CSE470: Assignment 2   **20 Marks**

Question 1
- **Part 1:** Create a software requirement context where you will need to use one of the three design patterns (must use at least two design patterns). **[3]**
- **Part 2:** Then, implement that design pattern in Python or Java. **[7]**

Question 2
- **Part 1:** Design a CFG problem following the requirements mentioned below: **[3]**
  - One nested loop
  - Three branches
  - Minimum 20 lines of code
- **Part 2:** Now answer the following questions based on your code:
  - Draw the CFG Graph of your code and label the nodes accordingly **[3]**
  - Calculate and verify the Cyclomatic Complexity **[1]**
  - Identify the Independent Paths and required test cases to generate those paths **[3]**

Submission Guidelines:
- You need to submit the PDF of your **Handwritten Assignment** in the google form: https://forms.gle/w76U5YkTtfcQNvrL6
- Your assignment **must have a cover page with your Name, Student ID, Course and Section** on it
- **Deadline: 4th September, Thursday**