

**CS458**  
**SOFTWARE VERIFICATION AND VALIDATION**  
**2019-2020 SPRING**  
**PROJECT # 3**  
**INTRODUCTION TO TEST DRIVEN DEVELOPMENT (TDD)**

**Instructions**

You are asked to do the following staff as a team work:

**Step 1:**

1. With Test Driven Development (TDD) develop a responsive page (that can run on laptops, mobile devices etc., no mobile native code required) for the following tasks:
    - a. You enter your coordinates of your location and it shows your city (via Google Map API etc.).
    - b. It gets GPS coordinates of your device automatically and it shows your distance to the nearest city center. If you are in the city boundaries, it should show the distance to the center of the city.
    - c. You enter your coordinates or it gets GPS of your device, then it shows your distance to the earth center.
    - d. For each one (a,b, and c parts) write all the test cases.
    - e. Write test code (red-line) and write the main code to pass just the red-line. Add print out of your code.
  2. Refactor your code and explain what you have done.
  3. Evaluate your TDD experience in terms of development velocity and code quality.
- Prepare a report covering all of the above tasks.
  - The **document should not exceed 20 pages** including the cover page.
  - **Submit the document to the instructor till 5:00 PM on 7<sup>th</sup> of May.**
    - *In electronic form (pdf or word) including your codes to the [altunel@bilkent.edu.tr](mailto:altunel@bilkent.edu.tr) and TA Nabil Abubaker [nabil.abubaker@bilkent.edu.tr](mailto:nabil.abubaker@bilkent.edu.tr).*
  - Cheating is prohibited.
  - Your own ideas and your own words are expected.
  - Creativity is appreciated.

Good luck