# Chess

In this project, you will create the game Chess.

## Part 1: Chess Pieces [20]

You have to create classes for all the 6 different chess pieces: King, Queen, Rook, Bishop, Knight and Pawn. These will all be derived classes from a single base class, 'Chess_Piece'. In these classes, you have to specify the piece name and movements.

## Part 2: Creating Teams and Setting up the Chess Board

To create two different teams, you need to be able to uniquely identity what team a specific chess piece belongs to. You can do this by creating an additional variable in your Chess_Piece class, named 'team_no'. [5]

Initialize all your chess pieces before the game and display the chess board with all the pieces appropriately placed in their positions. Make sure you also display what piece belongs to what team. [5]

## Part 3: Gameplay

You now need to program how the game will be played by your users.

1. Specify turns [10]
2. Ask your user what piece they would like to move. Make sure the coordinates they give are of a valid chess piece:
   - The coordinates are not out of the board [5]
   - The coordinates are of a piece of their own team [5]
   - The chess piece can be moved (i.e. it's not stuck between other pieces. For example, in the beginning of the game, your king is surrounded by other pieces hence it cannot be moved). [15]
3. Ask for the new coordinates and make sure they are valid according to the movements you specified earlier in the piece class. [50]

## Part 4: Check

A king is in check when it can be killed by the opponent in a single move. When a team's king is in check, make sure to display a warning message. [15]

Only allow the user to make a move if it gets the king safely out of check. There are 4 ways to get a king out of check:

1. Move the king to a safe spot. [10]
2. Block the check with another piece. [10]
3. Capture the piece that is putting the king in danger. [10]

## Part 5: Checkmate [40]

End the game when a team's king is in checkmate. This happens when the king is in check and cannot get out of check. Display the winner and restart the game.

## Bonus: [20]

Implement any one of the two special rules to earn a bonus

1. Promoting a Pawn

    Pawns have the ability to change into any other chess piece if the reach the other side of the board.

2. En passant

    If a pawn moves out two squares on its first move, and by doing so lands to the side of an opponent's pawn (effectively jumping past the other pawn's ability to capture it), that other pawn has the option of capturing the first pawn as it passes by.