

## IE 501 : Homework Assignment 2

Due: Wednesday, 25/09/2024

Please follow the following guidelines while working on this homework.

1. This Homework is a group homework and only one submission is required out of a group. You are expected to consult amongst yourselves in a group.
2. Please submit your homework solutions by 11:59:59 PM on Wednesday, September 25 2024.
3. Submission is online on Moodle. Submissions **must** be typeset in L<sup>A</sup>T<sub>E</sub>X. Prepare a zip file titled GroupXX.zip which includes a .pdf file of your submission document and the code for problem 2. Your group numbers are available on the list of groups on Moodle. Please double check before you submit.

1. Please propose your team project in detail. The proposal contains (but is not limited to) the following information.
  - a) Motivation for the project problem
  - b) Detailed description of the problem
  - c) Tentative solution methodology ideated.
  - d) Tentative deliverables.
  - e) Distribution of work amongst team members.
2. In the IIT Bombay Map available [here](#), provide a linear programming formulation to find the longest closed path one can traverse without taking a road twice. (The permissible roads are the ones in white). Also solve the linear program using your favorite modeling tool and solver. (For the distances not provided please use Google Maps/Open Street Maps or any other map API which you trust. Please make suitable assumptions you think you need and explicitly state the same in your submission.)

