

Assignment – Day 13

1. Given attributes (x,y,r) for two circles identify if the circles "intersect", "touch" or "Not intersect"

[Marks: 2]

2. Given a string containing just the characters '(', ')', '{', '}', '[' and ']', determine if the input string is valid.

Examples:

Input: "()" Output: Valid

Input: "()[]{}" Output: Valid

Input: "([)]" Output: Not Valid

[Marks: 4]

3. Write a program that takes two matrices as input and does matrix multiplication (Naive approach)

Hint - use 3 nested loops

Example:

Input

Take a 3x3 matrix

A = [[12, 7, 3],
[4, 5, 6],
[7, 8, 9]]

Take a 3x4 matrix

B = [[5, 8, 1, 2],
[6, 7, 3, 0],
[4, 5, 9, 1]]

Output

[114, 160, 60, 27]
[74, 97, 73, 14]
[119, 157, 112, 23]

[Marks: 4]

4. Take a 2X2 square matrix as input and calculate the determinant:

Input -

[[1,2],[3,4]]

Output - (-2)

[Marks: 2]

5. Take a string as input and do the following without using any string functions:

- i. Remove if there are any duplicates
- ii. Remove if there are any special characters
- iii. Change the case of each character

[Marks: 4]