**Assignment 4**

**NOTE: Make the Size of Any 1D Array 10!**

1.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"

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2.Given a set of numbers, 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]

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

For example:

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

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4.Write a program to read elements in a matrix and find the sum of main diagonal

(Major diagonal) elements of the matrix.

Input array elements:

1 2 3

4 5 6

7 8 9

Output

Sum of main diagonal elements = 15

5.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)

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6.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

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7.Write a program to read elements in two matrices and add elements of both

matrices.

Input

Input elements in 3x3 matrix1:

1 2 3

4 5 6

7 8 9

Input elements in 3x3 matrix2:

9 8 7

6 5 4

3 2 1

Output

Sum of both matrix =

10 10 10

10 10 10

10 10 10

8.Write a program to read elements in a matrix and find the sum of elements of

each row of the matrix.

Input elements in array:

1 2 3

4 5 6

7 8 9

Output

Sum of row 1 = 6

Sum of row 2 = 15

Sum of row 3 = 24

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9.Write a CPP program to read elements in a matrix and check whether the given matrix is a symmetric matrix or not.

**Example**

**Input**

Input matrix elements:

1 2 3

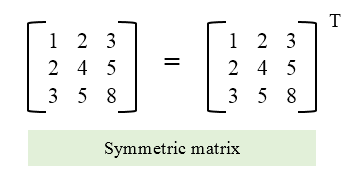
2 4 5

3 5 8

**Output**: Given matrix is a symmetric matrix.

### What is a Symmetric Matrix?

A symmetric matrix is a square matrix which is equal to its transpose. A symmetric matrix is always a square matrix. Symmetric matrix **A** is defined as – **A** = **A**T



10.Create a void function, take an integer then print it then call this method in main

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11.Create a function, take three integers then return the average as float value then

call this method in main.

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12.Write a CPP program to input two or more numbers from the user and find the maximum and minimum of the given numbers using functions.

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13.Write a CPP program to input a number from user and check whether given number is even or odd using functions

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14.Create a function, take an integer then return true if this number is prime otherwise return false

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15.Write a function to find the cube of a given number.

Input any number: 5

Output

Cube of 5 = 125

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16. Write a program to take the radius of circle from user and find the diameter,

circumference and area of the given circle using function.

Input radius: 10

Output

Diameter = 20 units

Circumference = 62.83 units

Area = 314.16 sq. units

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17. create void function to take number and print all divisors of number

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**Bounce:**

Write a CPP program to get the difference between the largest and smallest values in an array of integers. The array must have a length of at least 1.