January 2024 CSE 102

Online 1: Conditional Statement (Set 3)

Time: 35 min + Submission: 5 min   Total Mark: 10 + 10 = 20

Problem 1: Check if Two Circles Intersect

Write a C program that checks whether two circles intersect, touch, or are separate. The program should take the center coordinates and radii of both circles as input.

Sample Input and Output Pair

Input	Output
Circle1 Center: 0 0 Radius: 5 Circle2 Center: 9, 0 Radius: 3	Separate
Circle1 Center: 0 0 Radius: 5 Circle2 Center: 8, 0 Radius: 3	Touch
Circle1 Center: 0 0 Radius: 5 Circle2 Center: 5, 0 Radius: 3	Intersect

Problem 2: Grade Calculator

Write a C program that accepts a student's marks and prints the grade based on the following conditions:

Mark	Grade
80-100	A+
70-79	A
60-69	B
50-59	C
40-49	D
0-39	F

You are not allowed to use the if-else condition here. You need to use switch-case statement to solve this problem.

Sample Input and Output Pair

Input	Output
Mark: 70	Grade: A
Mark: 29	Grade: F

Submission Guideline:

1. Go to a drive except C drive.
2. Create a folder according to your roll number. Ex- 2305xxx
3. Open up the folder and create two files there. Ex- 2305xxx-1.c and 2305xxx-2.c.
4. Place all the code inside the two .c files.
5. Zip the folder and submit it in the moodle.