C For Loop [59 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 display the first 10 natural numbers. Go to the editor
Expected Output :
1 2 3 4 5 6 7 8 9 10
Click me to see the solution

2. Write a C program to find the sum of first 10 natural numbers. Go to the editor
Expected Output :
The first 10 natural number is :
1 2 3 4 5 6 7 8 9 10
The Sum is : 55
Click me to see the solution

3. Write a program in C to display n terms of natural number and their sum. Go to the editor
Test Data : 7
Expected Output :
The first 7 natural number is :
1 2 3 4 5 6 7
The Sum of Natural Number upto 7 terms : 28
Click me to see the solution

4. Write a program in C to read 10 numbers from keyboard and find their sum and average. Go to the editor
Test Data :
Input the 10 numbers :
Number-1 :2
...
Number-10 :2
Expected Output :
The sum of 10 no is : 55
The Average is : 5.500000
Click me to see the solution

5. Write a program in C to display the cube of the number upto given an integer. Go to the editor

Test Data :
Input number of terms : 5
Expected Output :
Number is : 1 and cube of the 1 is :1
Number is : 2 and cube of the 2 is :8
Number is : 3 and cube of the 3 is :27
Number is : 4 and cube of the 4 is :64
Number is : 5 and cube of the 5 is :125
Click me to see the solution

6. Write a program in C to display the multiplication table of a given integer. Go to the editor
Test Data :
Input the number (Table to be calculated) : 15
Expected Output :
15 X 1 = 15
...
...
15 X 10 = 150
Click me to see the solution

7. Write a program in C to display the multiplication table vertically from 1 to n. Go to the editor
Test Data :
Input upto the table number starting from 1 : 8
Expected Output :
Multiplication table from 1 to 8
1x1 = 1, 2x1 = 2, 3x1 = 3, 4x1 = 4, 5x1 = 5, 6x1 = 6, 7x1 = 7, 8x1 = 8
...
1x10 = 10, 2x10 = 20, 3x10 = 30, 4x10 = 40, 5x10 = 50, 6x10 = 60, 7x10 = 70, 8x10 = 80
Click me to see the solution

8. Write a program in C to display the n terms of odd natural number and their sum . Go to the editor
Test Data
Input number of terms : 10
Expected Output :

The odd numbers are :1 3 5 7 9 11 13 15 17 19
The Sum of odd Natural Number upto 10 terms : 100
Click me to see the solution

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

The pattern like :

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

Click me to see the solution

10. Write a program in C to display the pattern like right angle triangle with a number. Go to the editor

The pattern like :

```
1
12
123
1234
```

Click me to see the solution

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

The pattern like :

```
 1
 22
 333
 4444
```

Click me to see the solution

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

The pattern like :

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

Click me to see the solution

13. Write a program in C to make such a pattern like a pyramid with numbers increased by 1. Go to the editor

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

Click me to see the solution

14. Write a program in C to make such a pattern like a pyramid with an asterisk. Go to the editor

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

Click me to see the solution

15. Write a C program to calculate the factorial of a given number. Go to the editor
Test Data :
Input the number : 5
Expected Output :
The Factorial of 5 is: 120
Click me to see the solution

16. Write a program in C to display the n terms of even natural number and their sum. Go to the editor
Test Data :
Input number of terms : 5
Expected Output :
The even numbers are :2 4 6 8 10
The Sum of even Natural Number upto 5 terms : 30
Click me to see the solution

17. Write a 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

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

Click me to see the solution

18. Write a program in C to find the sum of the series [1-X^2/2!+X^4/4!- .....]. Go to the editor
Test Data :
Input the Value of x :2
Input the number of terms : 5
Expected Output :
the sum = -0.415873
Number of terms = 5
value of x = 2.000000
Click me to see the solution

19. Write a program in C to display the n terms of harmonic series and their sum. Go to the editor
1 + 1/2 + 1/3 + 1/4 + 1/5 ... 1/n terms
Test Data :
Input the number of terms : 5
Expected Output :
1/1 + 1/2 + 1/3 + 1/4 + 1/5 +
Sum of Series upto 5 terms : 2.283334
Click me to see the solution

20. Write a 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

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

Click me to see the solution

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

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

```
1
01
101
0101
10101
```

Click me to see the solution

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

24. Write a program in C to find the sum of the series [x - x^3 + x^5 + ...]. Go to the editor
Test Data :
Input the value of x :2
Input number of terms : 5
Expected Output :
The values of the series:
2
-8
32
-128
512

The sum = 410
Click me to see the solution

25. Write a program in C to display the n terms of square natural number and their sum. Go to the editor
1 4 9 16 ... n Terms
Test Data :
Input the number of terms : 5
Expected Output :
The square natural upto 5 terms are :1 4 9 16 25
The Sum of Square Natural Number upto 5 terms = 55
Click me to see the solution

26. Write a program in C to find the sum of the series 1 +11 + 111 + 1111 + .. n terms. Go to the editor
Test Data :
Input the number of terms : 5
Expected Output :
1 + 11 + 111 + 1111 + 11111
The Sum is : 12345
Click me to see the solution

27. Write a c program to check whether a given number is a perfect number or not. Go to the editor
Test Data :
Input the number : 56
Expected Output :
The positive divisor : 1 2 4 7 8 14 28
The sum of the divisor is : 64
So, the number is not perfect.
Click me to see the solution

28. Write a c program to find the perfect numbers within a given number of range. Go to the editor
Test Data :
Input the starting range or number : 1
Input the ending range of number : 50
Expected Output :

The Perfect numbers within the given range : 6 28
Click me to see the solution

29. Write a C program to check whether a given number is an armstrong number or not. Go to the editor
Test Data :
Input a number: 153
Expected Output :
153 is an Armstrong number.
Click me to see the solution

30. Write a C program to find the Armstrong number for a given range of number. Go to the editor
Test Data :
Input starting number of range: 1
Input ending number of range : 1000
Expected Output :
Armstrong numbers in given range are: 1 153 370 371 407
Click me to see the solution

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

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

Click me to see the solution

32. Write a C program to determine whether a given number is prime or not. Go to the editor
Test Data :
Input a number: 13
Expected Output :
13 is a prime number.
Click me to see the solution

33. Write a C program to display Pascal's triangle. Go to the editor
Test Data :
Input number of rows: 5
Expected Output :

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

Click me to see the solution

34. Write a program in C to find the prime numbers within a range of numbers. Go to the editor
Test Data :
Input starting number of range: 1
Input ending number of range : 50
Expected Output :
The prime number between 1 and 50 are :
2 3 5 7 11 13 17 19 23 29 31 37 41 43 47
Click me to see the solution

35. Write a program in C to display the first n terms of Fibonacci series. Go to the editor
Fibonacci series 0 1 2 3 5 8 13 .....
Test Data :
Input number of terms to display : 10
Expected Output :
Here is the Fibonacci series upto to 10 terms :
0 1 1 2 3 5 8 13 21 34
Click me to see the solution

36. Write a 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

```
  1
 121
12321
```

Click me to see the solution

37. Write a program in C to display the number in reverse order. Go to the editor
Test Data :
Input a number: 12345
Expected Output :
The number in reverse order is : 54321
Click me to see the solution

38. Write a program in C to check whether a number is a palindrome or not. Go to the editor
Test Data :
Input a number: 121
Expected Output :
121 is a palindrome number.
Click me to see the solution

39. Write a program in C to find the number and sum of all integer between 100 and 200 which are divisible by 9. Go to the editor
Expected Output :
Numbers between 100 and 200, divisible by 9 :
108 117 126 135 144 153 162 171 180 189 198
The sum : 1683
Click me to see the solution

40. Write a C Program to display the pattern like pyramid using the alphabet. Go to the editor

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

Click me to see the solution

41. Write a program in C to convert a decimal number into binary without using an array. Go to the editor
Test Data :
Input a decimal number: 25
Binary number equivalent to said decimal number is: 00000000000000000000000000011001
Click me to see the solution

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
Test Data :
Input a binary number :1010101
Expected Output :
The Binary Number : 1010101
The equivalent Decimal Number : 85
Click me to see the solution

43. Write a C program to find HCF (Highest Common Factor) of two numbers. Go to the editor
Test Data :
Input 1st number for HCF: 24
Input 2nd number for HCF: 28
Expected Output :
HCF of 24 and 28 is : 4
Click me to see the solution

44. Write a program in C to find LCM of any two numbers using HCF. Go to the editor
Test Data :
Input 1st number for LCM: 15
Input 2nd number for LCM: 20
Expected Output :
The LCM of 15 and 20 is : 60
Click me to see the solution

45. Write a program in C to find LCM of any two numbers. Go to the editor
Test Data :
Input 1st number for LCM: 15
Input 2nd number for LCM: 20
Expected Output :
The LCM of 15 and 20 is : 60
Click me to see the solution

46. Write a program in C to convert a binary number into a decimal number using math function. Go to the editor
Test Data :
Input the binary number :1010100
Expected Output :

The Binary Number : 1010100
The equivalent Decimal Number is : 84
Click me to see the solution

47. Write a C program to check whether a number is a Strong Number or not. Go to the editor
Test Data :
Input a number to check whether it is Strong number: 15
Expected Output :
15 is not a Strong number.
Click me to see the solution

48. Write a C program to find Strong Numbers within a range of numbers. Go to the editor
Test Data :
Input starting range of number : 1
Input ending range of number: 200
Expected Output :
The Strong numbers are :
1 2 145
Click me to see the solution

49. Write a c program to find out the sum of an A.P. series. Go to the editor
Test Data :
Input the starting number of the A.P. series: 1
Input the number of items for the A.P. series: 10
Input the common difference of A.P. series: 4
Expected Output :
The Sum of the A.P. series are :
1 + 5 + 9 + 13 + 17 + 21 + 25 + 29 + 33 + 37 = 190
Click me to see the solution

50. Write a program in C to convert a decimal number into octal without using an array. Go to the editor
Test Data :
Enter a number to convert : 79
Expected Output :
The Octal of 79 is 117.
Click me to see the solution

51. Write a program in C to convert an octal number to a decimal without using an array. Go to the editor
Test Data :
Input an octal number (using digit 0 - 7) :745
Expected Output :
The Octal Number : 745
The equivalent Decimal Number : 485
Click me to see the solution

52. Write a program in c to find the Sum of GP series. Go to the editor
Test Data :
Input the first number of the G.P. series: 3
Input the number or terms in the G.P. series: 5
Input the common ratio of G.P. series: 2
Expected Output :
The numbers for the G.P. series:
3.000000 6.000000 12.000000 24.000000 48.000000
The Sum of the G.P. series : 93.000000
Click me to see the solution

53. Write a program in C to convert a binary number to octal. Go to the editor
Test Data :
Input a binary number :1001
Expected Output :
The Binary Number : 1001
The equivalent Octal Number : 11
Click me to see the solution

54. Write a program in C to convert an octal number into binary. Go to the editor
Test Data :
Input an octal number (using digit 0 - 7) :57
Expected Output :
The Octal Number : 57
The equivalent Binary Number : 101111

Click me to see the solution

55. Write a program in C to convert a decimal number to hexadecimal. Go to the editor
Test Data :

Input any Decimal number: 79
Expected Output :
The equivalent Hexadecimal Number : 4F
Click me to see the solution

56. Write a program in C to Check Whether a Number can be Express as Sum of Two Prime Numbers. Go to the editor
Test Data :
Input a positive integer: 16
Expected Output :
16 = 3 + 13
16 = 5 + 11
Click me to see the solution

57. Write a program in C to print a string in reverse order. Go to the editor
Test Data :
Input a string to reverse : Welcome
Expected Output :
Reversed string is: emocleW
Click me to see the solution

58. Write a C program to find the length of a string without using the library function. Go to the editor
Test Data :
Input a string : welcome
Expected Output :
The string contains 7 number of characters.
So, the length of the string welcome is : 7
Click me to see the solution

59. Write a program in C to check Armstrong number of n digits. Go to the editor
Test Data :
Input an integer : 1634
Expected Output :
1634 is an Armstrong number
Click me to see the solution

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
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

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
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

3. Write a program in C to find the sum of all elements of the array. Go to the editor
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

4. Write a program in C to copy the elements of one array into another array. Go to the editor
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

5. Write a program in C to count a total number of duplicate elements in an array. Go to the editor
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

6. Write a program in C to print all unique elements in an array. Go to the editor
Test Data :
Print all unique elements of an array:

Input the number of elements to be stored in the array: 4
Input 4 elements in the array :
element - 0 : 3
element - 1 : 2
element - 2 : 2
element - 3 : 5
Expected Output :

The unique elements found in the array are:
3 5
Click me to see the solution

7. Write a program in C to merge two arrays of same size sorted in decending order. Go to the editor
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

8. Write a program in C to count the frequency of each element of an array. Go to the editor
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

9. Write a program in C to find the maximum and minimum element in an array. Go to the editor
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

10. Write a program in C to separate odd and even integers in separate arrays. Go to the editor
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

11. Write a program in C to sort elements of array in ascending order. Go to the editor
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

12. Write a program in C to sort elements of the array in descending order. Go to the editor
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

13. Write a program in C to insert New value in the array (sorted list).. Go to the editor
Test Data :
Insert New value in the sorted array :

Input the size of array : 5
Input 5 elements in the array in ascending order:
element - 0 : 2
element - 1 : 5
element - 2 : 7
element - 3 : 9
element - 4 : 11
Input the value to be inserted : 8
The exist array list is :
2 5 7 9 11
After Insert the list is :
2 5 7 8 9 11

Process exited after 39.33 seconds with return value 10

Press any key to continue . . .
Click me to see the solution

14. Write a program in C to insert New value in the array (unsorted list). Go to the editor
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

15. Write a program in C to delete an element at desired position from an array. Go to the editor
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

16. Write a program in C to find the second largest element in an array. Go to the editor
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

17. Write a program in C to find the second smallest element in an array. Go to the editor
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

18. Write a program in C for a 2D array of size 3x3 and print the matrix. Go to the editor
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

19. Write a program in C for addition of two Matrices of same size. Go to the editor
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

20. Write a program in C for subtraction of two Matrices. Go to the editor
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

21. Write a program in C for multiplication of two square Matrices. Go to the editor
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

22. Write a program in C to find transpose of a given matrix. Go to the editor
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

23. Write a program in C to find sum of right diagonals of a matrix.Go to the editor
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

24. Write a program in C to find the sum of left diagonals of a matrix. Go to the editor
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

25. Write a program in C to find sum of rows an columns of a Matrix. Go to the editor
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

26. Write a program in C to print or display the lower triangular of a given matrix. Go to the editor
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

27. Write a program in C to print or display upper triangular matrix. Go to the editor
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

28. Write a program in C to calculate determinant of a 3 x 3 matrix. Go to the editor
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

29. Write a program in C to accept a matrix and determine whether it is a sparse matrix. Go to the editor
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

30. Write a program in C to accept two matrices and check whether they are equal. Go to the editor
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

31. Write a program in C to check whether a given matrix is an identity matrix. Go to the editor
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

32. Write a program in C to find a pair with given sum in the array. Go to the editor
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

33. Write a program in C to find the majority element of an array. Go to the editor
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

34. Write a program in C to find the number occurring odd number of times in an array. Go to the editor
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

35. Write a program in C to find the largest sum of contiguous subarray of an array. Go to the editor
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

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
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

37. Write a program in C to find the pivot element of a sorted and rotated array using binary search. Go to the editor
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

38. Write a program in C to merge one sorted array into another sorted array. Go to the editor
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

39. Write a program in C to rotate an array by N positions. Go to the editor
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

40. Write a program in C to find the ceiling in a sorted array. Go to the editor
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

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
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

42. Write a program in C to find the smallest missing element from a sorted array. Go to the editor
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

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
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

44. Write a program in C to find the two repeating elements in a given array. Go to the editor
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

45. Write a program in C to find two elements whose sum is closest to zero. Go to the editor
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

46. Write a program in C to find the smallest positive number missing from an unsorted array. Go to the editor
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

47. Write a program in C to find a subarray with given sum from the given array. Go to the editor
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

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
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

49. Write a program in C to find majority element of an array. Go to the editor
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

50. Write a program in C to print a matrix in spiral form. Go to the editor
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

51. Write a program in C to find the maximum circular subarray sum of a given array. Go to the editor
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

52. Write a program in C to count the number of triangles can be fromed from a given array. Go to the editor
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

53. Write a program in C to find the number of times (frequency) occurs a given number in an array. Go to the editor
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

54. Write a program in C to sort an array of 0s, 1s and 2s. Go to the editor
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

55. Write a program in C to check whether an array is subset of another array. Go to the editor
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

56. Write a program in C to return the minimum number of jumps to reach the end of the array. Go to the editor
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

57. Write a program in C to find minimum element in a sorted and rotated array. Go to the editor
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

58. Write a program in C to move all zeroes to the end of a given array. Go to the editor
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

59. Write a program in C to return the counting sort on an array. Go to the editor
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

60. Write a program in C to find the row with maximum number of 1s. Go to the editor
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

61. Write a program in C to find maximum product subarray in a given array. Go to the editor
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

62. Write a program in C to find the largest subarray with equal number of 0s and 1s. Go to the editor
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

63. Write a program in C to replace every element with the greatest element on its right side. Go to the editor
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

64. Write a program in C to find the median of two sorted arrays of same size. Go to the editor
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

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
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

66. Write a program in C to count the number of inversion in a given array. Go to the editor
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

67. Write a program in C to search an element in a row wise and column wise sorted matrix. Go to the editor
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

68. Write a program in C to return maximum sum such that no two elements are adjacent. Go to the editor
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

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
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

70. Write a program in C to find two numbers that occur odd number of times in an array. Go to the editor
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

71. Write a program in C to find the median of two sorted arrays of different size. Go to the editor
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

72. Write a program in C to return only the unique rows from a given binary matrix. Go to the editor
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

73. Write a program in C to print all unique elements of an unsorted array. Go to the editor
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

74. Write a program in C to find the sum of upper triangular elements of a matrix. Go to the editor
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

75. Write a program in C to find the sum of lower triangular elements of a matrix. Go to the editor
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

76. Write a program in C to find largest number possible from the set of given numbers. Go to the editor
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

77. Write a program in C to generate a random permutation of array elements. Go to the editor
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

78. Write a program in C to find four array elements whose sum is equal to given number. Go to the editor
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

79. Write a program in C to sort n numbers in range from 0 to n^2. Go to the editor
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

80. Write a program in C to count all distinct pairs for a specific difference. Go to the editor
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

81. Write a program in C to find the maximum repeating number in a given array. Go to the editor
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

82. Write a program in C to print all possible combinations of r elements in a given array. Go to the editor
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

83. Write a program in C to find a pair with the given difference. Go to the editor
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

84. Write a program in C to find the minimum distance between two numbers in a given array. Go to the editor
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

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
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

86. Write a program in C find the equilibrium index of an array. Go to the editor
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

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

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

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
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

89. Write a program in C to find maximum size square sub-matrix with all 1s. Go to the editor
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

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
Expected Output:

The Original array is
2 1 4 3 0
4 1 0 3 2
Click me to see the solution

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
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

92. Write a program in C that checks whether the elements in an unsorted array appears consecutively or not. Go to the editor
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

93. Write a program in C to rearrange positive and negative numbers alternatively in a given array.Go to the editor
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

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
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

95. Write a program in C to segregate 0s and 1s in an array. Go to the editor
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

96. Write a program in C to segregate even and odd elements on an array. Go to the editor
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

97. Write a program in C to find the index of first peak element in a given array. Go to the editor
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

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
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

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
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

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
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

101. Write a program in C to rearrange an array such that arr[i]=i. Go to the editor

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

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

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

103. Write a program in C to update every array element with multiplication of previous and next numbers in array. Go to the editor
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

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
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

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
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

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
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

C Pointer [22 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 show the basic declaration of pointer. Go to the editor
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

2. Write a program in C to demonstrate how to handle the pointers in the program. Go to the editor
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

3. Write a program in C to demonstrate the use of &(address of) and *(value at address) operator. Go to the editor

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

4. Write a program in C to add two numbers using pointers. Go to the editor

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

5. Write a program in C to add numbers using call by reference. Go to the editor
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

6. Write a program in C to find the maximum number between two numbers using a pointer. Go to the editor
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

7. Write a program in C to store n elements in an array and print the elements using pointer. Go to the editor
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

8. Write a program in C to print all permutations of a given string using pointers. Go to the editor

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

9. Write a program in C to find the largest element using Dynamic Memory Allocation. Go to the editor

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

10. Write a program in C to Calculate the length of the string using a pointer. Go to the editor

Test Data :

Input a string : w3resource

Expected Output :

```
The length of the given string w3resource
is : 10
```

Click me to see the solution

11. Write a program in C to swap elements using call by reference. Go to the editor

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

12. Write a program in C to find the factorial of a given number using pointers. Go to the editor
Test Data :
Input a number : 5
Expected Output :

```
The Factorial of 5 is : 120
```

Click me to see the solution

13. Write a program in C to count the number of vowels and consonants in a string using a pointer. Go to the editor
Test Data :
Input a string: string
Expected Output :

```
Number of vowels : 1
Number of constant : 5
```

Click me to see the solution

14. Write a program in C to sort an array using Pointer. Go to the editor
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

15. Write a program in C to show how a function returning pointer. Go to the editor

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

16. Write a program in C to compute the sum of all elements in an array using pointers. Go to the editor

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

17. Write a program in C to print the elements of an array in reverse order. Go to the editor

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

18. Write a program in C to show the usage of pointer to structure. Go to the editor

Expected Output :

```
John Alter from Court Street
```

Click me to see the solution

19. Write a program in C to show a pointer to union. Go to the editor

Expected Output :

```
Jhon Mc Jhon Mc
```

Click me to see the solution

20. Write a program in C to show a pointer to an array which contents are pointer to structure. Go to the editor

Expected Output :

```
Exmployee Name : Alex
Employee ID :  1002
```

Click me to see the solution

21. Write a program in C to print all the alphabets using a pointer. Go to the editor
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

22. Write a program in C to print a string in reverse using a pointer. Go to the editor
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

C Conditional Statement [26 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 accept two integers and check whether they are equal or not. Go to the editor
Test Data : 15 15
Expected Output :
Number1 and Number2 are equal
Click me to see the solution

2. Write a C program to check whether a given number is even or odd. Go to the editor
Test Data : 15
Expected Output :
15 is an odd integer
Click me to see the solution

3. Write a C program to check whether a given number is positive or negative. Go to the editor
Test Data : 15
Expected Output :

15 is a positive number
Click me to see the solution

4. Write a C program to find whether a given year is a leap year or not. Go to the editor
Test Data : 2016
Expected Output :
2016 is a leap year.
Click me to see the solution

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
Test Data : 21
Expected Output :
Congratulation! You are eligible for casting your vote.
Click me to see the solution

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
Test Data : -5
Expected Output :
The value of n = -1
Click me to see the solution

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
Test Data : 135
Expected Output :
The person is Dwarf.
Click me to see the solution

8. Write a C program to find the largest of three numbers. Go to the editor
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

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

Test Data : 7 9
Expected Output :
The coordinate point (7,9) lies in the First quadrant.
Click me to see the solution

10. Write a C program to find the eligibility of admission for a professional course based on the following criteria: Go to the editor
Eligibility Criteria : Marks in Maths >=65 and Marks in Phy >=55 and Marks in Chem>=50 and Total in all three subject >=190 or Total in Maths and Physics >=140
---------- Input the marks obtained in Physics :65 Input the marks obtained in Chemistry :51 Input the marks obtained in Mathematics :72 Total marks of Maths, Physics and Chemistry : 188 Total marks of Maths and Physics : 137 The candidate is not eligible.
Expected Output :
The candidate is not eligible for admission.
Click me to see the solution

11. Write a C program to calculate the root of a Quadratic Equation. Go to the editor
Test Data : 1 5 7
Expected Output :
Root are imaginary;
No solution.
Click me to see the solution

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
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

13. Write a C program to read temperature in centigrade and display a suitable message according to temperature state below : Go to the editor
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

14. Write a C program to check whether a triangle is Equilateral, Isosceles or Scalene. Go to the editor
Test Data :
50 50 60
Expected Output :
This is an isosceles triangle.
Click me to see the solution

15. Write a C program to check whether a triangle can be formed by the given value for the angles. Go to the editor
Test Data :
40 55 65
Expected Output :
The triangle is not valid.
Click me to see the solution

16. Write a C program to check whether a character is an alphabet, digit or special character. Go to the editor
Test Data :
@
Expected Output :

This is a special character.
Click me to see the solution

17. Write a C program to check whether an alphabet is a vowel or consonant. Go to the editor
Test Data :
k
Expected Output :
The alphabet is a consonant.
Click me to see the solution

18. Write a C program to calculate profit and loss on a transaction. Go to the editor
Test Data :
500 700
Expected Output :
You can booked your profit amount : 200
Click me to see the solution

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

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

20. Write a program in C to accept a grade and declare the equivalent description : Go to the editor

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

21. Write a program in C to read any day number in integer and display day name in the word. Go to the editor
Test Data :
4

Expected Output :
Thursday
Click me to see the solution

22. Write a program in C to read any digit, display in the word. Go to the editor
Test Data :
4
Expected Output :
Four
Click me to see the solution

23. Write a program in C to read any Month Number in integer and display Month name in the word. Go to the editor
Test Data :
4
Expected Output :
April
Click me to see the solution

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
Test Data :
7
Expected Output :
Month have 31 days
Click me to see the solution

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
Test Data :
1
5
Expected Output :
The area is : 78.500000
Click me to see the solution

26. Write a program in C which is a Menu-Driven Program to perform a simple calculation. Go to the editor
Test Data :

10
2
3
Expected Output :
The Multiplication of 10 and 2 is: 20
Click me to see the solution

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
Expected Output:

```
3
12
```

Click me to see the solution

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
Expected Output:

```
6
21
0
```

Click me to see the solution

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
Expected Output:

```
1
1
0
```

Click me to see the solution

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
Expected Output:

```
1
1
0
```

Click me to see the solution

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
Expected Output:

```
1
1
1
0
```

Click me to see the solution

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
Expected Output:

```
1
1
0
```

Click me to see the solution

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
Expected Output:

```
1
0
1
```

Click me to see the solution

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
Expected Output:

```
1
1
1
0
```

Click me to see the solution

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
Expected Output:

```
1
1
1
0
```

Click me to see the solution

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
Expected Output:

```
95
0
99
```

Click me to see the solution

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
Expected Output:

```
0
0
1
1
```

Click me to see the solution

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
Expected Output:

```
0
30
25
28
```

Click me to see the solution

13. Write a C program to check if two given non-negative integers have the same last digit. Go to the editor
Expected Output:

```
0
1
1
0
```

Click me to see the solution

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
Expected Output:

```
1
0
1
```

Click me to see the solution

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
Expected Output:

```
1
2
1
```

Click me to see the solution

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
Expected Output:

```
0
0
1
```

Click me to see the solution

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
Expected Output:

```
29
30
39
30
```

Click me to see the solution

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
Expected Output:

```
1
0
1
```

Click me to see the solution

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
Expected Output:

```
1
1
1
0
```

Click me to see the solution

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
Expected Output:

```
1
1
0
```

Click me to see the solution

21. Write a C program to check whether a given number is within 2 of a multiple of 10. Go to the editor
Expected Output:

```
0
0
1
1
```

Click me to see the solution

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
Expected Output:

```
10
18
18
241
```

Click me to see the solution

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
Expected Output:

```
1
0
1
```

Click me to see the solution

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
Expected Output:

```
1
1
0
```

Click me to see the solution

25. Write a C program to check whether two or more non-negative given integers have the same rightmost digit. Go to the editor
Expected Output:

```
1
1
0
```

Click me to see the solution

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
Expected Output:

```
1
1
0
```

Click me to see the solution

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
Expected Output:

```
11
20
0
```

Click me to see the solution

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
Expected Output:

```
1
0
1
```

Click me to see the solution

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
Expected Output:

```
16
23
12
18
```

Click me to see the solution

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
Expected Output:

```
16
23
10
0
```

Click me to see the solution

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
Expected Output:

```
16
11
13
13
```

Click me to see the solution

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
Expected Output:

```
5
```

```
12
13
0
```

Click me to see the solution

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
Expected Output:

```
1
0
1
```

Click me to see the solution

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
Expected Output:

```
1
0
0
```

Click me to see the solution

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
Expected Output:

```
1
0
```

Click me to see the solution

36. Write a C program to compute the sum of the elements of a given array of integers. Go to the editor
Expected Output:

```
150
10
```

Click me to see the solution

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
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

38. Write a C program to reverse a given array of integers and length 5. Go to the editor
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

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
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

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
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

41. Write a C program to check whether a given array of integers of length 2, contains 15 or 20. Go to the editor
Expected Output:

```
1
```

```
1
0
```

Click me to see the solution

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
Expected Output:

```
0
0
1
```

Click me to see the solution

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
Expected Output:

```
0
1
0
```

Click me to see the solution

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
Expected Output:

```
Elements in original array are: 1, 5, 7
Elements in new array are: 1, 5, 1
```

Click me to see the solution

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
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

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
Expected Output:

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

Click me to see the solution

47. Write a C program to create a new array from two given array of integers, each length 3. Go to the editor
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

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
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

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
Expected Output:

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

Click me to see the solution

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
Expected Output:

```
1
9
9
```

Click me to see the solution

51. Write a C program to count number of even elements in a given array of integers. Go to the editor
Expected Output:

```
3
```

Click me to see the solution

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
Expected Output:

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

Click me to see the solution

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
Expected Output:

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

Click me to see the solution

54. Write a C program to check whether a given array of integers contains 5 next to a 5 somewhere. Go to the editor
Expected Output:

```
0
1
1
```

Click me to see the solution

55. Write a C program to check whether a given array of integers contains 5's and 7's. Go to the editor
Expected Output:

```
1
0
1
```

Click me to see the solution

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
Expected Output:

```
0
1
0
```

Click me to see the solution

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
Expected Output:

```
1
0
0
```

Click me to see the solution

58. Write a C program to check whether a given array of integers contains a 3 or a 5.Go to the editor
Expected Output:

```
1
0
1
```

Click me to see the solution

59. Write a C program to check whether a given array of integers contains no 3 or a 5. Go to the editor
Expected Output:

```
1
1
0
1
```

Click me to see the solution

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
Expected Output:

```
1
0
1
```

Click me to see the solution

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
Expected Output:

```
1
0
1
```

Click me to see the solution

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
Expected Output:

```
0
1
0
```

Click me to see the solution

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
Expected Output:

```
0
1
1
```

Click me to see the solution

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
Expected Output:

```
1
0
1
0
```

Click me to see the solution

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
Expected Output:

```
1
0
1
1
```

Click me to see the solution

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
Expected Output:

```
1
0
1
```

Click me to see the solution

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
Expected Output:

```
1
0
1
```

Click me to see the solution

68. Write a C program to shift an element in left direction and return a new array. Go to the editor
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

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
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

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
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

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
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

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
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

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
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

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
Expected Output:

```
0
1
1
```

Click me to see the solution

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
Expected Output:

```
1
0
1
```

Click me to see the solution

C File Handling [15 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 create and store information in a text file. Go to the editor
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

2. Write a program in C to read an existing file. Go to the editor
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

3. Write a program in C to write multiple lines in a text file. Go to the editor

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

4. Write a program in C to read the file and store the lines into an array. Go to the editor

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

5. Write a program in C to Find the Number of Lines in a Text File. Go to the editor

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

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

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

7. Write a program in C to count a number of words and characters in a file. Go to the editor

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

8. Write a program in C to delete a specific line from a file. Go to the editor

```
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

9. Write a program in C to replace a specific line with another text in a file. Go to the editor

```
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

10. Write a program in C to append multiple lines at the end of a text file. Go to the editor

```
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

11. Write a program in C to copy a file in another name. Go to the editor

```
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

12. Write a program in C to merge two files and write it in a new file. Go to the editor

```
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

13. Write a program in C to encrypt a text file. Go to the editor

```
 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 :

```
[illegible]
```

Click me to see the solution

14. Write a program in C to decrypt a previously encrypted file file. Go to the editor

```
 Assume that, the content of the file test.txt was  :
[illegible]

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

15. Write a program in C to remove a file from the disk. Go to the editor
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

C Programming Code Editor:

C String [34 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 input a string and print it. Go to the editor

Test Data :
Input the string : Welcome, w3resource

Expected Output :

```
The string you entered is : Welcome, w3resource
```

Click me to see the solution

2. Write a program in C to find the length of a string without using library function. Go to the editor

Test Data :
Input the string : w3resource.com

Expected Output :

```
Length of the string is : 15
```

Click me to see the solution

3. Write a program in C to separate the individual characters from a string. Go to the editor

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

4. Write a program in C to print individual characters of string in reverse order. Go to the editor

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

5. Write a program in C to count the total number of words in a string. Go to the editor

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

6. Write a program in C to compare two strings without using string library functions. Go to the editor

Test Data :
Check the length of two strings:

Input the 1st string : aabbcc
Input the 2nd string : abcdef
String1: aabbcc
String2: abcdef
Expected Output : Strings are not equal.

Check the length of two strings:

Input the 1st string : aabbcc
Input the 2nd string : aabbcc
String1: aabbcc
String2: aabbcc
Expected Output : Strings are equal.

Click me to see the solution

7. Write a program in C to count total number of alphabets, digits and special characters in a string. Go to the editor

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

8. Write a program in C to copy one string to another string. Go to the editor

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

9. Write a program in C to count total number of vowel or consonant in a string. Go to the editor

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

10. Write a program in C to find maximum occurring character in a string. Go to the editor

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

11. Write a C program to sort a string array in ascending order. Go to the editor

Test Data :
Input the string : w3resource

Expected Output :

```
After sorting the string appears like :
3ceeorrsuw
```

Click me to see the solution

12. Write a program in C to read a string through keyboard and sort it using bubble sort. Go to the editor

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

13. Write a program in C to extract a substring from a given string. Go to the editor

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

14. Write a C program to check whether a given substring is present in the given string. Go to the editor

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

15. Write a program in C to read a sentence and replace lowercase characters by uppercase and vice-versa. Go to the editor

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

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

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

17. Write a program in C to remove characters in String Except Alphabets. Go to the editor

Test Data :
Input the string : w3resource.com

Expected Output :

```
After removing the Output String : wresourcecom
```

Click me to see the solution

18. Write a program in C to Find the Frequency of Characters. Go to the editor

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

19. Write a program in C to Concatenate Two Strings Manually. Go to the editor

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

20. Write a program in C to find the largest and smallest word in a string. Go to the editor

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

21. Write a program in C to convert a string to uppercase. Go to the editor

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

22. Write a program in C to convert a string to lowercase. Go to the editor

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

23. Write a program in C to check whether a character is Hexadecimal Digit or not. Go to the editor

Test Data :
Input a character : 7

Expected Output :

```
The entered character is a hexadecimal digit.
```

Click me to see the solution

24. Write a program in C to check whether a letter is uppercase or not. Go to the editor

Test Data :
Input a character : p

Expected Output :

```
The entered letter is not an UPPERCASE letter.
```

Click me to see the solution

25. Write a program in C to replace the spaces of a string with a specific character. Go to the editor

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

26. Write a program in C to count the number of punctuation characters exists in a string. Go to the editor

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

27. Write a program in C to print only the string before new line character. Go to the editor

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

28. Write a program in C to check whether a letter is lowercase or not. Go to the editor

Test Data :
Input a character : w

Expected Output :

```
The entered letter is a lowercase letter.
```

Click me to see the solution

29. Write a program in C to read a file and remove the spaces between two words of its content. Go to the editor

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

30. Write a program in C to check whether a character is digit or not. Go to the editor

Test Data :
Input a character : 8

Expected Output :

```
The entered character is a digit.
```

Click me to see the solution

31. Write a program in C to split string by space into words. Go to the editor

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

32. Write a C programming to find the repeated character in a given string. Go to the editor

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

33. Write a C programming to count of each character in a given string. Go to the editor

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

34. Write a C programming to convert vowels into upper case character in a given string. Go to the editor

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

C Function [12 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 show the simple structure of a function. Go to the editor
Expected Output :

```
The total is :  11
```

Click me to see the solution

2. Write a program in C to find the square of any number using the function. Go to the editor
Test Data :
Input any number for square : 20
Expected Output :

```
The square of 20 is : 400.00
```

Click me to see the solution

3. Write a program in C to swap two numbers using function. Go to the editor
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

4. Write a program in C to check a given number is even or odd using the function. Go to the editor
Test Data :
Input any number : 5
Expected Output :

```
The entered number is odd.
```

Click me to see the solution

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
Expected Output :

```
The sum of the series is : 34
```

Click me to see the solution

6. Write a program in C to convert decimal number to binary number using the function. Go to the editor
Test Data :

Input any decimal number : 65
Expected Output :

```
The Binary value is : 1000001
```

Click me to see the solution

7. Write a program in C to check whether a number is a prime number or not using the function. Go to the editor
Test Data :
Input a positive number : 5
Expected Output :

```
The number 5 is a prime number.
```

Click me to see the solution

8. Write a program in C to get the largest element of an array using the function. Go to the editor
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

9. Write a program in C to check armstrong and perfect numbers using the function. Go to the editor
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

10. Write a program in C to print all perfect numbers in given range using the function. Go to the editor
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

11. Write a program in C to check whether two given strings are an anagram. Go to the editor
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

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
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

C Recursion [21 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 print first 50 natural numbers using recursion. Go to the editor
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

2. Write a program in C to calculate the sum of numbers from 1 to n using recursion. Go to the editor
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

3. Write a program in C to Print Fibonacci Series using recursion. Go to the editor
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

4. Write a program in C to print the array elements using recursion. Go to the editor
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

5. Write a program in C to count the digits of a given number using recursion. Go to the editor
Test Data :
Input a number : 50
Expected Output :

```
The number of digits in the number is :  2
```

Click me to see the solution

6. Write a program in C to find the sum of digits of a number using recursion. Go to the editor
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

7. Write a program in C to find GCD of two numbers using recursion. Go to the editor
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

8. Write a program in C to get the largest element of an array using recursion. Go to the editor
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

9. Write a program in C to reverse a string using recursion. Go to the editor
Test Data :
Input any string: w3resource
Expected Output:

```
The reversed string is: ecruoser3w
```

Click me to see the solution

10. Write a program in C to find the Factorial of a number using recursion. Go to the editor
Test Data :
Input a number : 5
Expected Output:

```
The Factorial of 5 is : 120
```

Click me to see the solution

11. Write a program in C to convert a decimal number to binary using recursion. Go to the editor
Test Data :
Input any decimal number : 66
Expected Output :

```
The Binary value of decimal no. 66 is : 1000010
```

Click me to see the solution

12. Write a program in C to check a number is a prime number or not using recursion. Go to the editor
Test Data :
Input any positive number : 7
Expected Output :

```
The number 7 is a prime number.
```

Click me to see the solution

13. Write a program in C to find the LCM of two numbers using recursion. Go to the editor
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

14. Write a program in C to print even or odd numbers in given range using recursion. Go to the editor
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

15. Write a program in C to multiply two matrix using recursion. Go to the editor
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

16. Write a program in C to Check whether a given String is Palindrome or not. Go to the editor
Test Data :
Input a word to check for palindrome : mom
Expected Output :

```
 The entered word is a palindrome.
```

Click me to see the solution

17. Write a program in C to calculate the power of any number using recursion. Go to the editor
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

18. Write a program in C to find the Hailstone Sequence of a given number upto 1. Go to the editor

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

19. Write a program in C to copy One string to another using recursion. Go to the editor

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

20. Write a program in C to find the first capital letter in a string using recursion. Go to the editor

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

21. Write a program in C for binary search using recursion. Go to the editor

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