**C Basic: Exercises, Practice, Solution**

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C Basic Declarations and Expressions [93 exercises with solution]

[*An editor is available at the bottom of the page to write and execute the scripts.*]

**1.** Write a C program to print your name, date of birth. and mobile number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
*Expected Output*:

Name : Alexandra Abramov

DOB : July 14, 1975

Mobile : 99-9999999999

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-1.php)

**2.** Write a C program to get the C version you are using. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
*Expected Output*:

We are using C18!

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-2.php)

**3.** Write a C program to print a block F using hash (#), where the F has a height of six characters and width of five and four characters. And also to print a big 'C'. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
*Expected Output*:

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[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-3.php)

**4.** Write a C program to print the following characters in a reverse way. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
*Test Characters*: 'X', 'M', 'L'  
*Expected Output*:  
The reverse of XML is LMX  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-4.php)

**5.** Write a C program to compute the perimeter and area of a rectangle with a height of 7 inches. and width of 5 inches. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
*Expected Output*:  
Perimeter of the rectangle = 24 inches  
Area of the rectangle = 35 square inches  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-5.php)

**6.** Write a C program to compute the perimeter and area of a circle with a radius of 6 inches. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
*Expected Output*:  
Perimeter of the Circle = 37.680000 inches  
Area of the Circle = 113.040001 square inches  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-6.php)

**7.** Write a C program to display multiple variables. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Sample *Variable*s :  
a+ c, x + c,dx + x, ((int) dx) + ax, a + x, s + b, ax + b, s + c, ax + c, ax + ux  
*Declaration* :  
int a = 125, b = 12345;  
long ax = 1234567890;  
short s = 4043;  
float x = 2.13459;  
double dx = 1.1415927;  
char c = 'W';  
unsigned long ux = 2541567890;  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-7.php)

**8.** Write a C program to convert specified days into years, weeks and days. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Note: Ignore leap year.  
  
Test Data :  
Number of days : 1329  
Expected Output :  
Years: 3  
Weeks: 33  
Days: 3  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-8.php)

**9.** Write a C program that accepts two integers from the user and calculate the sum of the two integers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first integer: 25  
Input the second integer: 38  
Expected Output:  
Sum of the above two integers = 63  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-9.php)

**10.** Write a C program that accepts two integers from the user and calculate the product of the two integers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first integer: 25  
Input the second integer: 15  
Expected Output:  
Product of the above two integers = 375  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-10.php)

**11.** Write a C program that accepts two item’s weight (floating points' values ) and number of purchase (floating points' values) and calculate the average value of the items. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Weight - Item1: 15  
No. of item1: 5  
Weight - Item2: 25  
No. of item2: 4  
Expected Output:  
Average Value = 19.444444  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-11.php)

**12.** Write a C program that accepts an employee's ID, total worked hours of a month and the amount he received per hour. Print the employee's ID and salary (with two decimal places) of a particular month. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the Employees ID(Max. 10 chars): 0342  
Input the working hrs: 8  
Salary amount/hr: 15000  
Expected Output:  
Employees ID = 0342  
Salary = U$ 120000.00  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-12.php)

**13.** Write a C program that accepts three integers and find the maximum of three. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first integer: 25  
Input the second integer: 35  
Input the third integer: 15  
Expected Output:  
Maximum value of three integers: 35  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-13.php)

**14.** Write a C program to calculate a bike’s average consumption from the given total distance (integer value) traveled (in km) and spent fuel (in liters, float number – 2 decimal point). [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input total distance in km: 350  
Input total fuel spent in liters: 5  
Expected Output:  
Average consumption (km/lt) 70.000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-14.php)

**15.** Write a C program to calculate the distance between the two points. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input x1: 25  
Input y1: 15  
Input x2: 35  
Input y2: 10  
Expected Output:  
Distance between the said points: 11.1803  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-15.php)

**16.** Write a C program to read an amount (integer value) and break the amount into smallest possible number of bank notes. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the amount: 375  
Expected Output:  
There are:  
3 Note(s) of 100.00  
1 Note(s) of 50.00  
1 Note(s) of 20.00  
0 Note(s) of 10.00  
1 Note(s) of 5.00  
0 Note(s) of 2.00  
0 Note(s) of 1.00  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-16.php)

**17.** Write a C program to convert a given integer (in seconds) to hours, minutes and seconds. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input seconds: 25300  
Expected Output:  
There are:  
H:M:S - 7:1:40  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-17.php)

**18.** Write a C program to convert a given integer (in days) to years, months and days, assumes that all months have 30 days and all years have 365 days. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input no. of days: 2535  
Expected Output:  
6 Year(s)  
11 Month(s)  
15 Day(s)  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-18.php)

**19.** Write a C program that accepts 4 integers p, q, r, s from the user where r and s are positive and p is even. If q is greater than r and s is greater than p and if the sum of r and s is greater than the sum of p and q print "Correct values", otherwise print "Wrong values". [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the second integer: 35  
Input the third integer: 15  
Input the fourth integer: 46  
Expected Output:  
Wrong values  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-19.php)

**20.** Write a C program to print the roots of Bhaskara’s formula from the given three floating numbers. Display a message if it is not possible to find the roots. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first number(a): 25  
Input the second number(b): 35  
Input the third number(c): 12  
Expected Output:  
Root1 = -0.60000  
Root2 = -0.80000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-20.php)

**21.** Write a C program that reads an integer and check the specified range where it belongs. Print an error message if the number is negative and greater than 80. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input an integer: 15  
Expected Output:  
Range [0, 20]  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-21.php)

**22.** Write a C program that read 5 numbers and sum of all odd values between them. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first number: 11  
Input the second number: 17  
Input the third number: 13  
Input the fourth number: 12  
Input the fifth number: 5  
Expected Output:  
Sum of all odd values: 46  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-22.php)

**23.** Write a C program that reads three floating values and check if it is possible to make a triangle with them. Also calculate the perimeter of the triangle if the said values are valid. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first number: 25  
Input the second number: 15  
Input the third number: 35  
Expected Output:  
Perimeter = 75.0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-23.php)

**24.** Write a C program that reads two integers and checks whether they are multiplied or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first number: 5  
Input the second number: 15  
Expected Output:  
Multiplied!  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-24.php)

**25.** Write a C program that reads an integer between 1 and 12 and print the month of the year in English. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input a number between 1 to 12 to get the month name: 8  
Expected Output:  
August  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-25.php)

**26.** Write a C program that prints all even numbers between 1 and 50 (inclusive). [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Even numbers between 1 to 50 (inclusive):  
Expected Output:  
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-26.php)

**27.** Write a C program that read 5 numbers and counts the number of positive numbers and negative numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first number: 5  
Input the second number: -4  
Input the third number: 10  
Input the fourth number: 15  
Input the fifth number: -1  
Expected Output:  
Number of positive numbers: 3  
Number of negative numbers: 2  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-27.php)

**28.** Write a C program that read 5 numbers and counts the number of positive numbers and print the average of all positive values. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first number: 5  
Input the second number: 8  
Input the third number: 10  
Input the fourth number: -5  
Input the fifth number: 25  
Expected Output:  
Number of positive numbers: 4  
Average value of the said positive numbers: 12.00  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-28.php)

**29.** Write a C program that read 5 numbers and sum of all odd values between them. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first number: 5  
Input the second number: 7  
Input the third number: 9  
Input the fourth number: 10  
Input the fifth number: 13  
Expected Output:  
Sum of all odd values: 34  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-29.php)

**30.** Write a C program to find and print the square of each one of the even values from 1 to a specified value. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
List of square of each one of the even values from 1 to a 4 :  
Expected Output:  
2^2 = 4  
4^2 = 16  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-30.php)

**31.** Write a C program to check whether a given integer is positive even, negative even, positive odd or negative odd. Print even if the number is 0. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input an integer: 13  
Expected Output:  
Positive Odd  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-31.php)

**32.** Write a C program to print all numbers between 1 to 100 which divided by a specified number and the remainder will be 3. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input an integer: 25  
Expected Output:  
3  
28  
53  
78  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-32.php)

**33.** Write a C program that accepts some integers from the user and find the highest value and the input position. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input 5 integers:  
5  
7  
15  
23  
45  
Expected Output:  
Highest value: 45  
Position: 5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-33.php)

**34.** Write a C program to print the numbers from the lowest to the highest (inclusive) and the sum of consecutive integers from a given pair of numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input a pair of numbers (for example 10,2):  
Input first number of the pair: 10  
Input second number of the pair: 2  
Expected Output:  
List of odd numbers: 3  
5  
7  
9  
Sum=24  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-34.php)

**35.** Write a C program to check whether two numbers in a pair is in ascending order or descending order. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input a pair of numbers (for example 10,2 : 2,10):  
Input first number of the pair: 10  
Expected Output:  
Input second number of the pair: 2  
The pair is in descending order!  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-35.php)

**36.** Write a C program to read a password until it is correct. For wrong password print "Incorrect password" and for correct password print "Correct password" and quit the program. The correct password is 1234. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the password: 1234  
Expected Output:  
Correct password  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-36.php)

**37.** Write a C program to read the coordinates(x, y) (in Cartesian system) and find the quadrant to which it belongs (Quadrant -I, Quadrant -II, Quadrant -III, Quadrant -IV). [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Note: A Cartesian coordinate system is a coordinate system that specifies each point uniquely in a plane by a pair of numerical coordinates.  
These are often numbered from 1st to 4th and denoted by Roman numerals: I (where the signs of the (x,y) coordinates are I(+,+), II (−,+), III (−,−), and IV (+,−).  
Test Data :  
Input the Coordinate(x,y):  
x: 25  
y: 15  
Expected Output:  
Quadrant-I(+,+)  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-37.php)

**38.** Write a program that reads two numbers and divide the first number by second number. If the division not possible print "Division not possible". [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input two numbers:  
x: 25  
y: 5  
Expected Output: 5.0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-38.php)

**39.** Write a C program to calculate the sum of all number not divisible by 17 between two given integer numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first integer: 50 Input the second integer: 99  
Expected Output:  
Sum: 3521  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-39.php)

**40.** Write a C program to find all numbers which are dividing by 7 and the remainder is equal to 2 or 3 between two given integer numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input the first integer: 25  
Input the second integer: 45  
Expected Output:  
30  
31  
37  
38  
44  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-40.php)

**41.** Write a C program to print 3 numbers in a line, starting from 1 and print n lines. Accept number of lines (n, integer) from the user. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input number of lines: 5  
Expected Output:  
1 2 3  
4 5 6  
7 8 9  
10 11 12  
13 14 15  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-41.php)

**42.** Write a C program to print a number, it’s square and cube in a line, starting from 1 and print n lines. Accept number of lines (n, integer) from the user. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input number of lines: 5  
Expected Output:  
1 1 1  
2 4 8  
3 9 27  
4 16 64  
5 25 125  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-42.php)

**43.** Write a C program that reads two integers p and q, print p number of lines in a sequence of 1 to q in a line. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input number of lines: 5  
Number of characters in a line: 6  
Expected Output:  
1 2 3 4 5 6  
7 8 9 10 11 12  
13 14 15 16 17 18  
19 20 21 22 23 24  
25 26 27 28 29 30  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-43.php)

**44.** Write a C program to calculate the average marks of mathematics of some students. Input 0 (excluding to calculate the average) or negative value to terminate the input process. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data :  
Input Mathematics marks (0 to terminate): 10  
15  
20  
25  
0  
Expected Output:  
Average marks in Mathematics: 17.50  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-44.php)

**45.** Write a C program to calculate the value of S where S = 1 + 1/2 + 1/3 + … + 1/50. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Expected Output:  
Value of S: 4.50  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-45.php)

**46.** Write a C program to calculate the value of S where S = 1 + 3/2 + 5/4 + 7/8. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Expected Output:  
Value of series: 4.62  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-46.php)

**47.** Write a C program that reads an integer and find all its divisor. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data:  
Input an integer: 45  
Expected Output:  
All the divisor of 45 are:  
1  
3  
5  
9  
15  
45  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-47.php)

**48.** Write a C program to read and print the elements of an array of length 7, before print replace every negative number, zero with 100. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data:  
Input the 5 members of the array:  
25  
45  
35  
65  
15  
  
Expected Output:  
Array values are:  
n[0] = 25  
n[1] = 45  
n[2] = 35  
n[3] = 65  
n[4] = 15  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-48.php)

**49.** Write a C program to read and print the elements of an array of length 7, before print, put the triple of the previous position starting from the second position of the array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
For example, if the first number is 2, the array numbers must be 2, 6, 18, 54 and 162  
Test Data:  
Input the first number of the array: 5  
Expected Output:  
n[0] = 5  
n[1] = 15  
n[2] = 45  
n[3] = 135  
n[4] = 405  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-49.php)

**50.** Write a C program to read an array of length 5 and print the position and value of the array elements of value less than 5. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data:  
Input the 5 members of the array:  
15  
25  
4  
35  
40  
Expected Output:  
A[2] = 4.0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-50.php)

**51.** Write a C program to read an array of length 6, change the first element by the last, the second element by the fifth and the third element by the fourth. Print the elements of the modified array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data:  
Input the 5 members of the array:  
15  
20  
25  
30  
35  
  
Expected Output:  
array\_n[0] = 35  
array\_n[1] = 30  
array\_n[2] = 25  
array\_n[3] = 20  
array\_n[4] = 15  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-51.php)

**52.** Write a C program to read an array of length 6 and find the smallest element and its position. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data:  
Input the length of the array: 5 Input the array elements:  
25  
35  
20  
14  
45  
Expected Output:  
Smallest Value: 14  
Position of the element: 3  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-52.php)

**53.** Write a C program that accepts principle, rate of interest, time and compute the simple interest. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data:  
Input Data: p = 10000, r = 10% , t = 12 year  
Expected Output:  
Input principle, Rate of interest & time to find simple interest:  
Simple interest = 12000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-53.php)

**54.** Write a C program that accepts a distance in centimeters and prints the corresponding value in inches. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Test Data:  
Input Data: 500cms  
Input the distance in cm:  
Distance of 500.00 cms is = 196.85 inches  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-54.php)

**55.** Write a C program that swaps two numbers without using third variable. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input value for x & y:  
Before swapping the value of x & y: 5 7  
After swapping the value of x & y: 7 5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-55.php)

**56.** Write a C program to shift given data by two bits to the left. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input value : 2  
Read the integer from keyboard-  
Integer value = 2  
The left shifted data is = 16  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-56.php)

**57.** Write a C program to reverse and print a given number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input a number:  
The original number = 234  
The reverse of the said number = 432  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-57.php)

**58.** Write a C program that accepts 4 real numbers from the keyboard and print out the difference of the maximum and minimum values of these four numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input four numbers: 1.54 1.236 1.3625 1.002  
Difference is 0.5380  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-58.php)

**59.** Write a C program to display sum of series 1 + 1/2 + 1/3 + ………. + 1/n. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input any number: 1 + 1/0  
Sum = 1/0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-59.php)

**60.** Write a C program to create enumerated data type for 7 days and display their values in integer constants. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Sun = 0  
Mon = 1  
Tue = 2  
Wed = 3  
Thu = 4  
Fri = 5  
Sat = 6  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-60.php)

**61.** Write a C program that accepts a real number x and prints out the corresponding value of sin(1/x) using 4-decimal places. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input value of x: .6235  
Value of sin(1/x) is 0.9995  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-61.php)

**62.** Write a C program that accepts a positive integer less than 500 and prints out the sum of the digits of this number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input a positive number less than 500:  
Sum of the digits of 347 is 14  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-62.php)

**63.** Write a C program that accepts a positive integer n less than 100 from the user and prints out the sum 14 + 24 + 44 + 74 + 114 + • • • + m4 , where m is less than or equal to n. Print appropriate message. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input a positive number less than 100: 68  
Sum of the series is 37361622  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-63.php)

**64.** Write a C program that accepts integers from the user until a zero or a negative number, display the number of positive values, the minimum value, the maximum value and the average of all numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input a positive integer:  
Input next positive integer: 15  
Input next positive integer: 25  
Input next positive integer: 37  
Input next positive integer: 43  
Number of positive values entered is 4  
Maximum value entered is 43  
Minimum value entered is 15  
Average value is 30.0000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-64.php)

**65.** Write a C program that prints out the prime numbers between 1 and 200. The output should be such that each row contains a maximum of 20 prime numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Expected output:  
The prime numbers between 1 and 199 are:  
2 3 5 7 11 13 17 19 23 29  
31 37 41 43 47 53 59 61 67 71  
73 79 83 89 97 101 103 107 109 113  
127 131 137 139 149 151 157 163 167 173  
179 181 191 193 197  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-65.php)

**66.** Write a C program that generates 50 random numbers between -0.5 and 0.5 and writes them in a file rand.dat. The first line of ran.dat contains the number of data and the next 50 lines contains the 50 random numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
50  
-0.4215  
0.2620  
0.3065  
-0.0485  
.... 0.3980  
0.1750  
0.4780  
-0.2915  
0.0715  
0.3565  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-66.php)

**67.** Write a C program to evaluate the equation y=xn when n is a non-negative integer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input the values of x and n: 256  
x=256.000000; n=0;  
x to power n=1.000000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-67.php)

**68.** Write a C program to print the powers of 2 table for the power 0 to 10, both positive and negative. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
=======================================  
n 2 to power n 2 to power -n  
=======================================  
0 1 1.000000000000  
1 2 0.500000000000  
2 4 0.250000000000  
3 8 0.125000000000  
4 16 0.062500000000  
5 32 0.031250000000  
6 64 0.015625000000  
7 128 0.007812500000  
8 256 0.003906250000  
9 512 0.001953125000  
10 1024 0.000976562500  
======================================  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-68.php)

**69.** Write a C program to print a binomial coefficient table. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Mx 0 1 2 3 4 5 6 7 8 9 10  
----------------------------------------------------------  
0 1  
1 1 1  
2 1 2 1  
3 1 3 3 1  
4 1 4 6 4 1  
5 1 5 10 10 5 1  
6 1 6 15 20 15 6 1  
7 1 7 21 35 35 21 7 1  
8 1 8 28 56 70 56 28 8 1  
9 1 9 36 84 126 126 84 36 9 1  
10 1 10 45 120 210 252 210 120 45 10 1  
----------------------------------------------------------  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-69.php)

**70.** Write a C program to print the alphabet set in decimal and character form. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
[65-A] [66-B] [67-C] [68-D] [69-E] [70-F] [71-G] [72-H] [73-I] [74-J] [75-K] [76-L] [77-M] [78-N] [79-O] [80-P] [81-Q] [82-R] [83-S] [84-T] [85-U] [86-V] [87-W] [88-X] [89-Y]  
[90-Z] [97-a] [98-b] [99-c] [100-d] [101-e] [102-f] [103-g] [104-h] [105-i] [106-j] [107-k] [108-l] [109-m] [110-n] [111-o] [112-p] [113-q] [114-r] [115-s] [116-t] [117-u] [118-v]  
[119-w] [120-x] [121-y] [122-z]  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-70.php)

**71.** Write a C program to copy a given string into another and count the number of characters copied. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input a string  
Original string: w3resource  
Number of characters = 10  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-71.php)

**72.** Write a C program to remove any negative sign in front of a number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Input a value (negative):  
Original value = -253  
Absolute value = 253  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-72.php)

**73.** Write a C programming that reads in two integers and check whether the first integer is a multiple of the second integer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
**Sample Input:** 9 3  
Sample Output:  
Input the first integer : Input the second integer:  
9 is a multiple of 3.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-73.php)

**74.** Write a C programming to display the integer equivalents of letters (a-z, A-Z). [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Sample Output:  
List of integer equivalents of letters (a-z, A-Z).  
==================================================  
97 98 99 100 101 102  
103 104 105 106 107 108  
109 110 111 112 113 114  
115 116 117 118 119 120  
121 122 32 65 66 67  
68 69 70 71 72 73  
74 75 76 77 78 79  
80 81 82 83 84 85  
86 87 88 89 90  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-74.php)

**75.** Write a C programming that accepts one seven-digit number and separates the number into its individual digits, and prints the digits separated from one another by two spaces each. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
**Sample Input:** 2345678  
Input a seven digit number:  
Output: 2 3 4 5 6 7 8  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-75.php)

**76.** Write a C programming to calculate and prints the squares and cubes of the numbers from 0 to 20 and uses tabs to display them in a table of values. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Sample Output:  
Number Square Cube  
=========================  
0 0 0  
1 1 1  
2 4 8  
3 9 27  
.....  
18 324 5832  
19 361 6859  
20 400 8000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-76.php)

**77.** Write a C programming that accepts principal amount, rate of interest and days for a loan and calculate the simple interest for the loan, using the following formula. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
interest = principal \* rate \* days / 365.  
**Sample Input:**  
10000  
.1  
365  
0  
Sample Output:  
Input loan amount (0 to quit): Input interest rate: Input term of the loan in days: The interest amount is $1000.00  
Input loan principal\_amt (0 to quit):  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-77.php)

**78.** Write a C programming to demonstrates the difference between predecrementing and postdecrementing using the decrement operator --. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Sample Output:  
Predecrementing:  
x = 10  
x-- = 10  
x = 9  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-78.php)

**79.** Write a C programming using looping to produce the following table of values. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Sample Output:

x x+2 x+4 x+6

--------------------------------

1 3 5 7

4 6 8 10

7 9 11 13

10 12 14 16

13 15 17 19

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-79.php)

**80.** Write a C programming that reads the side (side sizes between 1 and 10 ) of a square and prints square using hash (#) character. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
**Sample Input:** 10  
Sample Output:

Input the size of the square:

# # # # # # # # # #

# # # # # # # # # #

# # # # # # # # # #

# # # # # # # # # #

# # # # # # # # # #

# # # # # # # # # #

# # # # # # # # # #

# # # # # # # # # #

# # # # # # # # # #

# # # # # # # # # #

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-80.php)

**81.** Write a C programming that reads the side (side sizes between 1 and 10 ) of a square and prints a hollow square using hash (#) character. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
**Sample Input:** 10  
Sample Output:

Input the size of the square:

##########

# #

# #

# #

# #

# #

# #

# #

# #

##########

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-81.php)

**82.** Write a C programming that reads in a five-digit integer and determines whether or not it’s a palindrome. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
**Sample Input:** 33333  
Sample Output:

Input a five-digit number: 33333 is a palindrome.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-82.php)

**83.** Write a C programming which reads an integer (7 digits or fewer) and count number of 3s in the given number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
**Sample Input:** 538453  
Sample Output:

Input a number: The number of threes in the said number is 2

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-83.php)

**84.** Write a C programming to calculate and print the average of some integers. Accept all the values preceding 888. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
**Sample Input:**12  
15  
24  
888  
Sample Output:

Input each number on a separate line (888 to exit):

The average value of the said numbers is 17.000000

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-84.php)

**85.** Write a C programming to print a table of all the Roman numeral equivalents of the decimal numbers in the range 1 to 50. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Sample Output:

Decimal Roman

number numeral

-------------------

1 I

2 II

3 III

4 IV

.....

98 LXXXXVIII

99 LXXXXIX

100 C

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-85.php)

**86.** Write a C programming to display the sizes and ranges for each of C's data types. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Sample Output:

Size of C data types:

Type Bytes

--------------------------------

char 1

int8\_t 1

unsigned char 1

uint8\_t 1

short 2

int16\_t 2

uint16t 2

int 4

unsigned 4

long 8

unsigned long 8

int32\_t 4

uint32\_t 4

long long 8

int64\_t 8

unsigned long long 8

uint64\_t 8

float 4

double 8

long double 16

\_Bool 1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-86.php)

**87.** Write a C programming to display the sizes and ranges for each of C's data types. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Sample Output:

Ranges for integer data types in C

------------------------------------------------------------

int8\_t -128 127

int16\_t -32768 32767

int32\_t -2147483648 2147483647

int64\_t -9223372036854775808 9223372036854775807

uint8\_t 0 255

uint16\_t 0 65535

uint32\_t 0 4294967295

uint64\_t 0 18446744073709551615

============================================================

Ranges for real number data types in C

------------------------------------------------------------

flaot 1.175494e-38 3.402823e+38

double 2.225074e-308 1.797693e+308

long double 3.362103e-4932 1.189731e+4932

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-87.php)

**88.** Write a C programming to create an extended ASCII table. Print the ASCII values 32 through 255. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Sample Output:

|---------------------------------------------------------------------------------------------------------|

|extended ASCII table - excluding control characters |

| Ch Dec Hex | Ch Dec Hex | Ch Dec Hex | Ch Dec Hex | Ch Dec Hex | Ch Dec Hex | Ch Dec Hex |

|----------------|----------------|-------------|--------------|--------------|-------------|-------------|

| har 32 0x20 | @har 64 0x40 | ` 96 0x60 | � 128 0x80 | � 160 0xa0 | � 192 0xc0 | � 224 0xe0 |

| !har 33 0x21 | Ahar 65 0x41 | a 97 0x61 | � 129 0x81 | � 161 0xa1 | � 193 0xc1 | � 225 0xe1 |

| "har 34 0x22 | Bhar 66 0x42 | b 98 0x62 | � 130 0x82 | � 162 0xa2 | � 194 0xc2 | � 226 0xe2 |

| #har 35 0x23 | Char 67 0x43 | c 99 0x63 | � 131 0x83 | � 163 0xa3 | � 195 0xc3 | � 227 0xe3 |

| $har 36 0x24 | Dhar 68 0x44 | d 100 0x64 | � 132 0x84 | � 164 0xa4 | � 196 0xc4 | � 228 0xe4 |

| %har 37 0x25 | Ehar 69 0x45 | e 101 0x65 | � 133 0x85 | � 165 0xa5 | � 197 0xc5 | � 229 0xe5 |

| &har 38 0x26 | Fhar 70 0x46 | f 102 0x66 | � 134 0x86 | � 166 0xa6 | � 198 0xc6 | � 230 0xe6 |

| 'har 39 0x27 | Ghar 71 0x47 | g 103 0x67 | � 135 0x87 | � 167 0xa7 | � 199 0xc7 | � 231 0xe7 |

| (har 40 0x28 | Hhar 72 0x48 | h 104 0x68 | � 136 0x88 | � 168 0xa8 | � 200 0xc8 | � 232 0xe8 |

| )har 41 0x29 | Ihar 73 0x49 | i 105 0x69 | � 137 0x89 | � 169 0xa9 | � 201 0xc9 | � 233 0xe9 |

| \*har 42 0x2a | Jhar 74 0x4a | j 106 0x6a | � 138 0x8a | � 170 0xaa | � 202 0xca | � 234 0xea |

| +har 43 0x2b | Khar 75 0x4b | k 107 0x6b | � 139 0x8b | � 171 0xab | � 203 0xcb | � 235 0xeb |

| ,har 44 0x2c | Lhar 76 0x4c | l 108 0x6c | � 140 0x8c | � 172 0xac | � 204 0xcc | � 236 0xec |

| -har 45 0x2d | Mhar 77 0x4d | m 109 0x6d | � 141 0x8d | � 173 0xad | � 205 0xcd | � 237 0xed |

| .har 46 0x2e | Nhar 78 0x4e | n 110 0x6e | � 142 0x8e | � 174 0xae | � 206 0xce | � 238 0xee |

| /har 47 0x2f | Ohar 79 0x4f | o 111 0x6f | � 143 0x8f | � 175 0xaf | � 207 0xcf | � 239 0xef |

| 0har 48 0x30 | Phar 80 0x50 | p 112 0x70 | � 144 0x90 | � 176 0xb0 | � 208 0xd0 | � 240 0xf0 |

| 1har 49 0x31 | Qhar 81 0x51 | q 113 0x71 | � 145 0x91 | � 177 0xb1 | � 209 0xd1 | � 241 0xf1 |

| 2har 50 0x32 | Rhar 82 0x52 | r 114 0x72 | � 146 0x92 | � 178 0xb2 | � 210 0xd2 | � 242 0xf2 |

| 3har 51 0x33 | Shar 83 0x53 | s 115 0x73 | � 147 0x93 | � 179 0xb3 | � 211 0xd3 | � 243 0xf3 |

| 4har 52 0x34 | Thar 84 0x54 | t 116 0x74 | � 148 0x94 | � 180 0xb4 | � 212 0xd4 | � 244 0xf4 |

| 5har 53 0x35 | Uhar 85 0x55 | u 117 0x75 | � 149 0x95 | � 181 0xb5 | � 213 0xd5 | � 245 0xf5 |

| 6har 54 0x36 | Vhar 86 0x56 | v 118 0x76 | � 150 0x96 | � 182 0xb6 | � 214 0xd6 | � 246 0xf6 |

| 7har 55 0x37 | Whar 87 0x57 | w 119 0x77 | � 151 0x97 | � 183 0xb7 | � 215 0xd7 | � 247 0xf7 |

| 8har 56 0x38 | Xhar 88 0x58 | x 120 0x78 | � 152 0x98 | � 184 0xb8 | � 216 0xd8 | � 248 0xf8 |

| 9har 57 0x39 | Yhar 89 0x59 | y 121 0x79 | � 153 0x99 | � 185 0xb9 | � 217 0xd9 | � 249 0xf9 |

| :har 58 0x3a | Zhar 90 0x5a | z 122 0x7a | � 154 0x9a | � 186 0xba | � 218 0xda | � 250 0xfa |

| ;har 59 0x3b | [har 91 0x5b | { 123 0x7b | � 155 0x9b | � 187 0xbb | � 219 0xdb | � 251 0xfb |

| <har 60 0x3c | \har 92 0x5c | | 124 0x7c | � 156 0x9c | � 188 0xbc | � 220 0xdc | � 252 0xfc |

| =har 61 0x3d | ]har 93 0x5d | } 125 0x7d | � 157 0x9d | � 189 0xbd | � 221 0xdd | � 253 0xfd |

| >har 62 0x3e | ^har 94 0x5e | ~ 126 0x7e | � 158 0x9e | � 190 0xbe | � 222 0xde | � 254 0xfe |

| ?har 63 0x3f | \_har 95 0x5f |DEL 127 0x7f | � 159 0x9f | � 191 0xbf | � 223 0xdf | � 255 0xff |

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-88.php)

**89.** Write a C programming to calculate (x + y + z) for each pair of integers x, y and z where -2^31 <= x, y, z<= 2^31-1. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Sample Output:

Result: 140733606875472

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-89.php)

**90.** Write a C programming to find all prime palindromes in the range of two given numbers x and y (5 <= x<y<= 1000,000,000). [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
A number is called prime palindrome if the number is both a prime number and a palindrome.  
Sample Output:

Input two numbers (separated by a space):

List of prime palindromes:

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-90.php)

**91.** Write a C programming to find the angle between (12:00 to 11:59) the hour hand and the minute hand of a clock. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
The hour hand and the minute hand is always among 0 degree and 180 degree. For example, when it's 12 o'clock, the angle of the two hands is 0 while 3:00 is 45 degree and 6:00 is 180 degree.  
Sample Output:

Input hour(h) and minute(m) (separated by a space):

The angle is -23076408.0 degrees at 0:4195776.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-91.php)

**92.** Write a C programming to find the last non-zero digit of the factorial of a given positive integer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
For example for 5!, the output will be "2" because 5! = 120, and 2 is the last nonzero digit of 120  
Sample Output:

Input a positive number:

The last non-zero digit of the said factorial:

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-92.php)

**93.** Write a C programming to check if a given number is nearly prime or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/index.php#editorr)  
Nearly prime number is a positive integer which is equal to product of two prime numbers.  
Sample Output:

It is not a Nearly prime number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-declarations-and-expressions/c-programming-basic-exercises-93.php)

# C Basic Algorithm: Exercises, Practice, Solution

Last update on March 20 2020 12:50:44 (UTC/GMT +8 hours)

## C Programming Basic Algorithm [75 exercises with solution]

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

**1.** Write a C program to compute the sum of the two given integer values. If the two values are the same, then return triple their sum. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

3

12

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-1.php)

**2.** Write a C program to get the absolute difference between n and 51. If n is greater than 51 return triple the absolute difference. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

6

21

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-2.php)

**3.** Write a C program to check two given integers, and return true if one of them is 30 or if their sum is 30. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-3.php)

**4.** Write a C program to check a given integer and return true if it is within 10 of 100 or 200. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-4.php)

**5.** Write a C program to check whether a given positive number is a multiple of 3 or a multiple of 7. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-5.php)

**6.** Write a C program to check whether a given temperatures is less than 0 and the other is greater than 100. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-6.php)

**7.** Write a C program to check two given integers whether either of them is in the range 100..200 inclusive. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-7.php)

**8.** Write a C program to check whether three given integer values are in the range 20..50 inclusive. Return true if 1 or more of them are in the said range otherwise return false. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-8.php)

**9.** Write a C program to check whether two given integer values are in the range 20..50 inclusive. Return true if 1 or other is in the said range otherwise false. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-9.php)

**10.** Write a C program to check which number nearest to the value 100 among two given integers. Return 0 if the two numbers are equal. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

95

0

99

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-10.php)

**11.** Write a C program to check whether two given integers are in the range 40..50 inclusive, or they are both in the range 50..60 inclusive. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

0

1

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-11.php)

**12.** Write a C program to find the larger value from two positive integer values that is in the range 20..30 inclusive, or return 0 if neither is in that range. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

30

25

28

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-12.php)

**13.** Write a C program to check if two given non-negative integers have the same last digit. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-13.php)

**14.** Write a C program to check whether the sequence of numbers 1, 2, 3 appears in a given array of integers somewhere. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-14.php)

**15.** Write a C program to count the number of two 5's are next to each other in an array of integers. Also count the situation where the second 5 is actually a 6. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

2

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-15.php)

**16.** Write a C program to check if a triple is presents in an array of integers or not. If a value appears three times in a row in an array it is called a triple. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-16.php)

**17.** Write a C program to compute the sum of the two given integers. If the sum is in the range 10..20 inclusive return 30.[Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

29

30

39

30

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-17.php)

**18.** Write a C program that accept two integers and return true if either one is 5 or their sum or difference is 5. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-18.php)

**19.** Write a C program to to test whether a given non-negative number is a multiple of 13 or it is one more than a multiple of 13. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-19.php)

**20.** Write a C program to check whether a given non-negative number is a multiple of 3 or 7, but not both. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-20.php)

**21.** Write a C program to check whether a given number is within 2 of a multiple of 10. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

0

1

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-21.php)

**22.** Write a C program to compute the sum of the two given integers. If one of the given integer value is in the range 10..20 inclusive return 18. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

10

18

18

241

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-22.php)

**23.** Write a C program to check whether it is possible to add two integers to get the third integer from three given integers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-23.php)

**24.** Write a C program to check whether y is greater than x, and z is greater than y from three given integers x,y,z. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-24.php)

**25.** Write a C program to check whether two or more non-negative given integers have the same rightmost digit. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-25.php)

**26.** Write a C program to check three given integers and return true if one of them is 20 or more less than one of the others. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-26.php)

**27.** Write a C program to find the larger from two given integers. However if the two integers have the same remainder when divided by 5, then the return the smaller integer. If the two integers are the same, return 0. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

11

20

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-27.php)

**28.** Write a C program to check two given integers, each in the range 10..99. Return true if a digit appears in both numbers, such as the 3 in 13 and 33. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-28.php)

**29.** Write a C program to compute the sum of three given integers. If the two values are same return the third value. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

16

23

12

18

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-29.php)

**30.** Write a C program to compute the sum of the three integers. If one of the values is 13 then do not count it and its right towards the sum.[Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

16

23

10

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-30.php)

**31.** Write a C program to compute the sum of the three given integers. However, if any of the values is in the range 10..20 inclusive then that value counts as 0, except 13 and 17. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

16

11

13

13

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-31.php)

**32.** Write a C program to check two given integers and return the value whichever value is nearest to 13 without going over. Return 0 if both numbers go over. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

5

12

13

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-32.php)

**33.** Write a C program to check three given integers (small, medium and large) and return true if the difference between small and medium and the difference between medium and large is same. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-33.php)

**34.** Write a C program to check a given array of integers of length 1 or more and return true if the first element and the last element are equal in the given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-34.php)

**35.** Write a C program to check two given arrays of integers of length 1 or more and return true if they have the same first element or they have the same last element. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-35.php)

**36.** Write a C program to compute the sum of the elements of a given  array of integers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

150

10

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-36.php)

**37.** Write a C program to rotate the elements of a given array of integers (length 4 ) in left direction and return the new array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 10, 20, 30, 40

Elements in new array are: 20, 30, 40, 10

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-37.php)

**38.** Write a C program to reverse a given array of integers and length 5. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 10, 20, 30, 40, 50

Elements in reverse array are: 50, 40, 30, 20, 10

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-38.php)

**39.** Write a C program to create a new array containing the middle elements from the two given arrays of integers, each length 5. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are:

10, 20, -30, -40, 30

10, 20, 30, 40, 30

Elements in new array are: -30, 30

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-39.php)

**40.** Write a C program to create a new array taking the first and last elements of a given array of integers and length one or more. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 10, 20, 30, 40, 50

Elements in new array are: 10, 50

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-40.php)

**41.** Write a C program to check whether a given array of integers of length 2, contains 15 or 20. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-41.php)

**42.** Write a C program to check whether a given array of integers of length 2, does not contain 15 or 20. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-42.php)

**43.** Write a C program to check a given array of integers and return true if the array contains 10 or 20 twice. The length of the array will be 0, 1, or 2. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-43.php)

**44.** Write a C program to check a given array of integers of length 3 and create a  new array. If there is a 5 in the given array immediately followed by a 7 then set 7 to 1. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 1, 5, 7

Elements in new array are: 1, 5, 1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-44.php)

**45.** Write a C program to compute the sum of the two given arrays of integers of length 3 and find the array which has the largest sum. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 10, 20, -30

Elements in original array are: 10, 20, 30

The array which has the largest sum.: 10, 20, 30

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-45.php)

**46.** Write a C program to create an array taking two middle elements from a given array of integers of length even. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 1, 5, 7, 9, 11, 13

New array: 7, 9

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-46.php)

**47.** Write a C program to create a new array from two given array of integers, each length 3. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array1 are: 10, 20, 30

Elements in original array2 are: 40, 50, 60

New array: 10, 20, 30, 40, 50, 60

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-47.php)

**48.** Write a C program to create a new array swapping the first and last elements of a given array of integers and length will be least 1. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array1 are: 1, 5, 7, 9, 11, 13

New array, after swapping first and last elements: 13, 5, 7, 9, 11, 1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-48.php)

**49.** Write a C program to create a new array of length 3 from a given array (length atleast 3) containing the elements from the middle of the array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array1 are: 1, 5, 7, 9, 11, 13

New array: 7, 9, 11

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-49.php)

**50.** Write a C program to find the largest value from first, last, and middle elements of a given array of integers of odd length (atleast 1). [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

9

9

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-50.php)

**51.** Write a C program to count number of even elements in a given array of integers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

3

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-51.php)

**52.** Write a C program to compute the sum of values in a given array of integers except the number 17. Return 0 if the given array has no integer.[Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Sum of values in the array of integers except the number 17: 46

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-52.php)

**53.** Write a C program to compute the sum of the numbers in a given array except those numbers starting with 5 followed by atleast one 6. Return 0 if the given array has no integer.[Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Sum of values in the array of integers except the number 17: 37

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-53.php)

**54.** Write a C program to check whether a given array of integers contains 5 next to a 5 somewhere. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

1

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-54.php)

**55.** Write a C program to check whether a given array of integers contains 5's and 7's. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-55.php)

**56.** Write a C program to check whether the sum of all 5' in the array exactly 15 in a given array of integers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-56.php)

**57.** Write a C program to check whether the number of 3's is greater than the number of 5's. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-57.php)

**58.** Write a C program to check whether a given array of integers contains a 3 or a 5.[Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-58.php)

**59.** Write a C program to check  whether a given array of integers contains no 3 or a 5. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-59.php)

**60.** Write a C program to check whether an array of integers contains a 3 next to a 3 or a 5 next to a 5 or both. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-60.php)

**61.** Write a C program to check a given array of integers and return true if the given array contains two 5's next to each other, or two 5 separated by one element. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-61.php)

**62.** Write a C program to check a given array of integers and return true if there is a 3 with a 5 somewhere later in the given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-62.php)

**63.** Write a C program to check a given array of integers and return true if the given array contains either 2 even or 2 odd values all next to each other. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

1

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-63.php)

**64.** Write a C program to check a given array of integers and return true if the value 5 appears 5 times and there are no 5 next to each other. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-64.php)

**65.** Write a C program to check a given array of integers and return true if every 5 that appears in the given array is next to another 5. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-65.php)

**66.** Write a C program to check a given array of integers and return true if the specified number of same elements appears at the start and end of the given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-66.php)

**67.** Write a C program to check a given array of integers and return true if the array contains three increasing adjacent numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-67.php)

**68.** Write a C program to shift an element in left direction and return a new array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 10, 20, 30, 40

Elements in new array are: 20, 30, 40, 10

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-68.php)

**69.** Write a C program to create a new array taking the elements before the element value 5 from a given array of integers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 1, 2, 3, 5, 7

Elements in new array are: 1, 2, 3

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-69.php)

**70.** Write a C program to create a new array taking the elements after the element value 5 from a given array of integers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 1, 2, 3, 5, 7, 9, 11

Elements in new array are: 7, 9, 11

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-70.php)

**71.** Write a C program to create a new array from a given array of integers shifting all zeros to left direction. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 1, 2, 0, 3, 5, 7, 0, 9, 11

Elements in new array are: 0, 0, 1, 3, 5, 7, 2, 9, 11

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-71.php)

**72.** Write a C program to create a new array after replacing  all the values 5 with 0 shifting all zeros to right direction. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 1, 2, 0, 3, 5, 7, 0, 9, 11, 5

Elements in new array are: 1, 2, 0, 3, 7, 0, 9, 11, 0, 0

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-72.php)

**73.** Write a C program to create new array from a given array of integers shifting all even numbers before all odd numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

Elements in original array are: 1, 2, 5, 3, 5, 4, 6, 9, 11

Elements in new array are: 2, 4, 6, 3, 5, 1, 5, 9, 11

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-73.php)

**74.** Write a C program to check whether the value of each element is equal or greater than the value of previous element of a given array of integers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

0

1

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-74.php)

**75.** Write a C program to check a given array (length will be atleast 2) of integers and return true if there are two values 15, 15 next to each other. [Go to the editor](https://www.w3resource.com/c-programming-exercises/basic-algo/index.php#editorr)  
Expected Output:

1

0

1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/basic-algo/c-programming-basic-algorithm-exercises-75.php)

**C Programming Exercises, Practice, Solution : Variable Type**

Last update on February 26 2020 08:07:28 (UTC/GMT +8 hours)

C Variable Type [18 exercises with solution]

1. Write a C program which will invoke the command processor to execute a command. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Expected Output* :

Is command processor available?

Command processor available!

Executing command DIR

00c40280-5e27-11e6-bd4f-71e8825f8ea3

01691610-41e1-11e6-901d-35b72ececc72

...........

ff827330-443a-11e6-9820-23e2f60d924e

file.txt

logging\_example.out

test.txt

Returned value is: 0.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-1.php)

2. Write a C program to convert a string to an unsigned long integer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Test Data and Expected Output* :

Input an unsigned number: 25

Output: 25

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-2.php)

3. Write a C program to convert a string to a long integer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Expected Output* :

In decimals: 2016, 4235440, -3624422, 5947391.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-3.php)

4. Write a C program to convert a string to a double. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Expected Output* :

Output= 4.00

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-4.php)

5. Write a C program to generate a random number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Test Data and Expected Output* :

Guess the number (1 to 10): 6

The number is higher

Guess the number (1 to 10): 7

That is correct!

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-5.php)

6. Write a C program to sort the elements of an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Test Data and Expected Output* :

Input the number of elements to be stored in the array :5

Input 6 elements in the array :

element - 0 : 15

element - 1 : 26

element - 2 : 42

element - 3 : 82

element - 4 : 35

After sorting the array are :

15

26

35

42

82

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-6.php)

7. Write a C program to integral quotient and remainder of a division. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Test Data and Expected Output* :

Input numerator : 2500

Input denominator : 235

quotient = 10, remainder = 150

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-7.php)

8. Write a C program to return the absolute value of a long integer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Test Data and Expected Output* :

Input 1st number (positive or negative) : 25

Input 2nd number (positive or negative) : -125

The absolute value of 1st number is : 25

The absolute value of 2nd number is : 125

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-8.php)

9. Write a C program to get the environment string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Expected Output* :

The set path is: /usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin

:/bin:/usr/games:/usr/local/games

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-9.php)

10. Write a C program to return the quotient and remainder of a division. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Test Data and Expected Output* :

Input numerator : 2000

Input denominator : 235

quotient = 8, remainder = 120.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-10.php)

11. Write a C program to allocate a block of memory for an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Test Data and Expected Output* :

Input the number of elements to be stored in the array :5

Input 5 elements in the array :

element 1 : 25

element 2 : 30

element 3 : 35

element 4 : 20

element 5 : 40

Values entered in the array are :

25 30 35 20 40

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-11.php)

12. Write a C program to perform a binary search in an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Test Data and Expected Output* :

Input the number of elements to be stored in the array :5

Input 5 elements in the array :

element - 1 : 25

element - 2 : 20

element - 3 : 18

element - 4 : 13

element - 5 : 15

Input a value to search : 18

18 is found in the array.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-12.php)

13. Write a C program to convert a string to an integer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Test Data and Expected Output* :

Input a number : 1972

The value Input is 1972.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-13.php)

14. Write a C program to convert a string to a double. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Test Data and Expected Output* :

Input a number : 25

The original number is : 25.000000

After division by 2 the number is : 12.500000

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-14.php)

15. Write a C program to set a function that will be executed on termination of a program. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Expected Output* :

This is the message from main function.

Here is the message returning from newFunctionTwo.

Here is the message returning from newFunctionOne.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-15.php)

16. Write a C program to return the absolute value of an integer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Test Data and Expected Output* :

Input a positive or negative number :-25

The absolute value of the given number is : 25

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-16.php)

17. Write a C program to abort the current process. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Expected Output* :

File does not exist or error, in opening the file.

timeout: the monitored command dumped core

Aborted

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-17.php)

18. Write a C program to demonstrate the working of keyword long. [Go to the editor](https://www.w3resource.com/c-programming-exercises/variable-type/index.php#editorr)

*Expected Output* :

The size of int = 4 bytes

The size of long = 8 bytes

The size of long long = 8 bytes

The size of double = 8 bytes

The size of long double = 16 byte

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/variable-type/c-variable-type-exercises-18.php)

**C Programming Exercises, Practice, Solution : Input Output**

Last update on February 26 2020 08:07:28 (UTC/GMT +8 hours)

C Basic Input Output statement [10 exercises with solution]

1. Write a program that converts Centigrade to Fahrenheit. [Go to the editor](https://www.w3resource.com/c-programming-exercises/input-output/index.php#editorr)  
*Expected Output* :  
Input a temperature (in Centigrade): 45  
113.000000 degrees Fahrenheit.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/input-output/c-input-output-statement-exercises-1.php)

2. Write a C program that calculates the volume of a sphere. [Go to the editor](https://www.w3resource.com/c-programming-exercises/input-output/index.php#editorr)  
*Expected Output* :  
Input the radius of the sphere : 2.56  
The volume of sphere is 70.276237.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/input-output/c-input-output-statement-exercises-2.php)

3. Write a C program that prints the perimeter of a rectangle to take its height and width as input. [Go to the editor](https://www.w3resource.com/c-programming-exercises/input-output/index.php#editorr)  
*Expected Output* :  
Input the height of the Rectangle : 5  
Input the width of the Rectangle : 7  
Perimeter of the Rectangle is : 24.000000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/input-output/c-input-output-statement-exercises-3.php)

4. Write a C program that converts kilometers per hour to miles per hour. [Go to the editor](https://www.w3resource.com/c-programming-exercises/input-output/index.php#editorr)  
*Expected Output* :  
Input kilometers per hour: 15  
9.320568 miles per hour  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/input-output/c-input-output-statement-exercises-4.php)

5. Write a C program that takes hours and minutes as input, and calculates the total number of minutes. [Go to the editor](https://www.w3resource.com/c-programming-exercises/input-output/index.php#editorr)  
*Expected Output* :  
Input hours: 5  
Input minutes: 37  
Total: 337 minutes.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/input-output/c-input-output-statement-exercises-5.php)

6. Write a program in C that takes minutes as input, and display the total number of hours and minutes. [Go to the editor](https://www.w3resource.com/c-programming-exercises/input-output/index.php#editorr)  
*Expected Output* :  
Input minutes: 546  
9 Hours, 6 Minutes  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/input-output/c-input-output-statement-exercises-6.php)

7. Write a program in C that reads a forename, surname and year of birth and display the names and the year one after another sequentially. [Go to the editor](https://www.w3resource.com/c-programming-exercises/input-output/index.php#editorr)  
*Expected Output* :  
Input your firstname: Tom  
Input your lastname: Davis  
Input your year of birth: 1982  
Tom Davis 1982  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/input-output/c-input-output-statement-exercises-7.php)

8. Write a program in C to calculate the sum of three numbers with getting input in one line separated by a comma. [Go to the editor](https://www.w3resource.com/c-programming-exercises/input-output/index.php#editorr)  
*Expected Output* :  
Input three numbers separated by comma : 5,10,15  
The sum of three numbers : 30  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/input-output/c-input-output-statement-exercises-8.php)

9. Write a C program to perform addition, subtraction, multiplication and  division of two numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/input-output/index.php#editorr)  
*Expected Output* :  
Input any two numbers separated by comma : 10,5  
The sum of the given numbers : 15  
The difference of the given numbers : 5  
The product of the given numbers : 50  
The quotient of the given numbers : 2.000000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/input-output/c-input-output-statement-exercises-9.php)

10. Write a C program to find the third angle of a triangle if two angles are given. [Go to the editor](https://www.w3resource.com/c-programming-exercises/input-output/index.php#editorr)  
*Expected Output* :  
Input two angles of triangle separated by comma : 50,70  
Third angle of the triangle : 60  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/input-output/c-input-output-statement-exercises-10.php)

**C Programming Exercises, Practice, Solution : Conditional Statement**

Last update on February 26 2020 08:07:27 (UTC/GMT +8 hours)

C Conditional Statement [26 exercises with solution]

**1.**Write a C program to accept two integers and check whether they are equal or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data : 15 15 *Expected Output* :  
Number1 and Number2 are equal  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-1.php)

**2.**Write a C program to check whether a given number is even or odd. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data : 15  
*Expected Output* :  
15 is an odd integer  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-2.php)

**3.** Write a C program to check whether a given number is positive or negative. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data : 15  
*Expected Output* :  
15 is a positive number  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-3.php)

**4.**Write a C program to find whether a given year is a leap year or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data : 2016  
*Expected Output* :  
2016 is a leap year.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-4.php)

**5.**Write a C program to read the age of a candidate and determine whether it is eligible for casting his/her own vote. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data : 21  
*Expected Output* :  
Congratulation! You are eligible for casting your vote.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-5.php)

**6.**Write a C program to read the value of an integer m and display the value of n is 1 when m is larger than 0, 0 when m is 0 and -1 when m is less than 0. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data : -5  
*Expected Output* :  
The value of n = -1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-6.php)

**7.** Write a C program to accept the height of a person in centimeter and categorize the person according to their height. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data : 135  
*Expected Output* :  
The person is Dwarf.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-7.php)

**8.**Write a C program to find the largest of three numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data : 12 25 52  
*Expected Output* :  
1st Number = 12,        2nd Number = 25,        3rd Number = 52  
The 3rd Number is the greatest among three  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-8.php)

**9.**Write a C program to accept a coordinate point in a XY coordinate system and determine in which quadrant the coordinate point lies. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data : 7 9  
*Expected Output* :  
The coordinate point (7,9) lies in the First quadrant.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-9.php)

**10.** Write a C program to find the eligibility of admission for a professional course based on the following criteria: [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Marks in Maths >=65  
Marks in Phy >=55  
Marks in Chem>=50  
Total in all three subject >=180  
or  
Total in Math and Subjects >=140

Test Data :  
Input the marks obtained in Physics :65  
Input the marks obtained in Chemistry :51  
Input the marks obtained in Mathematics :72  
*Expected Output* :  
The candidate is eligible for admission.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-10.php)

**11.**Write a C program to calculate the root of a Quadratic Equation. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data : 1 5 7  
*Expected Output* :  
Root are imaginary;  
No solution.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-11.php)

**12.**Write a C program to read roll no, name and marks of three subjects and calculate the total, percentage and division. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
Input the Roll Number of the student :784  
Input the Name of the Student :James  
Input the marks of Physics, Chemistry and Computer Application : 70 80 90  
*Expected Output* :  
Roll No : 784  
Name of Student : James  
Marks in Physics : 70  
Marks in Chemistry : 80  
Marks in Computer Application : 90  
Total Marks = 240  
Percentage = 80.00  
Division = First  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-12.php)

**13.**Write a C program to read temperature in centigrade and display a suitable message according to temperature state below : [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Temp < 0 then Freezing weather  
Temp 0-10 then Very Cold weather  
Temp 10-20 then Cold weather  
Temp 20-30 then Normal in Temp  
Temp 30-40 then Its Hot  
Temp >=40 then Its Very Hot  
Test Data :  
42  
*Expected Output* :  
Its very hot.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-13.php)

**14.**Write a C program to check whether a triangle is Equilateral, Isosceles or Scalene. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
50 50 60  
*Expected Output* :  
This is an isosceles triangle.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-14.php)

**15.**Write a C program to check whether a triangle can be formed by the given value for the angles. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
40 55 65  
*Expected Output* :  
The triangle is not valid.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-15.php)

**16.**Write a C program to check whether a character is an alphabet, digit or special character. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
@  
*Expected Output* :  
This is a special character.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-16.php)

**17.**Write a C program to check whether an alphabet is a vowel or consonant. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
k  
*Expected Output* :  
The alphabet is a consonant.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-17.php)

**18.**Write a C program to calculate profit and loss on a transaction. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
500 700  
*Expected Output* :  
You can booked your profit amount : 200  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-18.php)

**19.**Write a program in C to calculate and print the Electricity bill of a given customer. The customer id., name and unit consumed by the user should be taken from the keyboard and display the total amount to pay to the customer. The charge are as follow : [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)

|  |  |
| --- | --- |
| **Unit** | **Charge/unit** |
| upto 199 | @1.20 |
| 200 and above but less than 400 | @1.50 |
| 400 and above but less than 600 | @1.80 |
| 600 and above | @2.00 |

If bill exceeds Rs. 400 then a surcharge of 15% will be charged and the minimum bill should be of Rs. 100/-

Test Data :  
1001  
James  
800  
*Expected Output* :  
Customer IDNO :1001  
Customer Name :James  
unit Consumed :800  
Amount Charges @Rs. 2.00 per unit : 1600.00  
Surchage Amount : 240.00  
Net Amount Paid By the Customer : 1840.00

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-19.php)

**20.**Write a program in C to accept a grade and declare the equivalent description : [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)

|  |  |
| --- | --- |
| **Grade** | **Description** |
| E | Excellent |
| V | Very Good |
| G | Good |
| A | Average |
| F | Fail |

Test Data :  
Input the grade :A  
*Expected Output* :  
You have chosen : Average  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-20.php)

**21.**Write a program in C to read any day number in integer and display day name in the word. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
4  
*Expected Output* :  
Thursday  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-21.php)

**22.**Write a program in C to read any digit, display in the word. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
4  
*Expected Output* :  
Four  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-22.php)

**23.**Write a program in C to read any Month Number in integer and display Month name in the word. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
4  
*Expected Output* :  
April  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-23.php)

**24.**Write a program in C to read any Month Number in integer and display the number of days for this month. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
7  
*Expected Output* :  
Month have 31 days  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-24.php)

**25.**Write a program in C which is a Menu-Driven Program to compute the area of the various geometrical shape. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
1  
5  
*Expected Output* :  
The area is : 78.500000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-25.php)

**26.**Write a program in C which is a Menu-Driven Program to perform a simple calculation. [Go to the editor](https://www.w3resource.com/c-programming-exercises/conditional-statement/index.php#editorr)  
Test Data :  
10  
2  
3  
*Expected Output* :  
The Multiplication of 10 and 2 is: 20  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/conditional-statement/c-conditional-statement-exercises-26.php)

**C Programming Exercises, Practice, Solution : For Loop**

Last update on February 26 2020 08:07:29 (UTC/GMT +8 hours)

C For Loop [59 exercises with solution]

**1.**Write a program in C to display the first 10 natural numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
*Expected Output* :  
1 2 3 4 5 6 7 8 9 10  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-1.php)

**2.**Write a C program to find the sum of first 10 natural numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
*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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-2.php)

**3.**Write a program in C to display n terms of natural number and their sum.[Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-3.php)

**4.**Write a program in C to read 10 numbers from keyboard and find their sum and average. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-4.php)

**5.**Write a program in C to display the cube of the number upto given an integer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-5.php)

**6.**Write a program in C to display the multiplication table of a given integer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-6.php)

**7.** Write a program in C to display the multipliaction table vertically from 1 to n. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-7.php)

**8.**Write a program in C to display the n terms of odd natural number and their sum . [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-8.php)

**9.**Write a program in C to display the pattern like right angle triangle using an asterisk. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

The pattern like :

\*

\*\*

\*\*\*

\*\*\*\*

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-9.php)

**10.** Write a program in C to display the pattern like right angle triangle with a number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

The pattern like :

1

12

123

1234

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-10.php)

**11.**Write a program in C to make such a pattern like right angle triangle with a number which will repeat a number in a row. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

The pattern like :

1

22

333

4444

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-11.php)

**12.**Write a program in C to make such a pattern like right angle triangle with number increased by 1. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

The pattern like :

1

2 3

4 5 6

7 8 9 10

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-12.php)

**13.**Write a program in C to make such a pattern like a pyramid with numbers increased by 1. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

1

2 3

4 5 6

7 8 9 10

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-13.php)

**14.**Write a program in C to make such a pattern like a pyramid with an asterisk. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

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\* \*

\* \* \*

\* \* \* \*

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-14.php)

**15.**Write a C program to calculate the factorial of a given number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Input the number : 5  
*Expected Output* :  
The Factorial of 5 is: 120  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-15.php)

**16.**Write a program in C to display the n terms of even natural number and their sum. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-16.php)

**17.**Write a program in C to make such a pattern like a pyramid with a number which will repeat the number in the same row. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

1

2 2

3 3 3

4 4 4 4

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-17.php)

**18.**Write a program in C to find the sum of the series [ 1-X^2/2!+X^4/4!- .........]. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-18.php)

**19.**Write a program in C to display the n terms of harmonic series and their sum. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-19.php)

**20.**Write a program in C to display the pattern like a pyramid using asterisk and each row contain an odd number of asterisks. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

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[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-20.php)

**21.**Write a program in C to display the sum of the series [ 9 + 99 + 999 + 9999 ...]. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Input the number or terms :5  
*Expected Output* :  
9 99 999 9999 99999  
The sum of the saries = 111105  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-21.php)

**22.**Write a program in C to print the Floyd's Triangle. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

1

01

101

0101

10101

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-22.php)

**23.**Write a program in C to display the sum of the series [ 1+x+x^2/2!+x^3/3!+....]. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-23.php)

**24.**Write a program in C to find the sum of the series [ x - x^3 + x^5 + ......]. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-24.php)

**25.**Write a program in C to display the n terms of square natural number and their sum. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-25.php)

**26.**Write a program in C to find the sum of the series 1 +11 + 111 + 1111 + .. n terms. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-26.php)

**27.**Write a c program to check whether a given number is a perfect number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-27.php)

**28.**Write a c program to find the perfect numbers within a given number of range. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-28.php)

**29.**Write a C program to check whether a given number is an armstrong number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Input a number: 153  
*Expected Output* :  
153 is an Armstrong number.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-29.php)

**30.**Write a C program to find the Armstrong number for a given range of number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-30.php)

**31.**Write a program in C to display the pattern like a diamond. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

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[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-31.php)

**32.**Write a C program to determine whether a given number is prime or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
 Test Data :  
Input a number: 13  
*Expected Output* :  
13 is a prime number.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-32.php)

**33.**Write a C program to display Pascal's triangle. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
 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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-33.php)

**34.**Write a program in C to find the prime numbers within a range of numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-34.php)

**35.**Write a program in C to display the first n terms of Fibonacci series. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-35.php)

**36.**Write a program in C to display the such a pattern for n number of rows using a number which will start with the number 1 and the first and a last number of each row will be 1. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

1

121

12321

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-36.php)

**37.**Write a program in C to display the number in reverse order. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Input a number: 12345  
*Expected Output* :  
The number in reverse order is : 54321  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-37.php)

**38.**Write a program in C to check whether a number is a palindrome or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Input a number: 121  
*Expected Output* :  
121 is a palindrome number.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-38.php)

**39.**Write a program in C to find the number and sum of all integer between 100 and 200 which are divisible by 9. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
*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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-39.php)

**40.**Write a C Program to display the pattern like pyramid using the alphabet. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)

A

A B A

A B C B A

A B C D C B A

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-40.php)

**41.**Write a program in C to convert a decimal number into binary without using an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Enter a number to convert : 25  
*Expected Output* :  
The Binary of 25 is 11001.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-41.php)

**42.**Write a program in C to convert a binary number into a decimal number without using array, function and while loop. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Input a binary number :1010101  
*Expected Output* :  
The Binary Number : 1010101  
The equivalent Decimal Number : 85  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-42.php)

**43.**Write a C program to find HCF (Highest Common Factor) of two numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-43.php)

**44.**Write a program in C to find LCM of any two numbers using HCF. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-44.php)

**45.**Write a program in C to find LCM of any two numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-45.php)

**46.**Write a program in C to convert a binary number into a decimal number using math function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-46.php)

**47.**Write a C program to check whether a number is a Strong Number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-47.php)

**48.**Write a C program to find Strong Numbers within a range of numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-48.php)

**49.**Write a c program to find out the sum of an A.P. series. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-49.php)

**50.**Write a program in C to convert a decimal number into octal without using an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Enter a number to convert : 79  
*Expected Output* :  
The Octal of 79 is 117.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-50.php)

**51.**Write a program in C to convert an octal number to a decimal without using an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-51.php)

**52.**Write a program in c to find the Sum of GP series. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-52.php)

**53.**Write a program in C to convert a binary number to octal. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Input a binary number :1001  
*Expected Output* :  
The Binary Number : 1001  
The equivalent Octal Number : 11  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-53.php)

**54.**Write a program in C to convert an octal number into binary. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-54.php)

**55.**Write a program in C to convert a decimal number to hexadecimal. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Input any Decimal number: 79  
*Expected Output* :  
The equivalent Hexadecimal Number : 4F  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-55.php)

**56.**Write a program in C to Check Whether a Number can be Express as Sum of Two Prime Numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Input a positive integer: 16  
*Expected Output* :  
16 = 3 + 13  
16 = 5 + 11  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-56.php)

**57.**Write a program in C to print a string in reverse order. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Input a string to reverse : Welcome  
*Expected Output* :  
Reversed string is: emocleW  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-57.php)

**58.**Write a C program to find the length of a string without using the library function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
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](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-58.php)

**59.**Write a program in C to check Armstrong number of n digits. [Go to the editor](https://www.w3resource.com/c-programming-exercises/for-loop/index.php#editorr)  
Test Data :  
Input an integer : 1634  
*Expected Output* :  
1634 is an Armstrong number  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/for-loop/c-for-loop-exercises-59.php)

**C Programming Exercises, Practice, Solution : Array**

Last update on February 26 2020 08:07:30 (UTC/GMT +8 hours)

C Array [106 exercises with solution]

*[An editor is available at the bottom of the page to write and execute the scripts.]*

**1.** Write a program in C to store elements in an array and print it. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input 10 elements in the array :  
element - 0 : 1  
element - 1 : 1  
element - 2 : 2  
.......  
*Expected Output* :  
Elements in array are: 1 1 2 3 4 5 6 7 8 9  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-1.php)

**2.** Write a program in C to read n number of values in an array and display it in reverse order. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the number of elements to store in the array :3  
Input 3 number of elements in the array :  
element - 0 : 2  
element - 1 : 5  
element - 2 : 7  
*Expected Output* :  
The values store into the array are :  
2 5 7  
The values store into the array in reverse are :  
7 5 2  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-2.php)

**3.** Write a program in C to find the sum of all elements of the array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 2  
element - 1 : 5  
element - 2 : 8  
*Expected Output* :  
Sum of all elements stored in the array is : 15  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-3.php)

**4.** Write a program in C to copy the elements of one array into another array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 15  
element - 1 : 10  
element - 2 : 12  
*Expected Output* :  
The elements stored in the first array are :  
15 10 12  
The elements copied into the second array are :  
15 10 12  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-4.php)

**5.** Write a program in C to count a total number of duplicate elements in an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 5  
element - 1 : 1  
element - 2 : 1  
*Expected Output* :  
Total number of duplicate elements found in the array is : 1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-5.php)

**6.** Write a program in C to print all unique elements in an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 1  
element - 1 : 5  
element - 2 : 1  
*Expected Output* :  
The unique elements found in the array are :  
5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-6.php)

**7.** Write a program in C to merge two arrays of same size sorted in decending order. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the number of elements to be stored in the first array :3  
Input 3 elements in the array :  
element - 0 : 1  
element - 1 : 2  
element - 2 : 3  
Input the number of elements to be stored in the second array :3  
Input 3 elements in the array :  
element - 0 : 1  
element - 1 : 2  
element - 2 : 3  
*Expected Output* :  
The merged array in decending order is :  
3 3 2 2 1 1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-7.php)

**8.** Write a program in C to count the frequency of each element of an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 25  
element - 1 : 12  
element - 2 : 43  
*Expected Output* :  
The frequency of all elements of an array :  
25 occurs 1 times  
12 occurs 1 times  
43 occurs 1 times  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-8.php)

**9.** Write a program in C to find the maximum and minimum element in an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the number of elements to be stored in the array :3  
Input 3 elements in the array :  
element - 0 : 45  
element - 1 : 25  
element - 2 : 21  
*Expected Output* :  
Maximum element is : 45  
Minimum element is : 21  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-9.php)

**10.** Write a program in C to separate odd and even integers in separate arrays. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the number of elements to be stored in the array :5  
Input 5 elements in the array :  
element - 0 : 25  
element - 1 : 47  
element - 2 : 42  
element - 3 : 56  
element - 4 : 32  
*Expected Output* :  
The Even elements are :  
42 56 32  
The Odd elements are :  
25 47  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-10.php)

**11.** Write a program in C to sort elements of array in ascending order. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of array : 5  
Input 5 elements in the array :  
element - 0 : 2  
element - 1 : 7  
element - 2 : 4  
element - 3 : 5  
element - 4 : 9  
*Expected Output* :  
Elements of array in sorted ascending order:  
2 4 5 7 9  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-11.php)

**12.** Write a program in C to sort elements of the array in descending order. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of array : 3  
Input 3 elements in the array :  
element - 0 : 5  
element - 1 : 9  
element - 2 : 1  
*Expected Output* :  
Elements of the array in sorted descending order:  
9 5 1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-12.php)

**13.** Write a program in C to insert New value in the array (sorted list ).. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of array : 3  
Input 3 elements in the array in ascending order:  
element - 0 : 5  
element - 1 : 7  
element - 2 : 9  
Input the value to be inserted : 8  
*Expected Output* :  
The exist array list is :  
5 7 9  
After Insert the list is :  
5 7 8 9  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-13.php)

**14.** Write a program in C to insert New value in the array (unsorted list ). [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of array : 4  
Input 4 elements in the array in ascending order:  
element - 0 : 1  
element - 1 : 8  
element - 2 : 7  
element - 3 : 10  
Input the value to be inserted : 5  
Input the Position, where the value to be inserted :2  
*Expected Output* :  
The current list of the array :  
1 8 7 10  
After Insert the element the new list is :  
1 5 8 7 10  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-14.php)

**15.** Write a program in C to delete an element at desired position from an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of array : 5  
Input 5 elements in the array in ascending order:  
element - 0 : 1  
element - 1 : 2  
element - 2 : 3  
element - 3 : 4  
element - 4 : 5  
Input the position where to delete: 3  
*Expected Output* :  
The new list is : 1 2 4 5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-15.php)

**16.** Write a program in C to find the second largest element in an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of array : 5  
Input 5 elements in the array :  
element - 0 : 2  
element - 1 : 9  
element - 2 : 1  
element - 3 : 4  
element - 4 : 6  
*Expected Output* :  
The Second largest element in the array is : 6  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-16.php)

**17.** Write a program in C to find the second smallest element in an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of array : 5  
Input 5 elements in the array (value must be <9999) :  
element - 0 : 0  
element - 1 : 9  
element - 2 : 4  
element - 3 : 6  
element - 4 : 5  
*Expected Output* :  
The Second smallest element in the array is : 4  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-17.php)

**18.** Write a program in C for a 2D array of size 3x3 and print the matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input elements in the matrix :  
element - [0],[0] : 1  
element - [0],[1] : 2  
element - [0],[2] : 3  
element - [1],[0] : 4  
element - [1],[1] : 5  
element - [1],[2] : 6  
element - [2],[0] : 7  
element - [2],[1] : 8  
element - [2],[2] : 9  
*Expected Output* :  
The matrix is :  
  
1 2 3  
4 5 6  
7 8 9  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-18.php)

**19.** Write a program in C for addition of two Matrices of same size. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of the square matrix (less than 5): 2  
Input elements in the first matrix :  
element - [0],[0] : 1  
element - [0],[1] : 2  
element - [1],[0] : 3  
element - [1],[1] : 4  
Input elements in the second matrix :  
element - [0],[0] : 5  
element - [0],[1] : 6  
element - [1],[0] : 7  
element - [1],[1] : 8  
*Expected Output* :  
The First matrix is :  
  
1 2  
3 4  
The Second matrix is :  
  
5 6  
7 8  
The Addition of two matrix is :  
  
6 8  
10 12  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-19.php)

**20.** Write a program in C for subtraction of two Matrices. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of the square matrix (less than 5): 2  
Input elements in the first matrix :  
element - [0],[0] : 5  
element - [0],[1] : 6  
element - [1],[0] : 7  
element - [1],[1] : 8  
Input elements in the second matrix :  
element - [0],[0] : 1  
element - [0],[1] : 2  
element - [1],[0] : 3  
element - [1],[1] : 4  
*Expected Output* :  
The First matrix is :  
  
5 6  
7 8  
The Second matrix is :  
  
1 2  
3 4  
The Subtraction of two matrix is :  
  
4 4  
4 4  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-20.php)

**21.** Write a program in C for multiplication of two square Matrices. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the rows and columns of first matrix : 2 2  
Input the rows and columns of second matrix : 2 2  
Input elements in the first matrix :  
element - [0],[0] : 1  
element - [0],[1] : 2  
element - [1],[0] : 3  
element - [1],[1] : 4  
Input elements in the second matrix :  
element - [0],[0] : 5  
element - [0],[1] : 6  
element - [1],[0] : 7  
element - [1],[1] : 8  
*Expected Output* :  
The First matrix is :  
  
1 2  
3 4  
The Second matrix is :  
  
5 6  
7 8  
The multiplication of two matrix is :  
  
19 22  
43 50  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-21.php)

**22.** Write a program in C to find transpose of a given matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the rows and columns of the matrix : 2 2  
Input elements in the first matrix :  
element - [0],[0] : 1  
element - [0],[1] : 2  
element - [1],[0] : 3  
element - [1],[1] : 4  
*Expected Output* :  
The matrix is :  
  
1 2  
3 4  
  
The transpose of a matrix is :  
1 3  
2 4  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-22.php)

**23.** Write a program in C to find sum of right diagonals of a matrix.[Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of the square matrix : 2  
Input elements in the first matrix :  
element - [0],[0] : 1  
element - [0],[1] : 2  
element - [1],[0] : 3  
element - [1],[1] : 4  
*Expected Output* :  
The matrix is :  
1 2  
3 4  
Addition of the right Diagonal elements is :5  
Elements in array are:  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-23.php)

**24.** Write a program in C to find the sum of left diagonals of a matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of the square matrix : 2  
Input elements in the first matrix :  
element - [0],[0] : 1  
element - [0],[1] : 2  
element - [1],[0] : 3  
element - [1],[1] : 4  
*Expected Output* :  
The matrix is :  
1 2  
3 4  
Addition of the left Diagonal elements is :5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-24.php)

**25.** Write a program in C to find sum of rows an columns of a Matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of the square matrix : 2  
Input elements in the first matrix :  
element - [0],[0] : 5  
element - [0],[1] : 6  
element - [1],[0] : 7  
element - [1],[1] : 8  
*Expected Output* :  
The First matrix is :  
The matrix is :  
5 6  
7 8  
The sum or rows and columns of the matrix is :  
5 6 11  
7 8 15  
  
12 14  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-25.php)

**26.** Write a program in C to print or display the lower triangular of a given matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of the square matrix : 3  
Input elements in the first matrix :  
element - [0],[0] : 1  
element - [0],[1] : 2  
element - [0],[2] : 3  
element - [1],[0] : 4  
element - [1],[1] : 5  
element - [1],[2] : 6  
element - [2],[0] : 7  
element - [2],[1] : 8  
element - [2],[2] : 9  
*Expected Output* :  
The matrix is :  
1 2 3  
4 5 6  
7 8 9  
  
Setting zero in lower triangular matrix  
  
1 2 3  
0 5 6  
0 0 9  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-26.php)

**27.** Write a program in C to print or display upper triangular matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the size of the square matrix : 3  
Input elements in the first matrix :  
element - [0],[0] : 1  
element - [0],[1] : 2  
element - [0],[2] : 3  
element - [1],[0] : 4  
element - [1],[1] : 5  
element - [1],[2] : 6  
element - [2],[0] : 7  
element - [2],[1] : 8  
element - [2],[2] : 9  
*Expected Output* :  
The matrix is :  
1 2 3  
4 5 6  
7 8 9  
  
Setting zero in upper triangular matrix  
  
1 0 0  
4 5 0  
7 8 9  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-27.php)

**28.** Write a program in C to calculate determinant of a 3 x 3 matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input elements in the first matrix :  
element - [0],[0] : 1  
element - [0],[1] : 0  
element - [0],[2] : -1  
element - [1],[0] : 0  
element - [1],[1] : 0  
element - [1],[2] : 1  
element - [2],[0] : -1  
element - [2],[1] : -1  
element - [2],[2] : 0  
*Expected Output* :  
The matrix is :  
1 0 -1  
0 0 1  
-1 -1 0  
  
The Determinant of the matrix is: 1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-28.php)

**29.** Write a program in C to accept a matrix and determine whether it is a sparse matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input the number of rows of the matrix : 2  
Input the number of columns of the matrix : 2  
Input elements in the first matrix :  
element - [0],[0] : 0  
element - [0],[1] : 0  
element - [1],[0] : 1  
element - [1],[1] : 0  
*Expected Output* :  
The given matrix is sparse matrix.  
There are 3 number of zeros in the matrix  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-29.php)

**30.** Write a program in C to accept two matrices and check whether they are equal. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input Rows and Columns of the 1st matrix :2 2  
Input Rows and Columns of the 2nd matrix :2 2  
Input elements in the first matrix :  
element - [0],[0] : 1  
element - [0],[1] : 2  
element - [1],[0] : 3  
element - [1],[1] : 4  
Input elements in the second matrix :  
element - [0],[0] : 1  
element - [0],[1] : 2  
element - [1],[0] : 3  
element - [1],[1] : 4  
*Expected Output* :  
The first matrix is :  
1 2  
3 4  
The second matrix is :  
1 2  
3 4  
The Matrices can be compared :  
Two matrices are equal.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-30.php)

**31.** Write a program in C to check whether a given matrix is an identity matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Test Data :  
Input number of Rows for the matrix :3  
Input number of Columns for the matrix :3  
Input elements in the first matrix :  
element - [0],[0] : 1  
element - [0],[1] : 0  
element - [0],[2] : 0  
element - [1],[0] : 0  
element - [1],[1] : 1  
element - [1],[2] : 0  
element - [2],[0] : 0  
element - [2],[1] : 0  
element - [2],[2] : 1  
*Expected Output* :  
The matrix is :  
1 0 0  
0 1 0  
0 0 1  
The matrix is an identity matrix.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-31.php)

**32.** Write a program in C to find a pair with given sum in the array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array : 6 8 4 -5 7 9  
The given sum : 15  
Pair of elements can make the given sum by the value of index 0 and 5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-32.php)

**33.** Write a program in C to find the majority element of an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
A majority element in an array A[] of size n is an element that appears more than n/2 times (and hence there is at most one such element).  
*Expected Output* :  
The given array is : 4 8 4 6 7 4 4 8  
There are no Majority Elements in the given array.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-33.php)

**34.** Write a program in C to find the number occurring odd number of times in an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
All numbers occur even number of times except one number which occurs odd number of times.  
*Expected Output* :  
The given array is : 8 3 8 5 4 3 4 3 5  
The element odd number of times is : 3  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-34.php)

**35.** Write a program in C to find the largest sum of contiguous subarray of an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 8 3 8 -5 4 3 -4 3 5  
The largest sum of contiguous subarray is : 21  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-35.php)

**36.** Write a program in C to find the missing number from a given array. There are no duplicates in list. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 1 3 4 2 5 6 9 8  
The missing number is : 7  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-36.php)

**37.** Write a program in C to find the pivot element of a sorted and rotated array using binary search. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Pivot element is the only element in input array which is smaller than it's previous element.  
A pivot element divided a sorted rotated array into two monotonically increasing array.  
*Expected Output* :  
The given array is : 14 23 7 9 3 6 18 22 16 36  
The Pivot Element in the array is : 3  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-37.php)

**38.** Write a program in C to merge one sorted array into another sorted array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Pivot element is the only element in input array which is smaller than it's previous element.  
A pivot element divided a sorted rotated array into two monotonically increasing array.  
*Expected Output* :  
The given Large Array is : 10 12 14 16 18 20 22  
The given Small Array is : 11 13 15 17 19 21  
After merged the new Array is :  
10 11 12 13 14 15 16 17 18 19 20 21 22  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-38.php)

**39.** Write a program in C to rotate an array by N positions. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 0 3 6 9 12 14 18 20 22 25 27  
From 4th position the values of the array are : 12 14 18 20 22 25 27  
Before 4th position the values of the array are : 0 3 6 9  
After rotating from 4th position the array is:  
12 14 18 20 22 25 27 0 3 6 9  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-39.php)

**40.** Write a program in C to find the ceiling in a sorted array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
N.B.: Given a sorted array in ascending order and a value x, the ceiling of x is the smallest element in array greater than or equal to x, and the floor is the greatest element smaller than or equal to x.  
*Expected Output* :  
The given array is : 1 3 4 7 8 9 9 10  
The ceiling of 5 is: 7  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-40.php)

**41.** Write a program in C to find the Floor and Ceil of the number 0 to 10 from a sroted array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 1 3 5 7 8 9  
Number: 0 ceiling is: 1 floor is: -1  
Number: 1 ceiling is: 1 floor is: 1  
Number: 2 ceiling is: 3 floor is: 1  
Number: 3 ceiling is: 3 floor is: 3  
Number: 4 ceiling is: 5 floor is: 3  
Number: 5 ceiling is: 5 floor is: 5  
Number: 6 ceiling is: 7 floor is: 5  
Number: 7 ceiling is: 7 floor is: 7  
Number: 8 ceiling is: 8 floor is: 8  
Number: 9 ceiling is: 9 floor is: 9  
Number: 10 ceiling is: -1 floor is: 9  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-41.php)

**42.** Write a program in C to find the smallest missing element from a sorted array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 0 1 3 4 5 6 7 9  
The missing smallest element is: 2  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-42.php)

**43.** Write a program in C to to print next greater elements in a given unsorted array. Elements for which no greater element exist, consider next greater element as -1. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 5 3 10 9 6 13  
Next Bigger Elements are:  
Next bigger element of 5 in the array is: 10  
Next bigger element of 3 in the array is: 10  
Next bigger element of 10 in the array is: 13  
Next bigger element of 9 in the array is: 13  
Next bigger element of 6 in the array is: 13  
Next bigger element of 13 in the array is: -1  
Next Bigger Elements Array:  
10 10 13 13 13 -1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-43.php)

**44.** Write a program in C to find the two repeating elements in a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 2 7 4 7 8 3 4  
The repeating elements are: 7 4  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-44.php)

**45.** Write a program in C to find two elements whose sum is closest to zero. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 38 44 63 -51 -35 19 84 -69 4 -46  
The Pair of elements whose sum is minimum are:  
[44, -46]  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-45.php)

**46.** Write a program in C to find the smallest positive number missing from an unsorted array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 3 1 4 10 -5 15 2 -10 -20  
The smallest positive number missed is: 5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-46.php)

**47.** Write a program in C to find a subarray with given sum from the given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 3 4 -7 1 3 3 1 -4  
[0..1] -- { 3 4 }  
[0..5] -- { 3 4 -7 1 3 3 }  
[3..5] -- { 1 3 3 }  
[4..6] -- { 3 3 1 }  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-47.php)

**48.** Write a program in C to find if a given integer x appears more than n/2 times in a sorted array of n integers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 1 3 3 5 4 3 2 3 3  
The given value is : 3  
3 appears more than 4 times in the given array[]  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-48.php)

**49.** Write a program in C to find majority element of an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 1 3 3 7 4 3 2 3 3  
The majority of the Element : 3  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-49.php)

**50.** Write a program in C to print a matrix in spiral form. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array in matrix form is :  
1 2 3 4 5  
6 7 8 9 10  
11 12 13 14 15  
16 17 18 19 20  
The spiral form of above matrix is:  
1 2 3 4 5 10 15 20 19 18 17 16 11 6 7 8 9 14 13 12  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-50.php)

**51.** Write a program in C to find the maximum circular subarray sum of a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 10 8 -20 5 -3 -5 10 -13 11  
The maximum circular sum in the above array is: 29  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-51.php)

**52.** Write a program in C to count the number of triangles can be fromed from a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 6 18 9 7 10  
Number of possible triangles can be formed from the array is: 5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-52.php)

**53.** Write a program in C to find the number of times (frequency) occurs a given number in an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 2 3 4 4 4 4 5 5 5 6 7 7  
The number of times the number 4 occurs in the given array is: 4  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-53.php)

**54.** Write a program in C to sort an array of 0s, 1s and 2s. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 0 1 2 2 1 0 0 2 0 1 1 0  
After sortig the elements in the array are:  
0 0 0 0 0 1 1 1 1 2 2 2  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-54.php)

**55.** Write a program in C to check whether an array is subset of another array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given first array is : 4 8 7 11 6 9 5 0 2  
The given second array is : 5 4 2 0 6  
The second array is the subset of first array.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-55.php)

**56.** Write a program in C to return the minimum number of jumps to reach the end of the array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 1 3 5 8 9 2 6 7 6 8 9 1 1 1  
The minimum of number of jumps is required to reach the end is: 3  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-56.php)

**57.** Write a program in C to find minimum element in a sorted and rotated array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 3 4 5 6 7 9 2  
The minimum element in the above array is: 2  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-57.php)

**58.** Write a program in C to move all zeroes to the end of a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 2 5 7 0 4 0 7 -5 8 0  
The new array is:  
2 5 7 8 4 -5 7 0 0 0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-58.php)

**59.** Write a program in C to return the counting sort on an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 4 14 8 0 2 5 2 1 0 17 9 0 5  
After sorting the elements in the array are: 0 0 0 1 2 2 4 5 5 8 9 14 17  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-59.php)

**60.** Write a program in C to find the row with maximum number of 1s. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given 2D array is :  
0 1 0 1 1  
1 1 1 1 1  
1 0 0 1 0  
0 0 0 0 0  
1 0 0 0 1  
The index of row with maximum 1s is: 1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-60.php)

**61.** Write a program in C to find maximum product subarray in a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : -4 9 -7 0 -15 6 2 -3  
The maximum product of a sub-array in the given array is: 540  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-61.php)

**62.** Write a program in C to find the largest subarray with equal number of 0s and 1s. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 0 1 0 0 1 1 0 1 1 1  
Subarray found from the index 0 to 7  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-62.php)

**63.** Write a program in C to replace every element with the greatest element on its right side. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 7 5 8 9 6 8 5 7 4 6  
After replace the modified array is: 9 9 9 8 8 7 7 6 6 0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-63.php)

**64.** Write a program in C to find the median of two sorted arrays of same size. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array - 1 is : 1 5 13 24 35  
The given array - 2 is : 3 8 15 17 32  
The Median of the 2 sorted arrays is: 14  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-64.php)

**65.** Write a program in C to find the product of an array such that product is equal to the product of all the elements of arr[] except arr[i]. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 1 2 3 4 5 6  
The product array is: 720 360 240 180 144 120  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-65.php)

**66.** Write a program in C to count the number of inversion in a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 1 9 6 4 5  
The inversions are: (9, 6) (9, 4) (9, 5) (6, 4) (6, 5)  
The number of inversion can be formed from the array is: 5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-66.php)

**67.** Write a program in C to search an element in a row wise and column wise sorted matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array in matrix form is :  
15 23 31 39  
18 26 36 43  
25 28 37 48  
30 34 39 50  
The given value for searching is: 37  
The element Found at the position in the matrix is: 2, 2  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-67.php)

**68.** Write a program in C to return maximum sum such that no two elements are adjacent. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 1 3 5 9 7 10 1 10 100  
The maximum sum from the array such that no two elements are adjacent is: 122  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-68.php)

**69.** Write a program in C to find out the maximum difference between any two elements such that larger element appears after the smaller number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output* :  
The given array is : 7 9 5 6 13 2  
The elements which provide maximum difference is: 5, 13  
The Maximum difference between two elements in the array is: 8  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-69.php)

**70.** Write a program in C to find two numbers that occur odd number of times in an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is: 6 7 3 6 8 7 6 8 3 3  
The two numbers occuring odd number of times are: 3 & 6  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-70.php)

**71.** Write a program in C to find the median of two sorted arrays of different size. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given first array is : 90 240 300  
The given second array is : 10 13 14 20 25  
The median of two different size arrays are : 22.500000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-71.php)

**72.** Write a program in C to return only the unique rows from a given binary matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is :  
0 1 0 0 1  
1 0 1 1 0  
0 1 0 0 1  
1 0 1 0 0  
The unique rows of the given array are :  
0 1 0 0 1  
1 0 1 1 0  
1 0 1 0 0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-72.php)

**73.** Write a program in C to print all unique elements of an unsorted array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is : 1 5 8 5 7 3 2 4 1 6 2  
Unique Elements in the given array are:  
1 5 8 7 3 2 4 6  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-73.php)

**74.** Write a program in C to find the sum of upper triangular elements of a matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is :  
1 2 3  
4 5 6  
7 8 9  
The elements being summed of the upper triangular matrix are: 2 3 6  
The Sum of the upper triangular Matrix Elements are: 11  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-74.php)

**75.** Write a program in C to find the sum of lower triangular elements of a matrix. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is :  
1 2 3  
4 5 6  
7 8 9  
The elements being summed of the lower triangular matrix are: 4 7 8  
The Sum of the lower triangular Matrix Elements are: 19  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-75.php)

**76.** Write a program in C to find largest number possible from the set of given numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given numbers are :  
15 628 971 9 2143 12  
The largest possible number by the given numbers are: 997162821431512  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-76.php)

**77.** Write a program in C to generate a random permutation of array elements. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
1 2 3 4 5 6 7 8  
The shuffled elements in the array are:  
2 8 7 3 4 5 1 6  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-77.php)

**78.** Write a program in C to find four array elements whose sum is equal to given number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
3 7 1 9 15 14 6 2 5 7  
The elements are:  
3, 15, 14, 5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-78.php)

**79.** Write a program in C to sort n numbers in range from 0 to n^2. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is: 37 62 52 7 48 3 15 61  
Sorted array is: 3 7 15 37 48 52 61 62  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-79.php)

**80.** Write a program in C to count all distinct pairs for a specific difference. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
5 2 3 7 6 4 9 8  
The distinct pairs for difference 5 are: [7, 2] [8, 3] [9, 4]  
Number of distinct pairs for difference 5 are: 3  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-80.php)

**81.** Write a program in C to find the maximum repeating number in a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
The array range is [0..n-1] and the elements are in the range [0..k-1] and k<=n..  
*Expected Output*:  
The given array is:  
2 3 3 5 3 4 1 7 7 7 7  
The maximum repeating number is: 7  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-81.php)

**82.** Write a program in C to print all possible combinations of r elements in a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
1 5 4 6 8 The combination from by the number of elements are: 4  
The combinations are:  
1 5 4 6  
1 5 4 8  
1 5 6 8  
1 4 6 8  
5 4 6 8  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-82.php)

**83.** Write a program in C to find a pair with the given difference. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
1 15 39 75 92  
The given difference is: 53  
The pair are: (39, 92)  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-83.php)

**84.** Write a program in C to find the minimum distance between two numbers in a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
7 9 5 11 7 4 12 6 2 11  
The minimum distance between 7 and 11 is: 1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-84.php)

**85.** Write a program in C to Count all possible paths from top left to bottom right of a m X n matrix.[Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The size of matrix is : 4 x 4  
The all possible paths from top left to bottom right is: 20  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-85.php)

**86.** Write a program in C find the equilibrium index of an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
0 -4 7 -4 -2 6 -3 0  
The equilibrium index found at : 7 5 0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-86.php)

**87.** Write a program in C to find the maximum element in an array which is first increasing and then decreasing. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
2 7 12 25 4 57 27 44  
The maximum element which is increasing then decreasing is: 57  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-87.php)

**88.** Write a program in C to find the maximum n – m such that array[n] > array[m] from a given array[]. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
Given an array arr[], find the maximum j – i such that arr[j] > arr[i]  
*Expected Output*:  
The given array is:  
7 5 8 2 3 2 4 2 1 0  
m = 0, n = 2, arr1[m] = 7 arr1[n] = 8 difference = 2  
m = 3, n = 6, arr1[m] = 2 arr1[n] = 4 difference = 3  
The maximum differcences between two position of array index is: 3  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-88.php)

**89.** Write a program in C to find maximum size square sub-matrix with all 1s. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array in matrix form is :  
0 1 0 1 1  
1 1 1 1 0  
1 1 1 1 0  
1 1 1 1 0  
1 1 1 1 1  
0 1 0 1 0  
The maximum size sub-matrix is:  
1 1 1 1  
1 1 1 1  
1 1 1 1  
1 1 1 1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-89.php)

**90.** Given an array of size n such that every element is in the range from 0 to n-1. Write a program in C to rearrange the given array so that arr[i] becomes arr[arr[i]]. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The Original array is  
2 1 4 3 0 The modified array is:  
4 1 0 3 2  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-90.php)

**91.**Given an unsorted array of specific size. Write a program in C to find the minimum length of subarray such that,  
sorting this subarray makes the whole array sorted.[Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
10 12 15 17 28 32 42 18 56 59 67  
The minimum length of unsorted subarray which makes the given array sorted  
lies between the indeces 4 and 7  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-91.php)

**92.** Write a program in C that checks whether the elements in an unsorted array appears consecutively or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
7 4 3 5 6 2  
The appearence of elements in the array are consecutive.  
The given array is:  
7 4 4 5 6 2  
The appearence of elements in the array are not consecutive.  
The given array is:  
7 4 9 5 6 3  
The appearence of elements in the array are not consecutive.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-92.php)

**93.** Write a program in C to rearrange positive and negative numbers alternatively in a given array.[Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
N.B.: If positive numbers are more they appear at the end and for also negative numbers, they too appear in the end of the array.  
*Expected Output*:  
The given array is:  
-4 8 -5 -6 5 -9 7 1 -21 -11 19  
The rearranged array is:  
-4 7 -5 1 -21 5 -11 8 -9 19 -6  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-93.php)

**94.** Write a program in C to find the maximum for each and every contigious subarray of size k from a given array.[Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
1 3 6 21 4 9 12 3 16 10  
The length of each subarray is: 4  
The contigious subarray of length 4 and their maximum value are:  
1 3 6 21 ----> 21  
3 6 21 4 ----> 21  
6 21 4 9 ----> 21  
21 4 9 12 ----> 21  
4 9 12 3 ----> 12  
9 12 3 16 ----> 16  
12 3 16 10 ----> 16  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-94.php)

**95.** Write a program in C to segregate 0s and 1s in an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
1 0 1 0 0 1 0 1 1  
The array after segregation is: 0 0 0 0 1 1 1 1 1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-95.php)

**96.** Write a program in C to segregate even and odd elements on an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
17 42 19 7 27 24 30 54 73  
The array after segregation is: 54 42 30 24 27 7 19 17 73  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-96.php)

**97.** Write a program in C to find the index of first peak element in a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
5 12 13 20 16 19 11 7 25  
The index of first peak element in the array is: 3  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-97.php)

**98.** Write a program in C to return the largest span found in the leftmost and rightmost appearances of same value(values are inclusive) in a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
17 42 19 7 27 24 17 54 73  
The span between the same values in the array is: 7  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-98.php)

**99.** Write a program in C to check if an array can be splitted in such a position that, the sum of left side of the splitting is equal to the sum of the right side. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is : 1 3 3 8 4 3 2 3 3  
The array can be split in a position where the sum of both side are equal.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-99.php)

**100.** Write a program in C to return the number of clumps(a series of 2 or more adjacent elements of the same value) in a given array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
17 42 42 7 24 24 17 54 17  
The number of clumps in the array is: 2  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-100.php)

**101.** Write a program in C to rearrange an array such that arr[i]=i. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)

N.B.: Given array contains N elements, from 0 to N – 1. All elements within the range may not be present in the array. There will be -1 if an element within the range is not present in the array.

*Expected Output*:  
The given array is:  
2 5 -1 6 -1 8 7 -1 9 1  
The new array is: -1 1 2 -1 -1 5 6 7 8 9  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-101.php)

**102.** Write a program in C to rearrange an array in such an order that– smallest, largest, 2nd smallest, 2nd largest and on. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
5 8 1 4 2 9 3 7 6  
The new array is:  
1 9 2 8 3 7 4 6 5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-102.php)

**103.** Write a program in C to update every array element with multiplication of previous and next numbers in array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
1 2 3 4 5 6  
The new array is:  
2 3 8 15 24 30  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-103.php)

**104.** Write a program in C to rearrange an array such that even index elements are smaller and odd index elements are greater than their next. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The array given is:  
6 4 2 1 8 3  
The new array after rearranging:  
4 6 1 8 2 3  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-104.php)

**105.** Write a program in C to find minimum number of swaps required to gather all elements less than or equals to k. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is:  
2 7 9 5 8 7 4  
The minimum swap required is: 2  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-105.php)

**106.** Write a program in C to convert the array in such a way that double its value and replace the next number with 0 if current and next element are same and rearrange the array such that all 0's shifted to the end. [Go to the editor](https://www.w3resource.com/c-programming-exercises/array/index.php#editorr)  
*Expected Output*:  
The given array is: 0 3 3 3 0 0 7 7 0 9  
The new array is: 6 3 14 9 0 0 0 0 0 0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/array/c-array-exercise-106.php)

# C Programming Exercises, Practice, Solution : Pointer

Last update on February 26 2020 08:07:29 (UTC/GMT +8 hours)

## C Pointer [22 exercises with solution]

**1.**Write a program in C to show the basic declaration of pointer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Expected Output :

Pointer : Show the basic declaration of pointer :

-------------------------------------------------------

Here is m=10, n and o are two integer variable and \*z is an integer

z stores the address of m = 0x7ffd40630d44

\*z stores the value of m = 10

&m is the address of m = 0x7ffd40630d44

&n stores the address of n = 0x7ffd40630d48

&o stores the address of o = 0x7ffd40630d4c

&z stores the address of z = 0x7ffd40630d50

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-1.php)

**2.**Write a program in C to demonstrate how to handle the pointers in the program. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Expected Output :

Address of m : 0x7ffcc3ad291c

Value of m : 29

Now ab is assigned with the address of m.

Address of pointer ab : 0x7ffcc3ad291c

Content of pointer ab : 29

The value of m assigned to 34 now.

Address of pointer ab : 0x7ffcc3ad291c

Content of pointer ab : 34

The pointer variable ab is assigned with the value 7 now.

Address of m : 0x7ffcc3ad291c

Value of m : 7

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-2.php)

**3.**Write a program in C to demonstrate the use of &(address of) and \*(value at address) operator. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Expected Output :

Pointer : Demonstrate the use of & and \* operator :

--------------------------------------------------------

m = 300

fx = 300.600006

cht = z

Using & operator :

-----------------------

address of m = 0x7ffda2eeeec8

address of fx = 0x7ffda2eeeecc

address of cht = 0x7ffda2eeeec7

Using & and \* operator :

-----------------------------

value at address of m = 300

value at address of fx = 300.600006

value at address of cht = z

Using only pointer variable :

----------------------------------

address of m = 0x7ffda2eeeec8

address of fx = 0x7ffda2eeeecc

address of cht = 0x7ffda2eeeec7

Using only pointer operator :

----------------------------------

value at address of m = 300

value at address of fx= 300.600006

value at address of cht= z

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-3.php)

**4.**Write a program in C to add two numbers using pointers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input the first number : 5  
Input the second number : 6  
Expected Output :

The sum of the entered numbers is : 11

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-4.php)

**5.**Write a program in C to add numbers using call by reference. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input the first number : 5  
Input the second number : 6  
Expected Output :

The sum of 5 and 6 is 11

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-5.php)

**6.**Write a program in C to find the maximum number between two numbers using a pointer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input the first number : 5  
Input the second number : 6  
Expected Output :

6 is the maximum number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-6.php)

**7.**Write a program in C to store n elements in an array and print the elements using pointer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input the number of elements to store in the array :5  
Input 5 number of elements in the array :  
element - 0 : 5  
element - 1 : 7  
element - 2 : 2  
element - 3 : 9  
element - 4 : 8  
Expected Output :

The elements you entered are :

element - 0 : 5

element - 1 : 7

element - 2 : 2

element - 3 : 9

element - 4 : 8

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-7.php)

**8.**Write a program in C to print all permutations of a given string using pointers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Expected Output :

The permutations of the string are :

abcd abdc acbd acdb adcb adbc bacd badc bcad bcda bdca bdac cbad cbda cabd cadb cdab cdba db

ca dbac dcba dcab dacb dabc

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-8.php)

**9.**Write a program in C to find the largest element using Dynamic Memory Allocation. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input total number of elements(1 to 100): 5  
  
Number 1: 5  
Number 2: 7  
Number 3: 2  
Number 4: 9  
Number 5: 8  
Expected Output :

The Largest element is : 9.00

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-9.php)

**10.**Write a program in C to Calculate the length of the string using a pointer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input a string : w3resource  
Expected Output :

The length of the given string w3resource

is : 10

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-10.php)

**11.**Write a program in C to swap elements using call by reference. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input the value of 1st element : 5  
Input the value of 2nd element : 6  
Input the value of 3rd element : 7  
Expected Output :

The value before swapping are :

element 1 = 5

element 2 = 6

element 3 = 7

The value after swapping are :

element 1 = 7

element 2 = 5

element 3 = 6

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-11.php)

**12.**Write a program in C to find the factorial of a given number using pointers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input a number : 5  
Expected Output :

The Factorial of 5 is : 120

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-12.php)

**13.**Write a program in C to count the number of vowels and consonants in a string using a pointer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input a string: string  
Expected Output :

Number of vowels : 1

Number of constant : 5

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-13.php)

**14.**Write a program in C to sort an array using Pointer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
testdata  
Expected Output :

Test Data :  
Input the number of elements to store in the array : 5  
Input 5 number of elements in the array :  
element - 1 : 25  
element - 2 : 45  
element - 3 : 89  
element - 4 : 15  
element - 5 : 82  
Expected Output :

The elements in the array after sorting :

element - 1 : 15

element - 2 : 25

element - 3 : 45

element - 4 : 82

element - 5 : 89

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-14.php)

**15.**Write a program in C to show how a function returning pointer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input the first number : 5  
Input the second number : 6  
Expected Output :

The number 6 is larger.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-15.php)

**16.**Write a program in C to compute the sum of all elements in an array using pointers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input the number of elements to store in the array (max 10) : 5  
Input 5 number of elements in the array :  
element - 1 : 2  
element - 2 : 3  
element - 3 : 4  
element - 4 : 5  
element - 5 : 6  
Expected Output :

The sum of array is : 20

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-16.php)

**17.**Write a program in C to print the elements of an array in reverse order. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input the number of elements to store in the array (max 15) : 5  
Input 5 number of elements in the array :  
element - 1 : 2  
element - 2 : 3  
element - 3 : 4  
element - 4 : 5  
element - 5 : 6  
Expected Output :

The elements of array in reverse order are :

element - 5 : 6

element - 4 : 5

element - 3 : 4

element - 2 : 3

element - 1 : 2

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-17.php)

**18.**Write a program in C to show the usage of pointer to structure. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Expected Output :

John Alter from Court Street

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-18.php)

**19.**Write a program in C to show a pointer to union. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Expected Output :

Jhon Mc Jhon Mc

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-19.php)

**20.**Write a program in C to show a pointer to an array which contents are pointer to structure. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Expected Output :

Exmployee Name : Alex

Employee ID : 1002

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-20.php)

**21.**Write a program in C to print all the alphabets using a pointer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Expected Output :

The Alphabets are :

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-21.php)

**22.**Write a program in C to print a string in reverse using a pointer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/pointer/index.php#editorr)  
Test Data :  
Input a string : w3resource  
Expected Output :

Pointer : Print a string in reverse order :

------------------------------------------------

Input a string : w3resource

Reverse of the string is : ecruoser3w

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/pointer/c-pointer-exercise-22.php)

# C Programming Exercises on Numbers: Exercises, Practice, Solution

Last update on May 07 2020 11:59:26 (UTC/GMT +8 hours)

## C Programming Exercises on Numbers: [38 exercises with solution]

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

**1.** Write a program in C to check whether a given number is an ugly number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input an integer number: 25  
It is an ugly number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-1.php)

**2.** Write a program in C to check whether a given number is Abundant or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input an integer number: 18  
The number is Abundant.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-2.php)

**3.** Write a program in C to find the Abundant numbers (integers) between 1 to 1000. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The Abundant number between 1 to 1000 are:  
-----------------------------------------------  
12 18 20 24 30 36 40 42 48 54 56 60 66 70 72 78 80...

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-3.php)

**4.** Write a program in C to check whether a given number is Deficient or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input an integer number: 15  
The number is Deficient.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-4.php)

**5.** Write a program in C to find the Deficient numbers (integers) between 1 to 100. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The Deficient numbers between 1 to 100 are:  
------------------------------------------------  
1 2 3 4 5 7 8 9 10 11 13 14 15 16 17 19 21 22 23 25 26 27...

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-5.php)

**6.** Write a program in C to check whether a given number is a Kaprekar number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number: 45  
45 is a Kaprekar number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-6.php)

**7.** Write a program in C to generate and show all Kaprekar numbers less than 1000. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The Kaprekar numbers less than 1000 are:  
1 9 45 55 99 297 703 999

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-7.php)

**8.** Write a program in C to check whether a number is Lychrel number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number: 196  
The given number is Lychrel.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-8.php)

**9.** Write a program in C to display and count the number of Lychrel numbers within a specific range(from 1 to a specific upper limit). [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input the upper limit: 1000  
The Lychrel numbers are:  
196 295 394 493 592 689 691 788 790 879 887 978 986  
The number of Lychrel numbers are: 13

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-9.php)

**10.** Write a program in C to generate and show the first 15 narcissistic decimal numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The first 15 narcissistic decimal numbers are:  
1 2 3 4 5 6 7 8 9 153 370 371 407 1634 8208

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-10.php)

**11.** Write a program in C to display the first 10 lucus numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The first 10 Lucus numbers are:  
2 1 3 4 7 11 18 29 47 76

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-11.php)

**12.** Write a program in C to display the first 10 catalan numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The first 10 catalan numbers are:  
1 1 2 5 14 42 132 429 1430 4862

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-12.php)

**13.** Write a program in C to check a number is a Happy or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number: 13  
13 is a Happy number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-13.php)

**14.** Write a program in C to find the happy numbers between 1 to 1000. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The happy numbers between 1 to 1000 are: 1 7 10 13 19 23 28 31 32 44 49.....

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-14.php)

**15.** Write a program in C to check whether a number is Disarium or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number: 135  
The given number is a Disarium Number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-15.php)

**16.** Write a program in C to find Disarium numbers between 1 to 1000. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The Disarium numbers are:  
1 2 3 4 5 6 7 8 9 89 135 175 518 598

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-16.php)

**17.** Write a program in C to check if a number is Harshad Number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number: 9  
The given number is a Harshad Number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-17.php)

**18.** Write a program in C to find Harshad Number between 1 to 100. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The Harshad Numbers are: 1 2 3 4 5 6 7 8 9 10 12 18 20 21 24 27 30 36 40 42 45 48 50 54 60 63 70 72 80 81 84 90 100

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-18.php)

**19.** Write a program in C to check whether a number is a Pronic Number or Heteromecic Number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number: 132  
The given number is a Pronic Number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-19.php)

**20.** Write a program in C to find Pronic Number between 1 to 1000. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The Pronic numbers are: 2 6 12 20 30 42 56 72 90 110 132 156 182 210 240 272 306 342 380 420 462 506 552 600 650 702 756 812 870 930 992

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-20.php)

**21.** Write a program in C to check if a number is Authomorphic or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number: 76  
The given number is an Automorphic Number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-21.php)

**22.** Write a program in c++ to find the the Authomorphic numbers between 1 to 1000. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The Authomorphic numbers are: 1 5 6 25 76 376 625

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-22.php)

**23.** Write a program in C to check whether a number is a Duck Number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number: 3210  
The given number is a Duck Number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-23.php)

**24.** Write a program in C to find Duck Numbers between 1 to 500. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The Duck numbers are: 10 20 30 40 50 60 70 80 90 100 101 102......

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-24.php)

**25.** Write a program in C to check two numbers are Amicable numbers or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input the 1st number : 1184  
Input the 2nd number : 1210  
The given numbers are an Amicable pair.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-25.php)

**26.** Write a program in C to count the amicable pairs in an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input the number of elements to be stored in the array: 4  
element - 0: 220  
element - 1: 274  
element - 2: 1184  
element - 3: 1210  
Number of Amicable pairs presents in the array: 1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-26.php)

**27.** Write a program in C to check if a given number is circular prime or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a Number: 1193  
The given number is a circular prime Number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-27.php)

**28.** Write a program in C to find circular prime numbers upto a specific limit. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Enter the upper Limit: 1000  
The Circular Prime Numbers less than 1000 are:  
2 3 5 7 11 13 17 31 37 71 73 79 97 113 131 197 199 311 337 373 719 733 919 971 991

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-28.php)

**29.** Write a program in C to check whether a given number is a perfect cube or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number: 125  
The number is a perfect Cube of 5

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-29.php)

**30.** Write a program in C to display first 10 Fermat numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output:  
The first 10 Fermat numbers are:  
3.000000  
5.000000  
17.000000  
257.000000  
65537.000000  
4294967297.000000  
18446744073709551616.000000  
340282366920938463463374607431768211456.000000  
115792089237316195423570985008687907853269984665640564039457584007913129639936.000000  
13407807929942597099574024998205846127479365820592393377723561443721764030073546976801874298166903427690031858 186486050853753882811946569946433649006084096.000000  
inf

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-30.php)

**31.** Write a program in C to find any number between 1 and n that can be expressed as the sum of two cubes in two (or more) different ways. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The numbers in the above range are:  
1729 = 1^3 + 12^3 = 9^3 + 10^3  
4104 = 2^3 + 16^3 = 9^3 + 15^3  
13832 = 2^3 + 24^3 = 18^3 + 20^3  
39312 = 2^3 + 34^3 = 15^3 + 33^3  
46683 = 3^3 + 36^3 = 27^3 + 30^3  
32832 = 4^3 + 32^3 = 18^3 + 30^3  
40033 = 9^3 + 34^3 = 16^3 + 33^3  
20683 = 10^3 + 27^3 = 19^3 + 24^3  
65728 = 12^3 + 40^3 = 31^3 + 33^3  
64232 = 17^3 + 39^3 = 26^3 + 36^3

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-31.php)

**32.** Write a program in C to Check if a number is Mersenne number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number: 127  
127 is a Mersenne number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-32.php)

**33.** Write a program in C to generate mersenne primes within a range of numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output:  
Input a upper limit [range from 1 to upper limit]: 1000  
Mersenne prime numbers are:  
3 7 31 127

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-33.php)

**34.** Write a program in C to find narcissistic decimal numbers within a specific range. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input the lower limit: 100  
Input a upper limit: 1000  
The narcissistic decimal numbers between 100 and 1000 are:  
153 370 371 407

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-34.php)

**35.** Write a program in C to print the first 20 numbers of the Pell series. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
The first 20 numbers of Pell series are:  
0 1 2 5 12 29 70 169 408 985 2378 5741 13860 33461 80782 195025 470832 1136689 2744210 6625109

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-35.php)

**36.** Write a program in C to check if a number is Keith or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number : 1104  
The given number is a Keith Number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-36.php)

**37.** Write a program in C to check if a number is Keith or not(with explanation). [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)

Expected Output :  
Input a number : 1537  
1 + 5 + 3 + 7 = 16  
5 + 3 + 7 + 16 = 31  
3 + 7 + 16 + 31 = 57  
7 + 16 + 31 + 57 = 111  
16 + 31 + 57 + 111 = 215  
31 + 57 + 111 + 215 = 414  
57 + 111 + 215 + 414 = 797  
111 + 215 + 414 + 797 = 1537  
The given number is a Keith Number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-37.php)

**38.** Write a C programming to check whether a given number with base b (2 <= b<= 10) is a Niven number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/numbers/index.php#editorr)  
From Wikipedia,  
In recreational mathematics, a harshad number (or Niven number) in a given number base, is an integer that is divisible by the sum of its digits when written in that base. Harshad numbers in base n are also known as n-harshad (or n-Niven) numbers. Harshad numbers were defined by D. R. Kaprekar, a mathematician from India. The word "harshad" comes from the Sanskrit harṣa (joy) + da (give), meaning joy-giver. The term “Niven number” arose from a paper delivered by Ivan M. Niven at a conference on number theory in 1977. All integers between zero and n are n-harshad numbers.  
The number 18 is a harshad number in base 10, because the sum of the digits 1 and 8 is 9 (1 + 8 = 9), and 18 is divisible by 9 (since 18/9 = 2, and 2 is a whole number).

Test Data  
Input: base 10: Number 3  
Output: 3 is a Niven Number  
Input: base 10: Number 18  
Output: 18 is a Niven Number  
Input: base 10: Number 15  
Output: 15 is not a Niven Number

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/numbers/c-numbers-exercise-38.php)

# C Programming Exercises, Practice, Solution : String

Last update on February 26 2020 08:07:26 (UTC/GMT +8 hours)

## C String [34 exercises with solution]

**1.**Write a program in C to input a string and print it. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : Welcome, w3resource

Expected Output :

The string you entered is : Welcome, w3resource

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-1.php)

**2.**Write a program in C to find the length of a string without using library function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : w3resource.com

Expected Output :

Length of the string is : 15

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-2.php)

**3.**Write a program in C to separate the individual characters from a string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : w3resource.com

Expected Output :

The characters of the string are :

w 3 r e s o u r c e . c o m

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-3.php)

**4.**Write a program in C to print individual characters of string in reverse order. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : w3resource.com

Expected Output :

The characters of the string in reverse are :

m o c . e c r u o s e r 3 w

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-4.php)

**5.**Write a program in C to count the total number of words in a string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : This is w3resource.com

Expected Output :

Total number of words in the string is : 3

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-5.php)

**6.**Write a program in C to compare two string without using string library functions. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the 1st string : This is first string  
Input the 2nd string : This is first string

Expected Output :

The length of both strings are equal and

also both strings are equal.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-6.php)

**7.** Write a program in C to count total number of alphabets, digits and special characters in a string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : Welcome to w3resource.com

Expected Output :

Number of Alphabets in the string is : 21

Number of Digits in the string is : 1

Number of Special characters in the string is : 4

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-7.php)

**8.**Write a program in C to copy one string to another string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : This is a string to be copied.

Expected Output :

The First string is : This is a string to be copied.

The Second string is : This is a string to be copied.

Number of characters copied : 31

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-8.php)

**9.**Write a program in C to count total number of vowel or consonant in a string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : Welcome to w3resource.com

Expected Output :

The total number of vowel in the string is : 9

The total number of consonant in the string is : 12

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-9.php)

**10.** Write a program in C to find maximum occurring character in a string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : Welcome to w3resource.com.

Expected Output :

The Highest frequency of character 'e'

appears number of times : 4

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-10.php)

**11.**Write a C program to sort a string array in ascending order.[Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : w3resource

Expected Output :

After sorting the string appears like :

3ceeorrsuw

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-11.php)

**12.**Write a program in C to read a string through keyboard and sort it using bubble sort. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input number of strings :3  
Input string 3 :  
zero  
one  
two

Expected Output :

The strings appears after sorting :

one

two

zero

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-12.php)

**13.**Write a program in C to extract a substring from a given string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : this is test string  
Input the position to start extraction :9  
Input the length of substring :4

Expected Output :

The substring retrieve from the string is : " test "

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-13.php)

**14.**Write a C program to check whether a given substring is present in the given string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : This is a test string.  
Input the substring to be search : search

Expected Output :

The substring is not exists in the string.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-14.php)

**15.**Write a program in C to read a sentence and replace lowercase characters by uppercase and vice-versa. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : This Is A Test String.

Expected Output :

The given sentence is : This Is A Test String.

After Case changed the string is: tHIS iS a tEST sTRING.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-15.php)

**16.**Write a program in C to find the number of times a given word 'the' appears in the given string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : The string where the word the present more than once.

Expected Output :

The frequency of the word 'the' is : 3

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-16.php)

**17.** Write a program in C to remove characters in String Except Alphabets. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : w3resource.com

Expected Output :

After removing the Output String : wresourcecom

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-17.php)

**18.**Write a program in C to Find the Frequency of Characters. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : This is a test string  
Input the character to find frequency: i

Expected Output :

The frequency of 'i' is : 3

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-18.php)

**19.**Write a program in C to Concatenate Two Strings Manually. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the first string : this is string one  
Input the second string : this is string two

Expected Output :

After concatenation the string is :

this is string one this is string two

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-19.php)

**20.** Write a program in C to find the largest and smallest word in a string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input the string : It is a string with smallest and largest word.

Expected Output :

The largest word is 'smallest'

and the smallest word is 'a'

in the string : 'It is a string with smallest and largest word.'.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-20.php)

**21.** Write a program in C to convert a string to uppercase. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a string in lowercase : the quick brown fox jumps over the lazy dog

Expected Output :

Here is the above string in UPPERCASE :

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-21.php)

**22.** Write a program in C to convert a string to lowercase. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a string in UPPERCASE : THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.

Expected Output :

Here is the above string in lowercase :

the quick brown fox jumps over the lazy dog.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-22.php)

**23.** Write a program in C to check whether a character is Hexadecimal Digit or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a character : 7

Expected Output :

The entered character is a hexadecimal digit.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-23.php)

**24.** Write a program in C to check whether a letter is uppercase or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a character : p

Expected Output :

The entered letter is not an UPPERCASE letter.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-24.php)

**25.** Write a program in C to replace the spaces of a string with a specific character. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a string : Be glad to see the back of Input replace character : \*

Expected Output :

After replacing the space with \* the new string is :

Be\*glad\*to\*see\*the\*back\*of\*

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-25.php)

**26.** Write a program in C to count the number of punctuation characters exists in a string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a string : The quick brown fox, jumps over the, lazy dog.

Expected Output :

The punctuation characters exists in the string is : 3

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-26.php)

**27.** Write a program in C to print only the string before new line character. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Note: isprint() will only print line one, because the newline character is not printable.

Expected Output :

The quick brown fox

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-27.php)

**28.** Write a program in C to check whether a letter is lowercase or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a character : w

Expected Output :

The entered letter is a lowercase letter.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-28.php)

**29.** Write a program in C to read a file and remove the spaces between two words of its content. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Expected Output :

The content of the file is :

The quick brown fox jumps over the lazy dog

After removing the spaces the content is :

Thequickbrownfoxjumpsoverthelazydog

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-29.php)

**30.** Write a program in C to check whether a character is digit or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a character : 8

Expected Output :

The entered character is a digit.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-30.php)

**31.** Write a program in C to split string by space into words. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a string : this is a test string

Expected Output :

Strings or words after split by space are :

this

is

a

test

string .

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-31.php)

**32.** Write a C programming to find the repeated character in a given string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a string: w3resource

Expected Output:

Input a string: The first repetitive character in w3resource is: r

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-32.php)

**33.** Write a C programming to count of each character in a given string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a string: w3resource

Expected Output:

Enter a str1ing: The count of each character in the string w3resource is

w 1

3 1

r 2

e 2

s 1

o 1

u 1

c 1

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-33.php)

**34.** Write a C programming to convert vowels into upper case character in a given string. [Go to the editor](https://www.w3resource.com/c-programming-exercises/string/index.php#editorr)

Test Data :  
Input a string : w3resource

Expected Output:

Input a sentence: The original string:

w3resource

After converting vowels into upper case the sentence becomes:

w3rEsOUrcE

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/string/c-string-exercise-34.php)

# C Programming Exercises, Practice, Solution : Date Time

Last update on February 26 2020 08:07:27 (UTC/GMT +8 hours)

## C Date Time [10 exercises with solution]

**1.**Write a program in C to print the current time. [Go to the editor](https://www.w3resource.com/c-programming-exercises/datetime/index.php#editorr)

Expected Output :

The Current time is : Thu Aug 03 13:38:58 2017

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/datetime/c-datetime-exercise-1.php)

**2.**Write a program in C to compute the number of seconds passed since the beginning of the month. [Go to the editor](https://www.w3resource.com/c-programming-exercises/datetime/index.php#editorr)

Expected Output :

222084 seconds passed since the beginning of the month.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/datetime/c-datetime-exercise-2.php)

**3.**Write a program in C to convert a time\_t object to a textual representation. [Go to the editor](https://www.w3resource.com/c-programming-exercises/datetime/index.php#editorr)

Expected Output :

Thu Aug 03 13:44:49 2017

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/datetime/c-datetime-exercise-3.php)

**4.**Write a program in C to convert a tm object to custom textual representation. [Go to the editor](https://www.w3resource.com/c-programming-exercises/datetime/index.php#editorr)

Expected Output :

The textual representation of specified date and time :

September Sun Sep 2 16:30:32 2016 pm

September Sun Sep 2 16:30:32 2016 pm

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/datetime/c-datetime-exercise-4.php)

**5.**Write a program in C to convert a tm object to custom wide string textual representation. [Go to the editor](https://www.w3resource.com/c-programming-exercises/datetime/index.php#editorr)

Expected Output :

The textual representation of specified date and time :

Sunday 09/02/16 17:51:10

Sunday 09/02/16 17:51:10

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/datetime/c-datetime-exercise-5.php)

**6.**Write a program in C to convert a time\_t object to calendar time expressed as Coordinated Universal Time. [Go to the editor](https://www.w3resource.com/c-programming-exercises/datetime/index.php#editorr)

Expected Output :

The calendar time expressed as Coordinated Universal Time is :

UTC: Thu Aug 03 10:53:03 2017

local: Thu Aug 03 16:23:03 2017

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/datetime/c-datetime-exercise-6.php)

**7.** Write a program in C to convert a time\_t object to calendar time expressed as local time. [Go to the editor](https://www.w3resource.com/c-programming-exercises/datetime/index.php#editorr)

Expected Output :

The calendar time expressed as a local Time is :

UTC: Thu Aug 03 11:15:59 2017

local: Thu Aug 03 16:45:59 2017

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/datetime/c-datetime-exercise-7.php)

**8.**Write a program in C to print the date and time before 24 months. [Go to the editor](https://www.w3resource.com/c-programming-exercises/datetime/index.php#editorr)

Expected Output :

Today is : Thu Aug 3 17:27:16 2017

(DST is not in effect)

24 months ago the date was : Mon Aug 3 17:27:16 2015

(DST was not in effect)

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/datetime/c-datetime-exercise-8.php)

**9.**Write a program in C to show the first of calendar time. [Go to the editor](https://www.w3resource.com/c-programming-exercises/datetime/index.php#editorr)

Expected Output :

Sun Jan 01 00:00:00 1900

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/datetime/c-datetime-exercise-9.php)

**10.** Write a program in C to show the start of the epoch. [Go to the editor](https://www.w3resource.com/c-programming-exercises/datetime/index.php#editorr)  
Note : epoch means the beginning of a period in the history of someone.

Expected Output :

0 seconds since the epoch began

Thu Jan 01 00:00:00 1970

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/datetime/c-datetime-exercise-10.php)

# C programming Math : Exercises, Practice and Solution

Last update on May 13 2020 10:20:46 (UTC/GMT +8 hours)

## C programming Mathematics [28 exercises with solution]

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

**1.** Write a C program to reverse the digits of a given integer. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input:  
i = 123  
i = 208478933  
i = -73634  
Output:  
Reverse integer: 321  
Reverse integer: 339874802  
Reverse integer: -43637  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-1.php)

**2.** Write a C program to check whether an integer is a palindrome or not. An integer is a palindrome when it reads the same forward as backward. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input:  
i = 1221  
i = -121  
i = 100  
Output:  
Is Palindrome: 1  
Is Palindrome: 0  
Is Palindrome: 0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-2.php)

**3.** Write a C program to divide two integers (dividend and divisor) without using multiplication, division and mod operator. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input:  
dividend\_num = 7  
divisor\_num = 2  
  
dividend\_num = -17  
divisor\_num = 5  
  
dividend\_num = 35  
divisor\_num = 7  
Output:  
Result: 3  
Result: -3  
Result: 5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-3.php)

**4.** Write a C program to calculate x raised to the power n (xn). [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input:  
x = 7.0  
n = 2  
  
x = 6.2  
n = 3  
Output:  
Result:(x^n) : 49.000000  
Result:(x^n) : 238.328000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-4.php)

**5.** The following set contains a total of n! unique permutations  
Set: [1, 2, 3, ..., n]  
If n =3 we will get the following sequence:  
1. "123"  
2. "132"  
3. "213"  
4. "231"  
5. "312"  
6. "321"  
Input: n = 3, k = 4  
Output: "231"  
Write a C program to get the kth permutation sequence from two given integers n and k where n is between 1 and 9 inclusive and k is between 1 and n! inclusive. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input:  
n = 3  
int k = 2  
  
n = 4  
k = 7  
Output:  
Kth sequence: 132  
Kth sequence: 2134  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-5.php)

**6.** Write a C program to check if a given string can be interpreted as a decimal number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input:  
str\_num1[ ] ="1234"  
str\_num2[ ]=" 0.1 "  
str\_num3[ ]=" -90e3 "  
str\_num4[ ]=" 99e2.5 "  
Output:  
Is the above string is a number? 1  
Is the above string is a number? 1  
Is the above string is a number? 1  
Is the above string is a number? 0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-6.php)

**7.** Write a C program to get the fraction part from two given integers representing the numerator and denominator in string format. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input:  
n = 3  
d = 2  
  
n = 4  
d = 7  
Output:  
Fractional part: 1.5  
Fractional part: 0.(571428)  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-7.php)

**8.** Write a C program to get the Excel column title that corresponds to a given column number (integer value). [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
For example:  
1 -> A  
2 -> B  
3 -> C  
...  
26 -> Z  
27 -> AA  
28 -> AB  
...  
Example:  
Input:  
n = 3  
n = 27  
n = 151  
Output:  
Excel column title: C  
Excel column title: AA  
Excel column title: EU  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-8.php)

**9.** Write a C program to get the column number (integer value) that corresponds to a column title as appear in an Excel sheet. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
For example:  
A -> 1  
B -> 2  
C -> 3  
...  
Z -> 26  
AA -> 27  
AB -> 28  
...  
Example:  
Input:  
col\_title1[ ] ="C"  
col\_title2[ ] ="AC"  
col\_title3[ ] ="ZY"  
Output:  
Corresponding number: 3  
Corresponding number: 29  
Corresponding number: 701  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-9.php)

**10.** Write a C program to find the number of trailing zeroes in a given factorial. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example 1:  
Input: 4  
Output: 0  
Explanation: 4! = 24, no trailing zero.  
Example 2:  
Input: 6  
Output: 1  
Explanation: 6! = 720, one trailing zero.  
  
Example:  
Input:  
n = 4  
n = 5  
Output:  
Number of trailing zeroes of factorial 4 is 0  
Number of trailing zeroes of factorial 5 is 1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-10.php)

**11.** Write a C program to count the total number of digit 1 appearing in all positive integers less than or equal to a given integer n. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input n = 12,  
Return 5, because digit 1 occurred 5 times in the following numbers: 1, 10, 11, 12.  
Example:  
Input:  
n = 12  
n = 30  
Output:  
Total number of digit 1 appearing in 12 (less than or equal) is 5.  
Total number of digit 1 appearing in 30 (less than or equal) is 13.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-11.php)

**12.** Write a C programming to add repeatedly all digits of a given non-negative number until the result has only one digit. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input: 48  
Output: 2  
Explanation: The formula is like: 4 + 8 = 12, 1 + 2 = 3.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-12.php)

**13.** Write a C programming to check if a given integer is a power of three. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input: 9  
Output: true  
Input: 81  
Output: true  
Input: 45  
Output: false  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-13.php)

**14.** For a non negative integer in the range 0 ≤ i ≤ n write a C programming to calculate the number of 1's in their binary representation and return them as an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input:  
Number: 7  
Number of 1's in the binary representation:  
0: 0  
1: 1  
2: 1  
3: 2  
4: 1  
5: 2  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-14.php)

**15.** Write a C programming to get the maximum product from a given integer after breaking the integer into the sum of at least two positive integers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input: 12  
Output: 81  
Explanation: 12 = 3 + 3 + 3 + 3, 3 x 3 × 3 × 3 = 81.  
Input: 7  
Output: 12  
Explanation: 7 = 3 + 2 + 2, 3 x 2 x 2 = 12.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-15.php)

**16.** Lexicographical order:  
From Wikipedia,  
In mathematics, the lexicographic or lexicographical order (also known as lexical order, dictionary order, alphabetical order or lexicographic(al) product) is a generalization of the way words are alphabetically ordered based on the alphabetical order of their component letters. This generalization consists primarily in defining a total order on the sequences (often called strings in computer science) of elements of a finite totally ordered set, often called an alphabet.  
Write a C programming to print numbers from 1 to an given integer(N) in lexicographic order. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example:  
Input: 10  
Output:  
Print numbers from 1 to 10 in lexicographic order-  
1 10 2 3 4 5 6 7 8 9  
Input: 25  
Output:  
Print numbers from 1 to 25 in lexicographic order-  
1 10 11 12 13 14 15 16 17 18 19 2 20 21 22 23 24 25 3 4 5 6 7 8 9  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-16.php)

**17.** Write a C programming to find the nth digit of number 1 to n?. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Infinite integer sequence: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 .. where n is a positive integer.  
Example:  
Input:  
7  
Output:  
7  
Input:  
12  
Output:  
1  
The 12th digit of the sequence 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, ... is 1, which is part of the number 11.  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-17.php)

**18.** Write a C programming to find the total number of full staircase rows that can be formed from given number of dices. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example 1:  
n = 5  
The dices can form the following rows:  
  
As the 3rd row is incomplete the program will return 2 (full staircase rows).  
Example 1:  
n = 8 The dices can form the following rows:  
  
As the 4th row is incomplete the program will return 3 (full staircase rows).  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-18.php)

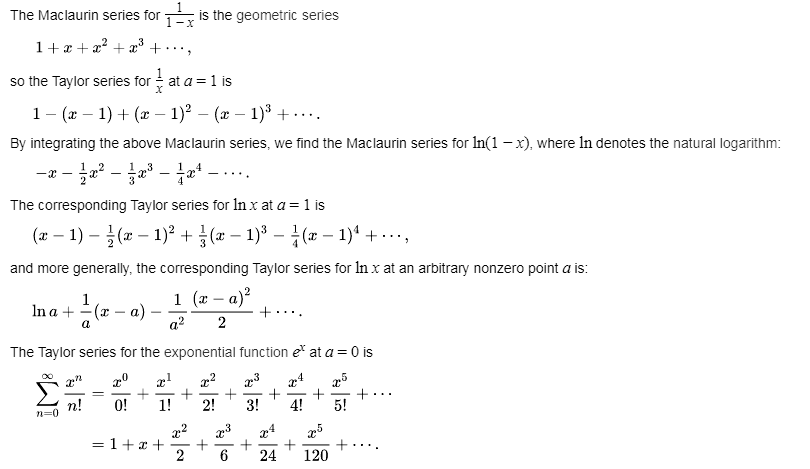
**19.** Write a C program to find the square root of a number using Babylonian method. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example 1:  
Input: n = 50  
Output: 7.071068  
Example 2:  
Input: n = 17  
Output: 4.123106  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-19.php)

**20.** Write a C program to multiply two integers without using multiplication, division, bitwise operators, and loops. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example 1:  
Input: n1 = 50  
Input: n2 = 12  
Output: 600  
Example 2:  
Input: n1 = 0  
Input: n2 = 12  
Output: 0  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-20.php)

**21.** Write a C program to calculate and print average (or mean) of the stream of given numbers. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example 1:  
Input:  
arr[] = {10, 20, 30, 40, 50, 60, 70, 80, 90, 100}  
Output:  
Average of 1 numbers is 10.000000  
Average of 2 numbers is 15.000000  
Average of 3 numbers is 20.000000  
Average of 4 numbers is 25.000000  
Average of 5 numbers is 30.000000  
Average of 6 numbers is 35.000000  
Average of 7 numbers is 40.000000  
Average of 8 numbers is 45.000000  
Average of 9 numbers is 50.000000  
Average of 10 numbers is 55.000000  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-21.php)

**22.** Write a C program to count the numbers without digit 7, from 1 to a given number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example 1:  
Input: n = 10  
Output: 9  
Example 2:  
Input: n = 687  
Output: 555  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-22.php)

**23.** Write a C program to find next smallest palindrome of a given number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
From Wikipedia,  
A palindrome is a word, number, phrase, or other sequence of characters which reads the same backward as forward, such as madam, racecar. There are also numeric palindromes, including date/time stamps using short digits 11/11/11 11:11 and long digits 02/02/2020. Sentence-length palindromes may be written when allowances are made for adjustments to capital letters, punctuation, and word dividers, such as "A man, a plan, a canal, Panama!".  
Example 1:  
Input: n = 121  
Output: Next smallest palindrome of 121 is 131  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-23.php)

**24.** Write a C program to calculate e raise to the power x using sum of first n terms of Taylor Series. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
From Wikipedia,  
In mathematics, a Taylor series is a representation of a function as an infinite sum of terms that are calculated from the values of the function's derivatives at a single point.  
Example:  
The Taylor series for any polynomial is the polynomial itself.  
  
The above expansion holds because the derivative of ex with respect to x is also ex, and e0 equals 1.  
This leaves the terms (x − 0)n in the numerator and n! in the denominator for each term in the infinite sum.  
Example 1:  
Input: n = 25  
float x= 5.0  
Output: e^x = 148.413162  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-24.php)

**25.** Write a C program to print all prime factors of a given number. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
Example 1:  
Input: n = 75  
Output: All prime factors of 75 are: 3 5 5  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-25.php)

**26.** Write a C program to check if a given number is Fibonacci number or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
In mathematics, the Fibonacci numbers, commonly denoted Fn form a sequence, called the Fibonacci sequence, such that each number is the sum of the two preceding ones, starting from 0 and 1. That is, and for n > 1. By starting with 1 and 2, the first 10 terms will be: 1, 2, 3, 5, 8, 13, 21, 34, 55, 89.  
Example 1:  
Input: n = 8  
Output: 1  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-26.php)

**27.** Write a C program to multiply two numbers using bitwise operators. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
  
Example 1:  
Input: int x = 8  
int y = 9  
Output: Product of 8 and 9 using bitwise operators is: 72  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-27.php)

**28.** Write a C program to find angle between given hour and minute hands. [Go to the editor](https://www.w3resource.com/c-programming-exercises/math/index.php#editorr)  
  
Example 1:  
Input: int ha = 11  
int ma = 30 Output: Angle between hour and minute hands 165  
[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/math/c-math-exercise-28.php)

# C Programming Exercises, Practice, Solution : Function

Last update on February 26 2020 08:07:27 (UTC/GMT +8 hours)

## C Function [12 exercises with solution]

**1.**Write a program in C to show the simple structure of a function.[Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Expected Output :

The total is : 11

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-1.php)

**2.**Write a program in C to find the square of any number using the function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Test Data :  
Input any number for square : 20  
Expected Output :

The square of 20 is : 400.00

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-2.php)

**3.**Write a program in C to swap two numbers using function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Test Data :  
Input 1st number : 2  
Input 2nd number : 4  
Expected Output :

Before swapping: n1 = 2, n2 = 4

After swapping: n1 = 4, n2 = 2

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-3.php)

**4.**Write a program in C to check a given number is even or odd using the function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Test Data :  
Input any number : 5  
Expected Output :

The entered number is odd.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-4.php)

**5.**Write a program in C to find the sum of the series 1!/1+2!/2+3!/3+4!/4+5!/5 using the function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Expected Output :

The sum of the series is : 34

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-5.php)

**6.**Write a program in C to convert decimal number to binary number using the function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Test Data :  
Input any decimal number : 65  
Expected Output :

The Binary value is : 1000001

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-6.php)

**7.**Write a program in C to check whether a number is a prime number or not using the function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Test Data :  
Input a positive number : 5  
Expected Output :

The number 5 is a prime number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-7.php)

**8.**Write a program in C to get the largest element of an array using the function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Test Data :  
Input the number of elements to be stored in the array :5  
Input 5 elements in the array :  
element - 0 : 1  
element - 1 : 2  
element - 2 : 3  
element - 3 : 4  
element - 4 : 5  
Expected Output :

The largest element in the array is : 5

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-8.php)

**9.**Write a program in C to check armstrong and perfect numbers using the function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Test Data :  
Input any number: 371  
Expected Output :

The 371 is an Armstrong number.

The 371 is not a Perfect number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-9.php)

**10.**Write a program in C to print all perfect numbers in given range using the function. [Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Test Data :  
Input lowest search limit of perfect numbers : 1  
Input lowest search limit of perfect numbers : 100  
Expected Output :

The perfect numbers between 1 to 100 are :

6 28

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-10.php)

**11.**Write a program in C to check whether two given strings are an anagram. [Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Test Data :  
Input the first String : spare  
Input the second String : pears  
Expected Output :

spare and pears are Anagram.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-11.php)

**12.** Write a C programming to find out maximum and minimum of some values using function which will return an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/function/index.php#editorr)  
Test Data :  
Input 5 values  
25  
11  
35  
65  
20  
Expected Output :

Number of values you want to input: Input 5 values

Minimum value is: 11

Maximum value is: 65

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/function/c-function-exercise-12.php)

# C Programming Exercises, Practice, Solution : Recursion

Last update on February 26 2020 08:07:28 (UTC/GMT +8 hours)

## C Recursion [21 exercises with solution]

**1.** Write a program in C to print first 50 natural numbers using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Expected Output :

The natural numbers are : 1 2 3

4 5 6 7 8 9 10 11 12 13

14 15 16 17 18 19 20 21

22 23 24 25 26 27 28 29 30

31 32 33 34 35 36 37 38

39 40 41 42 43 44 45 46 47

48 49 50

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-1.php)

**2.** Write a program in C to calculate the sum of numbers from 1 to n using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input the last number of the range starting from 1 : 5  
Expected Output :

The sum of numbers from 1 to 5 :

15

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-2.php)

**3.** Write a program in C to Print Fibonacci Series using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input number of terms for the Series (< 20) : 10  
Expected Output :

Input number of terms for the Series (< 20) : 10

The Series are :

1 1 2 3 5 8 13 21 34 55

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-3.php)

**4.** Write a program in C to print the array elements using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input the number of elements to be stored in the array :6  
Input 6 elements in the array :  
element - 0 : 2  
element - 1 : 4  
element - 2 : 6  
element - 3 : 8  
element - 4 : 10  
element - 5 : 12  
Expected Output :

The elements in the array are : 2 4 6 8 10 12

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-4.php)

**5.** Write a program in C to count the digits of a given number using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input a number : 50  
Expected Output :

The number of digits in the number is : 2

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-5.php)

**6.** Write a program in C to find the sum of digits of a number using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input any number to find sum of digits: 25  
Expected Output :

The Sum of digits of 25 = 7

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-6.php)

**7.** Write a program in C to find GCD of two numbers using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input 1st number: 10  
Input 2nd number: 50  
Expected Output :

The GCD of 10 and 50 is: 10

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-7.php)

**8.** Write a program in C to get the largest element of an array using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input the number of elements to be stored in the array :5  
Input 5 elements in the array :  
element - 0 : 5  
element - 1 : 10  
element - 2 : 15  
element - 3 : 20  
element - 4 : 25  
Expected Output :

Largest element of an array is: 25

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-8.php)

**9.** Write a program in C to reverse a string using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input any string: w3resource  
Expected Output :

The reversed string is: ecruoser3w

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-9.php)

**10.** Write a program in C to find the Factorial of a number using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input a number : 5  
Expected Output :

The Factorial of 5 is : 120

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-10.php)

**11.** Write a program in C to convert a decimal number to binary using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input any decimal number : 66  
Expected Output :

The Binary value of decimal no. 66 is : 1000010

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-11.php)

**12.** Write a program in C to check a number is a prime number or not using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input any positive number : 7  
Expected Output :

The number 7 is a prime number.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-12.php)

**13.** Write a program in C to find the LCM of two numbers using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input 1st number for LCM : 4  
Input 2nd number for LCM : 6  
Expected Output :

The LCM of 4 and 6 : 12

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-13.php)

**14.** Write a program in C to print even or odd numbers in given range using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input the range to print starting from 1 : 10  
Expected Output :

All even numbers from 1 to 10 are : 2 4 6 8 10

All odd numbers from 1 to 10 are : 1 3 5 7 9

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-14.php)

**15.** Write a program in C to multiply two matrix using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input number of rows for the first matrix : 2  
Input number of columns for the first matrix : 1  
Input number of rows for the second matrix : 1  
Input number of columns for the second matrix : 2  
Input elements in the first matrix :  
element - [0],[0] : 1  
element - [1],[0] : 2  
Input elements in the second matrix :  
element - [0],[0] : 3  
element - [0],[1] : 4  
Expected Output :

Here is the elements of First matrix :

1

2

Here is the elements of Second matrix :

3 4

The multiplication of two matrix is :

3 4

6 8

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-15.php)

**16.** Write a program in C to Check whether a given String is Palindrome or not. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input a word to check for palindrome : mom  
Expected Output :

The entered word is a palindrome.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-16.php)

**17.** Write a program in C to calculate the power of any number using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input the base value : 2  
Input the value of power : 6  
Expected Output :

The value of 2 to the power of 6 is : 64

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-17.php)

**18.** Write a program in C to find the Hailstone Sequence of a given number upto 1. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input any number (positive) to start for Hailstone Sequence : 13  
Expected Output :

The hailstone sequence starting at 13 is :

13 40 20 10 5 16 8 4 2 1

The length of the sequence is 10.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-18.php)

**19.** Write a program in C to copy One string to another using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input the string to copy : w3resource  
Expected Output :

The string successfully copied.

The first string is : w3resource

The copied string is : w3resource

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-19.php)

**20.** Write a program in C to find the first capital letter in a string using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input a string to including one or more capital letters : testString  
Expected Output :

The first capital letter appears in the string testString is S.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-20.php)

**21.** Write a program in C for binary search using recursion. [Go to the editor](https://www.w3resource.com/c-programming-exercises/recursion/index.php#editorr)  
Test Data :  
Input the number of elements to store in the array :3  
Input 3 numbers of elements in the array in ascending order :  
element - 0 : 15  
element - 1 : 25  
element - 2 : 35  
Input the number to search : 35  
Expected Output :

The search number found in the array.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/recursion/c-recursion-exercise-21.php)

# C Programming Exercises, Practice, Solution : File Handling

Last update on February 26 2020 08:07:27 (UTC/GMT +8 hours)

## C File Handling [15 exercises with solution]

**1.**Write a program in C to create and store information in a text file. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)  
Test Data :  
Input a sentence for the file : This is the content of the file test.txt.  
Expected Output :

The file test.txt created successfully...!!

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-1.php)

**2.**Write a program in C to read an existing file. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)  
Test Data :  
Input the file name to be opened : test.txt  
Expected Output :

The content of the file test.txt is :

This is the content of the file test.txt.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-2.php)

**3.**Write a program in C to write multiple lines in a text file. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)  
Test Data :  
Input the number of lines to be written : 4  
:: The lines are ::  
test line 1  
test line 2  
test line 3  
test line 4  
Expected Output :

The content of the file test.txt is :

test line 1

test line 2

test line 3

test line 4

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-3.php)

**4.**Write a program in C to read the file and store the lines into an array. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)  
Test Data :  
Input the file name to be opened : test.txt  
Expected Output :

The content of the file test.txt are :

test line 1

test line 2

test line 3

test line 4

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-4.php)

**5.**Write a program in C to Find the Number of Lines in a Text File. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)  
Test Data :  
Input the file name to be opened : test.txt  
Expected Output :

The lines in the file test.txt are : 4

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-5.php)

**6.**Write a program in C to find the content of the file and number of lines in a Text File. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)  
Test Data :  
Input the filen ame to be opened : test.txt  
Expected Output :

The content of the file test.txt are :

test line 1

test line 2

test line 3

test line 4

The lines in the file are : 4

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-6.php)

**7.**Write a program in C to count a number of words and characters in a file. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)  
Test Data :  
Input the file name to be opened : test.txt  
Expected Output :

The content of the file test.txt are :

test line 1

test line 2

test line 3

test line 4

The number of words in the file test.txt are : 12

The number of characters in the file test.txt are : 36

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-7.php)

**8.**Write a program in C to delete a specific line from a file. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)

Assume that the content of the file test.txt is :

test line 1

test line 2

test line 3

test line 4

Test Data :  
Input the file name to be opened : test.txt  
Input the line you want to remove : 2  
Expected Output :

The content of the file test.txt is :

test line 1

test line 3

test line 4

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-8.php)

**9.**Write a program in C to replace a specific line with another text in a file. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)

Assume that the content of the file test.txt is :

test line 1

test line 2

test line 3

test line 4

Test Data :  
Input the file name to be opened : test.txt  
Input the content of the new line : Yes, I am the new text instead of test line 2  
Input the line no you want to replace : 2  
Expected Output :

Replacement did successfully..!!

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-9.php)

**10.**Write a program in C to append multiple lines at the end of a text file. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)

Assume that the content of the file test.txt is :

test line 1

test line 2

test line 3

test line 4

Test Data :  
Input the file name to be opened : test.txt  
Input the number of lines to be written : 3  
The lines are :  
test line 5  
test line 6  
test line 7  
Expected Output :

The content of the file test.txt is :

test line 1

test line 2

test line 3

test line 4

test line 5

test line 6

test line 7

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-10.php)

**11.**Write a program in C to copy a file in another name. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)

Assume that the content of the file test.txt is :

test line 1

test line 2

test line 3

test line 4

Test Data :  
Input the source file name : test.txt  
Input the new file name : test1.txt  
Expected Output :

The file test.txt copied successfully in the file test1.txt.

If you read the new file you will see the content of the file :

test line 1

test line 2

test line 3

test line 4

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-11.php)

**12.**Write a program in C to merge two files and write it in a new file. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)

Assume that the content of the file test.txt and test1.txr is :

The content of the file test.txt is :

This is the file test.txt.

The content of the file test1.txt is :

This is the file test1.txt.

Test Data :  
Input the 1st file name : test.txt  
Input the 2nd file name : test1.txt  
Input the new file name where to merge the above two files : mergefiles.txt  
Expected Output :

The two files merged into mergefiles.txt file successfully..!!

Here is the content of the merge file mergefiles.txt :

The content of the file mergefiles.txt is :

This is the file test.txt.

This is the file test1.txt.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-12.php)

**13.**Write a program in C to encrypt a text file. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)

Assume that, the content of the file test.txt is :

Welcome to w3resource.com.

Test Data :  
Input the name of file to encrypt : test.txt  
Expected Output :

File test.txt successfully encrypted ..!!

If you read the file test.txt you will see the following :

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[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-13.php)

**14.**Write a program in C to decrypt a previously encrypted file file. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)

Assume that, the content of the file test.txt was :

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After encryption, the content of the file is :

Welcome to w3resource.com.

Test Data :  
Input the name of file to decrypt : test.txt  
Expected Output :

The file test.txt decrypted successfully..!!

Now, if you read the file test.txt you will see the following :

Welcome to w3resource.com.

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-14.php)

**15.**Write a program in C to remove a file from the disk. [Go to the editor](https://www.w3resource.com/c-programming-exercises/file-handling/index.php#editorr)  
Test Data :  
Input the name of file to delete : test.txt  
Expected Output :

The file test.txt is deleted successfully..!!

[Click me to see the solution](https://www.w3resource.com/c-programming-exercises/file-handling/c-file-handling-exercise-15.php)