1.

#include <stdio.h>

void main()

{

int j, sum = 0;

printf("The first 10 natural number is :\n");

for (j = 1; j <= 10; j++)

{

sum = sum + j;

printf("%d ",j);

}

printf("\nThe Sum is : %d\n", sum);

}

Output:

The first 10 natural number is :

1 2 3 4 5 6 7 8 9 10

The Sum is : 55

2.

#include <stdio.h>

int main()

{

int n, i;

printf("Enter a Number ");

scanf("%d",&n);

for(i=1; i<=10; ++i)

{

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

}

Return 0;

}

3.

**#include <stdio.h>**

**void main()**

**{**

**int i,n,sum=0;**

**printf("Input number of terms : ");**

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

**printf("\nThe odd numbers are :");**

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

**{**

**printf("%d ",2\*i-1);**

**sum+=2\*i-1;**

**}**

**printf("\nThe Sum of odd Natural Number upto %d terms : %d \n",n,sum);**

**}**

**Output:**

**Input number of terms : 8**

**The odd numbers are :1 3 5 7 9 11 13 15**

**The Sum of odd Natural Number upto 8 terms : 64**

**4.**

#include <stdio.h>

void main()

{

int i,j,rows;

printf("Input number of rows : ");

scanf("%d",&rows);

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

{

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

printf("\*");

printf("\n");

}

}

Output:

Input number of rows : 10

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5.

#include <stdio.h>

void main()

{

int i,j,rows,k=1;

printf("Input number of rows : ");

scanf("%d",&rows);

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

{

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

printf("%d ",k++);

printf("\n");

}

}

Output:

Input number of rows : 4

1

2 3

4 5 6

7 8 9 10

6.

#include <stdio.h>

void main()

{

int i,j,spc,rows,k,t=1;

printf("Input number of rows : ");

scanf("%d",&rows);

spc=rows+4-1;

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

{

for(k=spc;k>=1;k--)

{

printf(" ");

}

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

printf("%d ",t++);

printf("\n");

spc--;

}

}

Output:

Input number of rows : 4

1

2 3

4 5 6

7 8 9 10

7.

#include <iostream>

using namespace std;

int main()

{

int rows;

cout << "Enter number of rows: ";

cin >> rows;

for(int i = rows; i >= 1; --i)

{

for(int space = 0; space < rows-i; ++space)

cout << " ";

for(int j = i; j <= 2\*i-1; ++j)

cout << "\* ";

for(int j = 0; j < i-1; ++j)

cout << "\* ";

cout << endl;

}

return 0;

}

Output:

1 1

1 2 1

1 3 3 1

1 4 6 4 1

1 5 10 10 5 1

8.

#include <stdio.h>

int main() {

int i, n, t1 = 0, t2 = 1, nextTerm;

printf("Enter the number of terms: ");

scanf("%d", &n);

printf("Fibonacci Series: ");

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

printf("%d, ", t1);

nextTerm = t1 + t2;

t1 = t2;

t2 = nextTerm;

}

return 0;

}

Output:

Enter the number of terms: 10

Fibonacci Series: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34

9.

# include <stdio.h>

int main()

{

int i, Number, Sum = 0 ;

printf("\n Please Enter any number \n") ;

scanf("%d", &Number) ;

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

{

if(Number % i == 0)

Sum = Sum + i ;

}

if (Sum == Number)

printf("\n %d is a Perfect Number", Number) ;

else

printf("\n%d is not the Perfect Number", Number) ;

return 0 ;

}

Output:

Please Enter any number

6

6 is a Perfect Number

10.

#include <stdio.h>

void main(){

int num,r,sum,temp;

int stno,enno;

printf("Input starting number of range: ");

scanf("%d",&stno);

printf("Input ending number of range : ");

scanf("%d",&enno);

printf("Armstrong numbers in given range are: ");

for(num=stno;num<=enno;num++){

temp=num;

sum = 0;

while(temp!=0){

r=temp % 10;

temp=temp/10;

sum=sum+(r\*r\*r);

}

if(sum==num)

printf("%d ",num);

}

printf("\n");

}

Output:

Input starting number of range: 1

Input ending number of range : 1000

Armstrong numbers in given range are: 1 153 370 371 407

11.

#include <stdio.h>

int main() {

int n, i, flag = 0;

printf("Enter a positive integer: ");

scanf("%d", &n);

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

// condition for non-prime

if (n % i == 0) {

flag = 1;

break;

}

}

if (n == 1) {

printf("1 is neither prime nor composite.");

}

else {

if (flag == 0)

printf("%d is a prime number.", n);

else

printf("%d is not a prime number.", n);

}

return 0;

}

Output:

Enter a positive integer: 17

17 is a prime number.

12.

#include <stdio.h>

int main() {

int n, rev = 0, remainder;

printf("Enter an integer: ");

scanf("%d", &n);

while (n != 0) {

remainder = n % 10;

rev = rev \* 10 + remainder;

n /= 10;

}

printf("Reversed number = %d", rev);

return 0;

}

Output:

Enter an integer: 4567

Reversed number = 7654

13.

#include <stdio.h>

void main()

{ long int n,i,t=9;

int sum =0;

printf("Input the number or terms :");

scanf("%ld",&n);

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

{ sum +=t;

printf("%ld ",t);

t=t\*10+9;

}

printf("\nThe sum of the series = %d \n",sum);

}

Output:

Input the number or terms :5

9 99 999 9999 99999

The sum of the series = 111105

14.

#include <stdio.h>

void main()

{

float x,sum,t,d;

int i,n;

printf("Input the Value of x :");

scanf("%f",&x);

printf("Input the number of terms : ");

scanf("%d",&n);

sum =1; t = 1;

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

{

d = (2\*i)\*(2\*i-1);

t = -t\*x\*x/d;

sum =sum+ t;

}

printf("\nthe sum = %f\nNumber of terms = %d\nvalue of x = %f\n",sum,n,x);

}

Output:

Input the Value of x :5

Input the number of terms : 10

the sum = 0.283625

Number of terms = 10

value of x = 5.000000

15.

#include <stdio.h>

#include <math.h>

void main()

{

int x,sum,ctr;

int i,n,m,mm,nn;

printf("Input the value of x :");

scanf("%d",&x);

printf("Input number of terms : ");

scanf("%d",&n);

sum =x; m=-1;

printf("The values of the series: \n");

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

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

{

ctr = (2 \* i + 1);

mm = pow(x, ctr);

nn = mm \* m;

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

sum = sum + nn;

m = m \* (-1);

}

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

}

Output:

Input the value of x :5

Input number of terms : 10

The values of the series:

5

-125

3125

-78125

1953125

-48828125

1220703125

-2147483648

-2147483648

-2147483648

The sum = -973730643

16.

#include <stdio.h>

void main()

{

int i,n,sum=0;

printf("Input number of terms : ");

scanf("%d",&n);

printf("\nThe even numbers are :");

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

{

printf("%d ",2\*i);

sum+=2\*i;

}

printf("\nThe Sum of even Natural Number upto %d terms : %d \n",n,sum);

}

Output:

Input number of terms : 4

The even numbers are :2 4 6 8

The Sum of even Natural Number upto 4 terms : 20

17.

#include <stdio.h>

void main()

{

int i,n,sum=0;

printf("Input Value of terms : ");

scanf("%d",&n);

printf("\nThe first %d natural numbers are:\n",n);

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

{

printf("%d ",i);

sum+=i;

}

printf("\nThe Sum of natural numbers upto %d terms : %d \n",n,sum);

}

Output:

Input Value of terms : 5

The first 5 natural numbers are:

1 2 3 4 5

The Sum of natural numbers upto 5 terms : 15

18.

#include <stdio.h>

void main()

{

int i,j,r;

printf("Input number of rows (half of the diamond) :");

scanf("%d",&r);

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

{

for(j=1;j<=r-i;j++)

printf(" ");

for(j=1;j<=2\*i-1;j++)

printf("\*");

printf("\n");

}

for(i=r-1;i>=1;i--)

{

for(j=1;j<=r-i;j++)

printf(" ");

for(j=1;j<=2\*i-1;j++)

printf("\*");

printf("\n");

}

}

Output:

Input number of rows (half of the diamond) :8

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19.

#include <stdio.h>

void main()

{

int i,j,rows;

printf("Input number of rows : ");

scanf("%d",&rows);

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

{

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

printf("%d",i);

printf("\n");

}

}

Output:

Input number of rows : 10

1

22

333

4444

55555

666666

7777777

88888888

999999999

10101010101010101010

20.

#include <stdio.h>

int main() {

int n, i;

unsigned long long fact = 1;

printf("Enter an integer: ");

scanf("%d", &n);

// shows error if the user enters a negative integer

if (n < 0)

printf("Error! Factorial of a negative number doesn't exist.");

else {

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

fact \*= i;

}

printf("Factorial of %d = %llu", n, fact);

}

return 0;

}

Output:

Enter an integer: 5

Factorial of 5 = 120

21.