

Assignment 3

1. Enter Number and Count the number of steps required to make the Number equal to Zero.

->if Number is Odd decrease one from it

->If Number is Even divide it by 2

Example:

Input:15 Output: 7

2. Write a program to take 2 integers from the user and find the Greatest Common Divisor of two numbers.

Example:

Input: 25 15

Output: 5

Nested Loops Tasks:

3. Write a program to print right triangle number pattern series using loop.

Example:

Input:5

Output:

1

22

333

4444

55555

4. Write a program to print hollow right triangle star pattern series using loop.

Example:

Input rows: 6

output

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5. Write a program to print inverted right triangle star pattern series using loop.

Example:

Input rows: 6

output

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6. Write a program to take a number and find a list of non-prime numbers from 1 to this number.

Example:

Input:25.

Output: 4 6 8 9 10 12 14 15 16 18 20 21 22 24 25.

7. Write a program in C++ to input any number and print it in words.

Example:

Input:8309.

Output: Eight Three Zero Nine

1D Array Tasks: Assume the size of array to be 10 or 5 or as you like:

8. Write a program to input elements in an array from the user and count even and odd elements in the array.

Example:

Input array: 1 2 3 4 5 6 7 8 9 Total

even elements: 4

Total odd elements: 5

9. Write a program to input elements in an array and search whether an element exists in the array or not.

Input elements in array: 10, 12, 20, 25, 13, 10, 9, 40, 60, 5

Element: 25 output Element

found at index 3

10. Write a C++ program to count the number of occurrences of a given number in an array of integers. Example:

Input: 7

Array 5, 7, 8, 8, 5, 8, 7, 7

output : Number of occurrences of 7 : 3

11. Write a program to take 10 numbers from the user and find the second max.

Example:

Input: 5 8 3 11 6 4 2 7 1 9

Output: 9

12. Write a program to input elements in an array and copy all elements of the first array into the second array.

Input array1 elements: 10 1 95 30 45 12 60 89 40 -4

output

Array1 : 10 1 95 30 45 12 60 89 40 -4

Array2 : 10 1 95 30 45 12 60 89 40 -4

13. Given a list of integers, determine whether the sum of its elements is odd or even.

Give your answer as a string matching "odd" or "even".

If the input array is empty, consider it as: [0] (array with a zero).

Examples:

Input: [0]

Output: "even"

Input: [0, 1, 4]

Output: "odd"

Input: [0, -1, -5]

Output: "even"

14. Given an array of integers, return the additive inverse of each. Each positive becomes negative, and the negative becomes positive.

Example (Input => Output):

[1,2,3,4,5] == [-1, -2, -3, -4,-5]

[1, -2,3, -4,5] == [-1,2,-3,4,-5]

15. Given an array of integers, return a new array with each value doubled.

For example:

[1, 2, 3] --> [2, 4, 6]

16. You will be given an array of integers whose elements have both a negative and a positive value, except for one integer that is either only negative or only positive. Your task will be to find that integer.

Examples:

[1, -1, 2, -2, 3] => 3

3 has no matching negative appearance.

[-3, 1, 2, 3, -1, -4, -2] => -4

-4 has no matching positive appearance.

[1, -1, 2, -2, 3, 3] => 3

(The only positive or only negative integer may appear more than once)

17. Write a program to input elements in array then print all unique elements in array.

Input array elements: 1, 2, 3, 5, 1, 5, 20, 2, 12, 10

Output: All unique elements in the array are: 3, 20, 12, 10

18. Write a program to input elements in an array and find two numbers whose sum equals the last element in the array .

Example:

Input: 1, 5, 7, 5, 8, 9, 11, 12

Output:

Array pairs whose sum equal to 12:

1,11

5,7

7,5

19. Write a CPP program to delete an element from an array at a specified position.

Example Input

Input array elements: 10 20 30 40 50 Input

position to delete: 2

Output: Array elements: 10, 30, 40, 50

(hint: you can print the numbers without delete)

BONUS PROBLEMS:

1. Write a program to print an equilateral triangle or Pyramid star pattern series of n rows using a loop. Input rows: 5

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2. Write a program to print a rhombus star pattern of N rows using a loop.

Enter number of rows: 6

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3.

<https://codeforces.com/group/MWSDmqGsZm/contest/219432/problem/W>

4.

<https://codeforces.com/group/MWSDmqGsZm/contest/219432/problem/U>