E0 208: Assignment 2

Due Date : March 28th, 11:59pm

The exercise problems in De Berg textbook Chapter 9 can be found in Lectures section of below link: http://www.iisc.ac.in/g̃sat/Course/CGT

1. **(10 points)** Problem 9.3 of De Berg textbook.

2. **(10 points)** For Delaunay triangulation, show that the Triangle characterization (empty circumdisk property in definition of Delaunay) is *equivalent* to the Edge characterization (there exists an empty disk through p and q).
   (Note: You have to prove equivalence in both directions)

3. **(20 points)** In the algorithm DELAUNAYTRIANGULATION described in Section 9.3 of De Berg book (flip algorithm discussed in class), the newly added edges to p_r were not checked if they were Illegal. Prove that these edges are NOT Illegal.

4. **(15 points)** Problem 9.8 of De Berg textbook.

5. **(15 points)** Problem 9.11 of De Berg textbook.

6. **(15 points)** Problem 9.13 of De Berg textbook.

7. **(15 points)** Problem 9.14 of De Berg textbook.