**Project Group:**

- You can have a maximum of 5 students in a group.

**Project Group details and project title:**

- You need to submit your project group details and project title in the google form:https://forms.gle/mZ7GT8eS1X3FRzCc9
- For project title you can choose a project from the sample project list or you can propose your own project. For your proposed project you need to get approval from course instructor.

**List of sample project:**

- **Develop a game of Sudoku solver.** In your project you need to demonstrate the following three approaches.
    - By using Genetic algorithm
    - Use alpha beta pruning to solve the puzzle.
    - Solve as a constraint satisfaction problem.
- **Create a game of Tic Tac Toe.** In your project you need to demonstrate the following three approaches.
    - alpha beta pruning
    - a genetic algorithm to choose the best move for each player
    - uses constraint satisfaction to choose the best move for each player
- **Implement a puzzle game (e.g. Rubik's Cube, Sliding Puzzle, etc.).** In your project you need to demonstrate the following approaches.
    - a genetic algorithm to choose the best move for each player
    - uses constraint satisfaction to choose the best move for each player
- **Develop a game of checkers.** In your project you need to demonstrate the following approaches.
    - alpha beta pruning
    - a genetic algorithm to choose the best move for each player
    - uses constraint satisfaction to choose the best move for each player
- **Create a game of chess.** In your project you need to demonstrate the following approaches.
    - alpha beta pruning
    - a genetic algorithm to choose the best move for each player
    - uses constraint satisfaction to choose the best move for each player
- **Create a card game (e.g. Blackjack, Poker, etc.).** In your project you need to demonstrate the following approaches.
    - alpha beta pruning
    - a genetic algorithm to choose the best move for each player
    - uses constraint satisfaction to choose the best move for each player

**Evaluation:**

- **Total Mark for project is 25**
- **Report: 5**
- **Project demonstration:5**
- **Viva: 15**

**Evaluation criteria:**

- Code Clarity
- Demonstration details
- Able to answer questions on algorithms as well as on implementation.

**Project Report format:**

- Cover page
- Table of Contents
    - Introduction: here you need to provide a description of your project.
    - Details of algorithm used
    - Pseudo Code
    - Python Implementation
    - Algorithm Analysis: (note: here you need to provide details analysis of each approach)
        - Time complexity
        - Space complexity
        - Completeness
        - Optimality

- Conclusion