Generation of number series 1, 2, 3, 4,…..n

|  |  |
| --- | --- |
| 2  3  4  5  6  7  8  9  10  11  12  13 | #include<stdio.h>  **int** main()  {  **int** p, N;  **printf**("Input value of N:");  **scanf**("%d", &N);    **for**(p=1; p<=N; p++)         {  **printf**("%d",p);         }  **return** 0;  } |

Output

Input value of N:6

1 2 3 4 5 6

Generation of even number series 2, 4, 6, …..n

#include <stdio.h>

int main()

{

int i, n;

printf("Print all even numbers till: ");

scanf("%d", &n);

printf("All even numbers from 1 to %d are: \n", n);

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

{

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

}

return 0;

}

Output

Even numbers between 1 to 10:

2, 4, 6, 8, 10

Generation of ODD number series 1, 3, 5, …..n

#include<stdio.h>

int main()

{

int i, number;

printf("\n Please Enter the Maximum Limit Value : ");

scanf("%d", &number);

printf("\n Odd Numbers between 1 and %d are : \n", number);

for(i = 1; i <= number; i= i+2)

{

printf(" %d\t", i);

}

return 0;

}

Output

Please Enter the Maximum Limit Value : 18

Odd Numbers between 1 and 18 are :

1 3 5 7 9 11 13 15 17

Generation of Fibonacci series 0, 1, 1, 2, 3, 5, 8, …..n

#include <stdio.h>

**int** fib(**int** n)

{

**if** (n <= 1)

**return** n;

**return** fib(n - 1) + fib(n - 2);

}

**int** main()

{

**int** n = 9;

**printf**("%d", fib(n));

**getchar**();

**return** 0;

}

Outut

34

5. Summing up series 1 + 2 + 3 + 4….. +n

#include<stdio.h>

int main( )

{

int n;

printf("Enter number of terms : ");

scanf("%d", &n);

printf("\b\b Using Recursion :: \n");

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

printf("\n\b\b Using Recursion :: \n");

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

return 0;

}

int series(int n)

{

int i, sum=0;

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

{

printf("%d + ", i);

sum+=i;

}

return sum;

}

int rseries(int n)

{

int sum;

if(n == 0)

return 0;

sum = (n + rseries(n-1));

printf("%d + ",n);

return sum;

}

Output

Enter number of terms : 15

Using Recursion ::

1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 = 120

Using Recursion ::

1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 = 120

6. Summing up Even Number series

#include <stdio.h>

int main()

{

int i, n, sum=0;

printf("Enter upper limit: ");

scanf("%d", &n);

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

{

sum += i;

}

printf("Sum of all even number between 1 to %d = %d", n, sum);

return 0;

}

Output

Enter upper limit: 10

Sum of all even number between 1 to 10 = 30

7. Summing up Odd Number series

#include<stdio.h>

#include<conio.h>

void main()

{

int n,i,sum=0;

clrscr();

printf("Enter any number: ");

scanf("%d",&n);

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

{

printf("%d+",i);

sum = sum+i;

}

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

getch();

}

Output

**Enter any number: 7**

**1+3+5+7**

**Sum=16**

8. Summing up 1 – 2 + 3 – 4 + 5…. N

#include<stdio.h>

int main()

{

    int n;

    int sum=0,i;

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

    scanf("%d",&n);

    for(i=1;i<=n;i++)

    {

        if(i%2==0)

            sum-=i;

        else

            sum+=i;

    }

    printf("The sum of the series = %d",sum);

}

**Output**

Enter the range of number:6

The sum of the series = -3

10. Summing up 22 + 42 + 62 + 82 + ….. n2

int main()

{

int Number, Sum = 0;

printf("\n Please Enter any positive integer \n");

scanf(" %d",&Number);

Sum = (Number \* (Number + 1) \* (2 \* Number + 1 )) / 6;

printf("\n The Sum of Series for %d = %d ",Number, Sum);

}

Output

Please Enter any positive integer

5

The Sum of Series for 5 = 55

Summing up 11+22+33+44+ …. Nn

#include<iostream>

#include<math.h>

us

ing namespace std;

int calcSumNTerms(int n) {

return ( ( (18\*n - 2)\*(pow(10, n+1)) - 81\*n\*n - 81\*n + 20 )/1458 );

}

int main() {

i

nt n = 5;

cout<<"The sum of series upto n terms is "<<calcSumNTerms(n);

return 0;

}

Output

The sum of series upto n terms is 6035

Summing up squares of Odd numbers

#include<stdio.h>

void main()

{

int NUM,i,j,SUM=0;

clrscr();

printf("\nENTER INTERGER NUMBER : ");

scanf("%d",&NUM);

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

{

if(i%2!=0)

{

SUM=SUM+(i\*i);

}

}

printf("\nTHE SUM OF SQUARE OF ODD NOS. TILL %d NO. IS : %d",NUM,SUM);

getch();

}

Output

Enter the integer number:5

Sum of the squre of odd number:35

13. Summing up cubes of n numbers

#include<stdio.h>

long cube\_sum\_n\_natural(int n) {

   long sum = 0;

   int i;

   for (i = 1; i <= n; i++) {

      sum += i \* i \* i; //cube i and add it with sum

   }

   return sum;

}

main() {

   int n;

   printf("Enter value of n: ");

   scanf("%d", &n);

   printf("Result is: %ld", cube\_sum\_n\_natural(n));

}

Output

Enter value of n: 6

Result is: 441

Product series (Factorial of a given number)

#include<stdio.h>

int main(){

    int x,fact=1,n;

    printf("Enter a number to find factorial: ");

    scanf("%d",&n);

    for(x=1;x<=n;x++)

        fact=fact\*x;

    printf("Factorial of %d is: %d",n,fact);

    return 0;

}

Output

The factorial of number:5040

. Finding given number is Armstrong or not

#include <stdio.h>

int main() {

int n = 153;

int temp = n;

int p = n;

while (n > 0) {

int rem = n % 10;

p = (p) + (rem \* rem \* rem);

n = n / 10;

}

if (temp == p) {

printf("Yes. It is Armstrong No.");

}

else {

printf("No. It is not an Armstrong No.");

}

return 0;

}

Output

Yes. It is Armstrong No.

Summing up any n numbers and finding average

#include <stdio.h>

int main()

{

int num, i, sum = 0, n;

float avg;

printf("Please enter term of n numbers :- ");

scanf("%d", &n);

i = 1;

while(i <= n)

{

printf("Number %d = ", i);

scanf("%d", &num);

sum = sum + num;

i++;

}

avg = (float)sum / n;

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

printf("\nThe Average of n Numbers = %.2f\n", avg);

}

Output

Please enter term of n numbers :- 5

Number 1 = 1

Number 2 = 2

Number 3 = 3

Number 4 = 4

Number 5 = 5

The Sum of n Numbers = 15

The Average of n Numbers = 3.00

Printing digits of an integer number

#include <stdio.h>

#define MAX

**void** printDigit(**int** N

**int** arr[MAX];

**int** i = 0;

**int** j, r

**while** (N != 0) {

        r = N % 10

        arr[i] = r;

        i++

        N = N / 10;

    }

**for** (j = i - 1; j > -1; j--) {

**printf**("%d ", arr[j]);

    }

}

**int** main()

{

**int** N = 3452897;

    printDigit(N);

**return** 0;

}

Output

3 4 5 2 8 9 7

Summing up the digits of an integer number

1. #include <stdio.h>
3. int main(void)
4. {
5. int num, sum = 0, rem;
6. printf("Enter a number: ");
7. scanf("%d", &num);
9. *// Keep dividing until the number is not zero*
10. while (num != 0)
11. {
12. rem = num % 10;
13. sum = sum + rem;
14. num = num / 10;
15. }
16. printf("Sum of digits of the number is %d", sum);
17. return 0;
18. }

Output

Enter a number: 123

Sum of digits of the number is 6

Revering the digits of an integer number

#include <stdio.h>

int main() {

int n, reverse = 0, remainder;

printf("Enter an integer: ");

scanf("%d", &n);

while (n != 0) {

remainder = n % 10;

reverse = reverse \* 10 + remainder;

n /= 10;

}

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

return 0;

}

[Run Code](https://www.programiz.com/c-programming/online-compiler)

Output

Enter an integer: 2345

Reversed number = 5432

Finding whether the given integer is odd or even

#include <stdio.h>

int main() {

int num;

printf("Enter an integer: ");

scanf("%d", &num);

// true if num is perfectly divisible by 2

if(num % 2 == 0)

printf("%d is even.", num);

else

printf("%d is odd.", num);

return 0;

}

Output

Enter an integer: -7

-7 is odd.