;
}
```

POWER OF A NUMBER

```
#include<stdio.h>
int main(){
        int base,exponent,power=1,i;
        printf("Enter base: ");
        scanf("%d",&base);
        printf("Enter exponent : ");
        scanf("%d",&exponent);
        for(i=1;i<=exponent;i++){
                power=power*base;
        }
        printf("Power %d^%d is
%d",base,exponent,power);
        return 0;
}
```

```
#include<stdio.h>
#include<math.h>
int main(){
        int base,exponent,power;
        printf("Enter base: ");
        scanf("%d",&base);
        printf("Enter exponent : ");
        scanf("%d",&exponent);
        power=pow(base,exponent);
        printf("Power %d^%d is
%d",base,exponent,power);
        return 0;
}
```

SUM OF ALL EVEN NUMBERS BETWEEN 1TO 100

```
#include<stdio.h>
int main(){
        int n,i,sum=0;
        printf("enter the value:");
        scanf("%d",&n);
        for(i=2;i<=n;i=i+2){
                sum=sum+i;
        }
        printf("Sum of all even numbers:%d\n",sum);
        return 0;
}
```

PERFECT SQUARE

```
#include<stdio.h>
int main(){
        int i,num,flag=0;
        printf("Enter a number: ");
        scanf("%d",&num);
        if(num==1||num==0){
                printf("%d is a perfect square",num);
                flag=1;
        }
        for(i=2;i<=num/2;i++){
                if(num==i*i){
                        printf("\n %d is a perfect square",num);
                        flag=1;
                        break;
                }
        }
        if(flag==0)
          printf("\n %d is not a perfect sqaure",num);
        return 0;
}
```

```
#include<stdio.h>
int main(){
        int i,num;
        printf("Enter a number: ");
        scanf("%d",&num);
        for(i=0;i<=num;i++){
                if(num==i*i){
                        printf("\n %d is a perfect square",num);
                        return 0;
                }
        }
   printf("\n %d is not a perfect sqaure",num);
        return 0;
}
```

SUM OF EVEN DIGITS IN A NUMBER

```
#include<stdio.h>
int sum_evendigits(int n){
        int r,sum=0;
        while(n>0){
```

```
                r=n%10;
                n=n/10;
                if(r%2==0){
                        sum=sum+r;
                }
        }
        return sum;
}
int main(){
        int n;
        printf("Enter a number: ");
        scanf("%d",&n);
        printf("Sum of even digits:%d",sum_evendigits(n));
}
```

SIMPLE INTEREST

```
#include<stdio.h>
int main()
{
        float interest,t,r,p;
        printf("enter principle amount:");
        scanf("%f",&p);
        printf("enter time:");
        scanf("%f",&t);
        printf("enter rate:");
        scanf("%f",&r);
        interest=(p*t*r)/100;
        printf("simple interest=%f",interest);
        return 0;
}
```

VOTE

```
#include<stdio.h>
int main(){
        int age;
        printf("Enter your age: ");
        scanf("%d",&age);
        if(age>=18)
          printf("You are Eligible to vote");
        else
          printf("You are not Eligible to vote");
        return 0;
}
```

SUM OF 10 NUMBERS USING RECURSION FUNCTION

```
#include<stdio.h>
int sum(int n){
        if(n>0){
                return n+sum(n-1);
        }else{
                return 0;
        }
}
int main(){
        int result=sum(10);
        printf("Sum of 10 numbers:%d\n",result);
        return 0;
}
```

SWAP USING POINTERS

```
#include<stdio.h>
int main()
{
	int x,y,*a,*b,temp;
	printf("enter the value of x and y\n");
	scanf("%d %d",&x,&y);
	printf("before swapping\nx=%d\ny=%d\n",x,y);
	a=&x;
	b=&y;
	temp=*a;
	*b=*a;
	*a=temp;
	printf("after swapping\nx=%d\ny=%d\n",x,y);
	return 0;
}
```

SKIP BY NUMBER

```
#include<stdio.h>
int main(){
	int i;
	while(i<=10){
		if(i==3){
			i++;
			continue;
		}
		printf("%d",i);
		i++;
	}
	return 0;
}
```

STRUCTURE OF STUDENT

```
#include<stdio.h>
struct student
{
        char name[10];
        int rollno;
        float marks;
}s;
int main()
{
        printf("enter the name:");
        scanf("%s",s.name);
        printf("enter the rollno:");
        scanf("%d",s.rollno);
        printf("enter the marks:");
        scanf("%f",s.marks);
        printf("name:%s\n",s.name);
        printf("roll:%d\n",s.rollno);
        printf("marks:%f\n",s.marks);
        return 0;
}
```

STRUCTURE OF BOOK

```
#include<stdio.h>
struct book
{
        char title[20];
        char author[20];
        int price;
}b;
int main()
```

```
{
        printf("enter the title:");
        scanf("%s",b.title);
        printf("enter the author:");
        scanf("%s",b.author);
        printf("enter the price:");
        scanf("%d",&b.price);
        printf("title:%s\n",b.title);
        printf("author:%s\n",b.author);
        printf("price:%d\n",b.price);
        return 0;
}
```

STURCTURE OF EMPLOYEE

```
#include<stdio.h>
struct employee
{
        char name[20];
        int salary;
        int employeeid;
}s;
int main()
{
        printf("enter the name:");
        scanf("%s\n",&s.name);
        printf("enter the salary:");
        scanf("%d\n",&s.salary);
        printf("enter the employeeid:");
        scanf("%d\n",&s.employeeid);
        printf("the name is %s\n",s.name);
```

```
        printf("the salary is %d\n",s.salary);
        printf("the employeeid is %d\n",s.employeeid);
return 0;
}
```

LENGTH OF STRING

```
#include<stdio.h>
#include<string.h>
int main()
{
        char str[100];
        int i;
        printf("enter the string:");
        scanf("%s",str);
        printf("length of str is %1d", strlen(str));
        return 0;
}
```

LENGTH OF ARRAY OR NO.OF ELEMENTS IN AN ARRAY

```
#include<stdio.h>
int main(){
        int arr[]={1,2,3,4,5,6,7,8};
        int length=sizeof(arr)/sizeof(arr[0]);
        printf("The length of the array is: %d\n",length);
        return 0;
}
```

RECTANGLE PATTERN

```
#include<stdio.h>
int main()
{
        int i,j,rows,columns;
        printf("enter number of rows:");
        scanf("%d",&rows);
        printf("enter number of columns:");
        scanf("%d",&columns);
        for(i=1;i<=rows;i++)
        {
                for(j=1;j<=columns;j++)
                {
                        printf("#");
                }
                printf("\n");
        }
        return 0;
}
```

OUTPUT:-

```
#####
#####
#####
#####
#####
```

```
#include<stdio.h>
int main(){
        int i,j ,n;
        printf("enter the number:");
        scanf("%d",&n);
        for(i=1;i<=n;i++){
                for(j=1;j<=n;j++){
                        printf("#");
                }
                printf("\n");
        }
        return 0;
}
```

RHOMBUS PATTERN

```
#include<stdio.h>
int main(){
        int i,j,n=5;
        char ch='*';
        for(i=1;i<=n;i=i+2){
                for(j=1;j<=i;j++){
                        printf("%c",ch);
                }
                printf("\n");
        }
        for(i=n-2;i>=1;i=i-2){
                for(j=1;j<=i;j++){
                        printf("%c",ch);
                }
                printf("\n");
        }
        Return 0;
}
```

OUTPUT:-

```
*
***
*****
***
*
```

RIGHT ANGLE TRIANGLE

```
#include<stdio.h>
int main()
{
        int i,j;
        for(i=1;i<=5;i++)
        {
                printf("\n");
                for(j=1;j<=i;j++)
                {
                        printf("#");
                }
        }
        Return 0;
}
```

OUTPUT:-

```
#
##
###
####
#####
```

NUMBER PATTERN

```
#include<stdio.h>
int main(){
        int i,j;
        for(i=1;i<=5;i++){
                for(j=1;j<=i;j++){
                        printf("%d",i);
                }
                printf("\n");
        }
}
```

OUTPUT:-

```
1
22
333
4444
55555
```