

C Programming Exercises, Practice, Solution : For Loop

Last update on May 19 2023 12:57:36 (UTC/GMT +8 hours)

C For Loop [61 exercises with solution]

[An editor is available at the bottom of the page to write and execute the scripts. [Go to the editor](#)]

1. Write a program in C to display the first 10 natural numbers.

Expected Output :

1 2 3 4 5 6 7 8 9 10

[Click me to see the solution](#)

2. Write a C program to compute the sum of the first 10 natural numbers.

Expected Output :

The first 10 natural number is :

1 2 3 4 5 6 7 8 9 10

The Sum is : 55

[Click me to see the solution](#)

3. Write a program in C to display n terms of natural numbers and their sum.

Test Data : 7

Expected Output :

The first 7 natural number is :

1 2 3 4 5 6 7

The Sum of Natural Number upto 7 terms : 28

[Click me to see the solution](#)

4. Write a program in C to read 10 numbers from the keyboard and find their sum and average.

Test Data :

Input the 10 numbers :

Number-1 :2

...

Number-10 :2

Expected Output :

The sum of 10 no is : 55

The Average is : 5.500000

[Click me to see the solution](#)

5. Write a program in C to display the cube of the number up to an integer.

Test Data :

Input number of terms : 5

Expected Output :

Number is : 1 and cube of the 1 is :1

Number is : 2 and cube of the 2 is :8

Number is : 3 and cube of the 3 is :27

Number is : 4 and cube of the 4 is :64

Number is : 5 and cube of the 5 is :125

[Click me to see the solution](#)



6. Write a program in C to display the multiplication table for a given integer.

Test Data :

Input the number (Table to be calculated) : 15

Expected Output :

15 X 1 = 15

...

...

15 X 10 = 150

[Click me to see the solution](#)



7. Write a program in C to display the multiplier table vertically from 1 to n.

Test Data :

Input upto the table number starting from 1 : 8

Expected Output :

Multiplication table from 1 to 8

1x1 = 1, 2x1 = 2, 3x1 = 3, 4x1 = 4, 5x1 = 5, 6x1 = 6, 7x1 = 7, 8x1 = 8

...

1x10 = 10, 2x10 = 20, 3x10 = 30, 4x10 = 40, 5x10 = 50, 6x10 = 60, 7x10 = 70, 8x10 = 80

[Click me to see the solution](#)



8. Write a C program to display the n terms of odd natural numbers and their sum.

Test Data

Input number of terms : 10

Expected Output :

The odd numbers are :1 3 5 7 9 11 13 15 17 19

The Sum of odd Natural Number upto 10 terms : 100

[Click me to see the solution](#)



9. Write a program in C to display a pattern like a right angle triangle using an asterisk.

The pattern like :

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

[Click me to see the solution](#)

10. Write a C program to display a pattern like a right angle triangle with a number.

The pattern like :

```
1  
12  
123  
1234
```

[Click me to see the solution](#)



11. Write a program in C to make such a pattern like a right angle triangle with a number which will repeat a number in a row.

The pattern like :

```
1  
22  
333  
4444
```

[Click me to see the solution](#)

12. Write a program in C to make such a pattern like a right angle triangle with the number increased by 1.

The pattern like :

```
1  
2 3  
4 5 6  
7 8 9 10
```

[Click me to see the solution](#)



13. Write a program in C to make a pyramid pattern with numbers increased by 1.

```
1  
2 3  
4 5 6  
7 8 9 10
```

[Click me to see the solution](#)

14. Write a C program to make such a pattern as a pyramid with an asterisk.

```
*
```



```
* *
```



```
* * *
```



```
* * * *
```

[Click me to see the solution](#)

15. Write a C program to calculate the factorial of a given number.

Test Data :

Input the number : 5

Expected Output :

The Factorial of 5 is: 120

[Click me to see the solution](#)

16. Write a C program to display the sum of n terms of even natural numbers.

Test Data :

Input number of terms : 5

Expected Output :

The even numbers are : 2 4 6 8 10



The Sum of even Natural Number upto 5 terms : 30

[Click me to see the solution](#)



17. Write a C program to make such a pattern like a pyramid with a number which will repeat the number in the same row.

```
1  
2 2  
3 3 3  
4 4 4 4
```

[Click me to see the solution](#)

18. Write a program in C to find the sum of the series [1-X^2/2!+X^4/4!-].

Test Data :

Input the Value of x : 2

Input the number of terms : 5

Expected Output :

the sum = -0.415873

Number of terms = 5

value of x = 2.000000

[Click me to see the solution](#)

19. Write a program in C to display the n terms of a harmonic series and their sum.

1 + 1/2 + 1/3 + 1/4 + 1/5 ... 1/n terms



Test Data :

Input the number of terms : 5

Expected Output :
1/1 + 1/2 + 1/3 + 1/4 + 1/5 +
Sum of Series upto 5 terms : 2.283334
[Click me to see the solution](#)

20. Write a C program to display the pattern as a pyramid using asterisks, with each row containing an odd number of asterisks.

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

[Click me to see the solution](#)

21. Write a program in C to display the sum of the series [9 + 99 + 999 + 9999 ...].

Test Data :
Input the number of terms :5
Expected Output :
9 99 999 9999 99999
The sum of the series = 111105
[Click me to see the solution](#)

22. Write a program in C to print Floyd's Triangle.

```
1  
01  
101  
0101  
10101
```

[Click me to see the solution](#)

23. Write a program in C to find the sum of the series [x - x^3 + x^5 +].

Test Data :
Input the value of x :3
Input number of terms : 5
Expected Output :
The sum is : 16.375000
[Click me to see the solution](#)

24. Write a program in C to find the sum of the series [x - x^3 + x^5 +].

Test Data :
Input the value of x :2
Input number of terms : 5
Expected Output :
The values of the series:
2
-8
32
-128
512
The sum = 410
[Click me to see the solution](#)



25. Write a C program that displays the n terms of square natural numbers and their sum.

1 4 9 16 ... n Terms
Test Data :
Input the number of terms : 5
Expected Output :
The square natural upto 5 terms are :1 4 9 16 25
The Sum of Square Natural Number upto 5 terms = 55
[Click me to see the solution](#)

26. Write a program in C to find the sum of the series 1 +11 + 111 + 1111 + .. n terms.

Test Data :
Input the number of terms : 5
Expected Output :
1 + 11 + 111 + 1111 + 11111
The Sum is : 12345
[Click me to see the solution](#)



27. Write a C program to check whether a given number is a 'Perfect' number or not.

Test Data :
Input the number : 56
Expected Output :
The positive divisor : 1 2 4 7 8 14 28
The sum of the divisor is : 64
So, the number is not perfect.
[Click me to see the solution](#)

28. Write a C program to find the 'Perfect' numbers within a given number of ranges.

Test Data :
Input the starting range or number : 1
Input the ending range of number : 50
Expected Output :
The Perfect numbers within the given range : 6 28
[Click me to see the solution](#)



29. Write a C program to check whether a given number is an Armstrong number or not.

Test Data :

Input a number: 153

Expected Output :

153 is an Armstrong number.

[Click me to see the solution](#)

30. Write a C program to find the Armstrong number for a given range of number.

Test Data :

Input starting number of range: 1

Input ending number of range : 1000

Expected Output :

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

[Click me to see the solution](#)



31. Write a program in C to display a pattern like a diamond.

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

[Click me to see the solution](#)

32. Write a C program to determine whether a given number is prime or not.

Test Data :

Input a number: 13

Expected Output :

13 is a prime number.

[Click me to see the solution](#)



33. Write a C program to display Pascal's triangle.

Test Data :

Input number of rows: 5

Expected Output :

```
1  
1   1  
1   2   1  
1   3   3   1  
1   4   6   4   1
```

[Click me to see the solution](#)

34. Write a program in C to find the prime numbers within a range of numbers.

Test Data :

Input starting number of range: 1

Input ending number of range : 50

Expected Output :

The prime number between 1 and 50 are :

2 3 5 7 11 13 17 19 23 29 31 37 41 43 47

[Click me to see the solution](#)



35. Write a program in C to display the first n terms of the Fibonacci series.

Fibonacci series 0 1 2 3 5 8 13



Test Data :

Input number of terms to display : 10

Expected Output :

Here is the Fibonacci series upto to 10 terms :

0 1 1 2 3 5 8 13 21 34

[Click me to see the solution](#)

36. Write a C program to display a such a pattern for n rows using a number that starts with 1 and each row will have a 1 as the first and last number.

```
1  
121  
12321
```

[Click me to see the solution](#)



37. Write a program in C to display the number in reverse order.

Test Data :

Input a number: 12345

Expected Output :

The number in reverse order is : 54321

[Click me to see the solution](#)



38. Write a C program to check whether a number is a palindrome or not.

Test Data :

Input a number: 121

Expected Output :

121 is a palindrome number.

[Click me to see the solution](#)



39. Write a program in C to find the number and sum of all integers between 100 and 200 which are divisible by 9.

Expected Output :

Numbers between 100 and 200, divisible by 9 :

108 117 126 135 144 153 162 171 180 189 198

The sum : 1683

[Click me to see the solution](#)

40. Write a C program to display the pyramid pattern using the alphabet.

```
    A  
   A B A  
  A B C B A  
 A B C D C B A
```

[Click me to see the solution](#)

41. Write a program in C to convert a decimal number into binary without using an array.

Test Data :

Input a decimal number: 25



Binary number equivalent to said decimal number is: 00000000000000000000000000000001 1001

[Click me to see the solution](#)

42. Write a C program to convert a binary number into a decimal number without using array, function and while loop.

Test Data :

Input a binary number :1010101

Expected Output :

The Binary Number : 1010101

The equivalent Decimal Number : 85

[Click me to see the solution](#)

43. Write a C program to find the HCF (Highest Common Factor) of two numbers.

Test Data :

Input 1st number for HCF: 24

Input 2nd number for HCF: 28

Expected Output :

HCF of 24 and 28 is : 4

[Click me to see the solution](#)

44. Write a C program to find the LCM of any two numbers using HCF.

Test Data :

Input 1st number for LCM: 15



Input 2nd number for LCM: 20

Expected Output :

The LCM of 15 and 20 is : 60

[Click me to see the solution](#)

45. Write a program in C to find the LCM of any two numbers.

Test Data :

Input 1st number for LCM: 15

Input 2nd number for LCM: 20

Expected Output :

The LCM of 15 and 20 is : 60

[Click me to see the solution](#)

46. Write a C program to convert a binary number into a decimal number using the math function.

Test Data :

Input the binary number :1010100

Expected Output :

The Binary Number : 1010100

The equivalent Decimal Number is : 84

[Click me to see the solution](#)

47. Write a C program to check whether a number is a Strong Number or not.

Test Data :

Input a number to check whether it is Strong number: 15



Expected Output :

15 is not a Strong number.

[Click me to see the solution](#)

48. Write a C program to find Strong Numbers within a range of numbers.

Test Data :

Input starting range of number : 1

Input ending range of number: 200

Expected Output :

The Strong numbers are :

1 2 145

[Click me to see the solution](#)

49. Write a C program to find the sum of an A.P. series.

Test Data :

Input the starting number of the A.P. series: 1

Input the number of items for the A.P. series: 10

Input the common difference of A.P. series: 4

Expected Output :

The Sum of the A.P. series are :

$1 + 5 + 9 + 13 + 17 + 21 + 25 + 29 + 33 + 37 = 190$

[Click me to see the solution](#)



50. Write a program in C to convert a decimal number into octal without using an array.

Test Data :

Enter a number to convert : 79

Expected Output :

The Octal of 79 is 117.
[Click me to see the solution](#)

51. Write a C program to convert an octal number to a decimal without using an array.

Test Data :

Input an octal number (using digit 0 - 7) :745

Expected Output :

The Octal Number : 745

The equivalent Decimal Number : 485

[Click me to see the solution](#)

52. Write a C program to find the sum of the G.P. series.

Test Data :

Input the first number of the G.P. series: 3

Input the number or terms in the G.P. series: 5

Input the common ratio of G.P. series: 2

Expected Output :

The numbers for the G.P. series:

3.000000 6.000000 12.000000 24.000000 48.000000

The Sum of the G.P. series : 93.000000

[Click me to see the solution](#)



53. Write a C program to convert a binary number to octal.

Test Data :

Input a binary number :1001

Expected Output :

The Binary Number : 1001

The equivalent Octal Number : 11

[Click me to see the solution](#)

54. Write a program in C to convert an octal number into binary.

Test Data :

Input an octal number (using digit 0 - 7) :57

Expected Output :

The Octal Number : 57

The equivalent Binary Number : 101111

[Click me to see the solution](#)

55. Write a C program to convert a decimal number to hexadecimal.

Test Data :

Input any Decimal number: 79

Expected Output :

The equivalent Hexadecimal Number : 4F

[Click me to see the solution](#)



56. Write a program in C to check whether a number can be expressed as the sum of two prime.

Test Data :

Input a positive integer: 16

Expected Output :

16 = 3 + 13

16 = 5 + 11

[Click me to see the solution](#)

57. Write a C program to print a string in reverse order.

Test Data :

Input a string to reverse : Welcome

Expected Output :

Reversed string is: emocleW

[Click me to see the solution](#)

58. Write a C program to find the length of a string without using the library function.

Test Data :

Input a string : welcome

Expected Output :

The string contains 7 number of characters.

So, the length of the string welcome is : 7

[Click me to see the solution](#)



59. Write a C program to check the Armstrong number of n digits.

Test Data :

Input an integer : 1634

Expected Output :

1634 is an Armstrong number

[Click me to see the solution](#)

60. Write a C program that takes user input and counts the number of characters until the end of the file.

Test Data :

Input characters : w3resource

Expected Output :

Input characters: On Linux systems and OS X EOF is CTRL+D. For Windows EOF is CTRL+Z. Number of

Characters: 10

[Click me to see the solution](#)

61. Write a C program that takes input from the user and counts the number of uppercase and lowercase letters, as well as the number of other characters.

Test Data :

Input characters : w3resource

Expected Output :

Input characters: On Linux systems and OS X EOF is CTRL+D. For Windows EOF is CTRL+Z. Uppercase letters: 0 Lowercase letters: 9 Other characters: 1

[Click me to see the solution](#)



C Programming Code Editor:

```
#include <stdio.h>
int main(void){
    // Here your code !
}
```

Run (Ctrl-Enter)

Output Input (0.00 sec) Text ↻

PaizaCloud

More to Come !

Do not submit any solution of the above exercises at here, if you want to contribute go to the appropriate exercise page.

Follow us on [Facebook](#) and [Twitter](#) for latest update.

C Programming: Tips of the Day

Why does integer overflow on x86 with GCC cause an infinite loop?

When the standard says it's undefined behavior, it means it. Anything can happen. "Anything" includes "usually integers wrap around, but on occasion weird stuff happens".

Yes, on x86 CPUs, integers usually wrap the way you expect. This is one of those exceptions. The compiler assumes you won't cause undefined behavior, and optimizes away the loop test. If you really want wraparound, pass `-fwrapv` to g++ or gcc when compiling; this gives you well-defined (twos-complement) overflow semantics, but can hurt performance.



Ref : <https://bit.ly/3fk5d3K>

Weekly Trends

- [Java Basic Programming Exercises](#)
- [SQL Subqueries](#)
- [Adventureworks Database Exercises](#)
- [C# Sharp Basic Exercises](#)
- [SQL COUNT\(\) with distinct](#)
- [JavaScript String Exercises](#)
- [JavaScript HTML Form Validation](#)
- [Java Collection Exercises](#)
- [SQL COUNT\(\) function](#)
- [SQL Inner Join](#)
- [JavaScript functions Exercises](#)
- [Python Tutorial](#)
- [Python Array Exercises](#)
- [SQL Cross Join](#)
- [C# Sharp Array Exercises](#)

This work is licensed under a Creative Commons Attribution 4.0 International License.

©w3resource.com 2011-2023 [Privacy](#) [About](#) [Contact](#) [Feedback](#) [Advertise](#)

