

# BBM104 – PROGRAMMING ASSIGNMENT 3

## PROBLEM DEFINITION

In this assignment, I am expected to implement a simplified version of the game “Bejeweled” using Java. The software should minimize duplicate code and be flexible for adding new Jewel type.

## SOLUTION APPROACH

To be able to minimize the duplicate code I used inheritance. The classes MathSymbol, Triangle, Wildcard, Square and Diamond are all subclasses of the class Jewel. This class has the methods for matching and popping the jewel in a given direction. So, I could use these methods in the subclasses to reduce the length of my code and be able to add new Jewel typ. The Player class is used to store the attributes of the players and has methods to calculate the score, get the rank of the player and print the leaderboard. The last class Game is the class which builds and controls the game. It has methos for creating, updating and printing the game grid and checking the jewel of the given coordinate to call the related pop method. Also, a launch method is used to call the necessary methods in a right order.

## UML DIAGRAM

