

Assignment-2

Deadline: 19th Jan 2017 10am

- a) Write a program in C (file name **assign2a.c**) which will take three distinct points in the X-Y plane and determine if they are collinear. If found non-collinear, then form a triangle out of the points and determine the area of the triangle. Also state the type of the triangle (right-angled, obtuse, acute etc.)

Sample input/output is shown below.

Input:

Enter the points:

Point1: (0, 1)

Point2: (2, 1)

Point3: (2, 3)

Output:

The points are non-collinear. The formed triangle is a right-angled triangle with area = 2.

- b) One day morning, a tortoise and a hare decided to participate in an 18 meter race. The tortoise could run at a speed of 0.9 mps and the hare could run at a speed of 1.4 mps. After running for X minutes, the hare decided to take rest for Y minutes. On the other hand, the tortoise never stopped during the race. Write a C program (file name **assign2b.c**) which will take different values of X and Y and determine the winner. Also determine the distance margin between the winner and the loser.

Sample input/output is shown below.

Input:

Enter X = 10

Enter Y = 8

Output:

Winner: Tortoise

Winning distance margin: 1.2 meters

Copy-paste of codes is strictly prohibited. All the programs will go through proper plagiarism checking and students with matched codes will be penalized.]

Program Formatting Instruction: Students are advised to write their programs with proper care. A program must have a header block consisting of programmer's name and rollno, along with date of creation. In the header, also include the objective of the program in one line. The program should be properly indented and it is expected that you will use

meaningful variable names. For each functional block provide a short and relevant comment.

Submission Process: Submit your assignment (make sure your assignment can be executed in using gcc compiler) using the link- <http://172.16.1.3/~samrat/CS112/submission/>

Login using your rollno (ex: 1601CS01) and password. Once you login, change the password immediately. It is your responsibility to set a strong password that is not guessable by others. Upload the assignments using the specified filenames only.

After the due date (mentioned at top), the uploading of files may be allowed for few more time but it will be treated as late submission. So ensure that you submit the assignment on time. There will be penalty if you are found to take any unfair means during the lab hours and during the assignment submission process. Copying program from any other source and allowing others to copy your program will be penalized equally.