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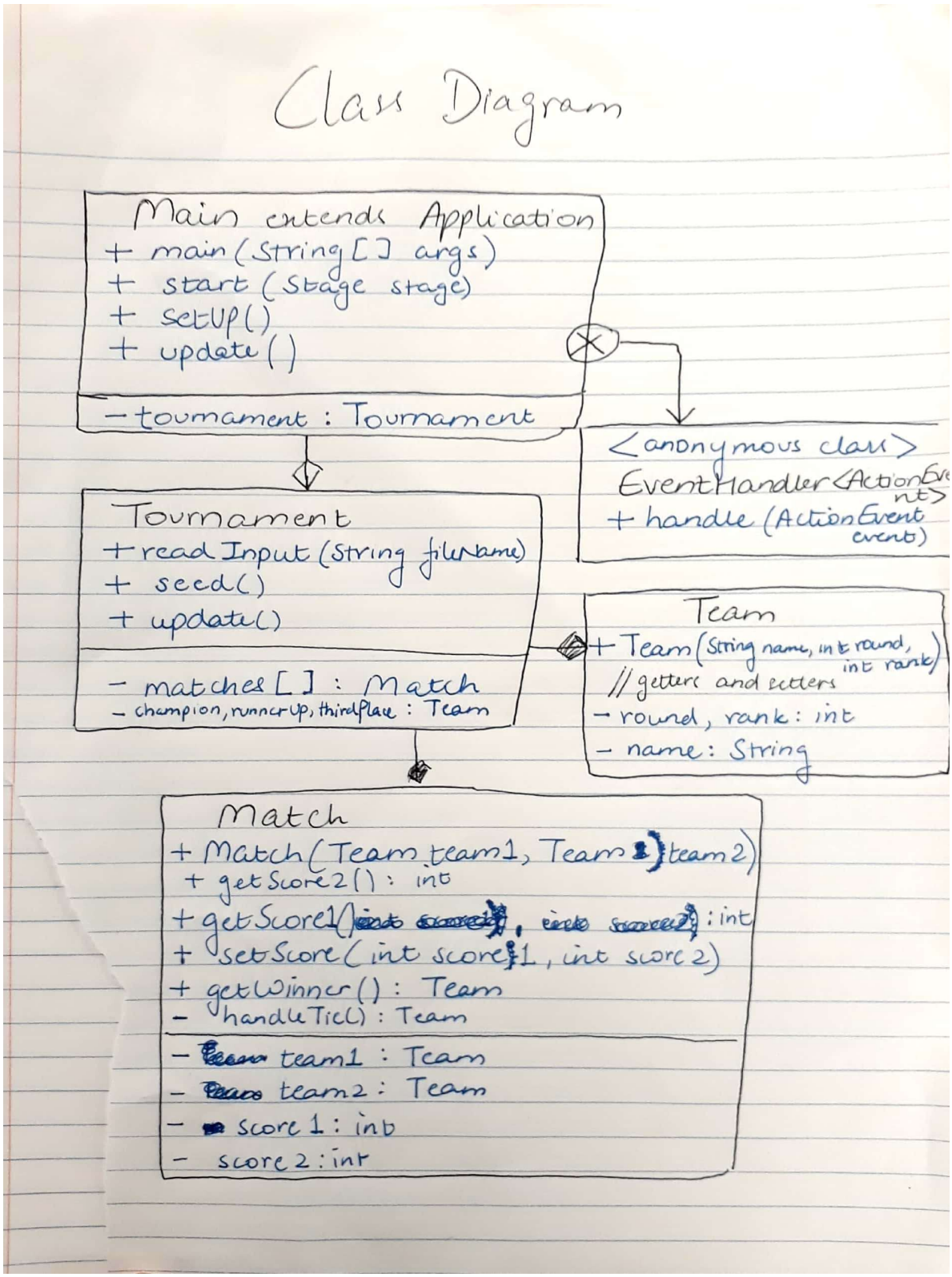
# Class Summary

Team class: stores all the information such as name and score, seating and round.
**Match class**: stores the information of matching team and winning score
**Tournament class**: driver class. Contain array heap
**Main**: launch GUI

| Class | Types | Description |
|---|---|---|
| Team | String name<br>int rank<br>int round | The Team class represents each team in the tournament. It contains the name and rank (for seeding) of the team. |
| Match | Team teamOne<br>Team teamTwo<br>int scores | The Match class represents each match played between two teams. It stores the information of two matching teams and winning score. |
| Main | Tournament tournamentName | Acts as the driving class for the GUI. Therefore, it handles all the GUI elements of the Tournament. This also contains a Tournament object and inputs the file path.. |
| Tournament | String name<br>Match[] matches<br>Team champion<br>Team second<br>Team third | The Tournament class represents the tournament that is being played. The tournament class contains the name of the tournament, Team class instances (which represent each team), an array of matches to be played (which acts like our main data structure) and specific instances of the |

| | | |
|---|---|---|
| | | Team class which represent the champion, runner-up and the third place holder. This class is responsible for taking in the input from the file, seeding and storing it in the main data structure. |

**Class diagram:**



## Main class

| Return type | name | parameters | description |
|---|---|---|---|
| void | main | String[] args | The driver method for the class. The args[] contains command line arguments |
| void | setUp | - | The method sets up the GUI and the back end using the Tournament class instance |
| void | start | Stage stage | The method starts the GUI and displays the Tournament bracket |
| void | update | - | Updates the state of the tournament bracket in the backend part and also displays the updated state of the bracket |

## Tournament

| Return type | name | parameters | description |
|---|---|---|---|
| void | readInput | String fileName | Responsible for reading input from the file |
| void | seed | - | Responsible for seeding the teams according to their team ranks and store them into the data structure (Array) |
| void | update | - | Updates the data structure depending upon the result of a match/challenge |

## Match

| Return type | name | parameters | description |
|---|---|---|---|
| Constructor | Match | Team team1, Team team2 | Constructor to initialize the instance |
| int | getScore1 | - | Getter for score1 |

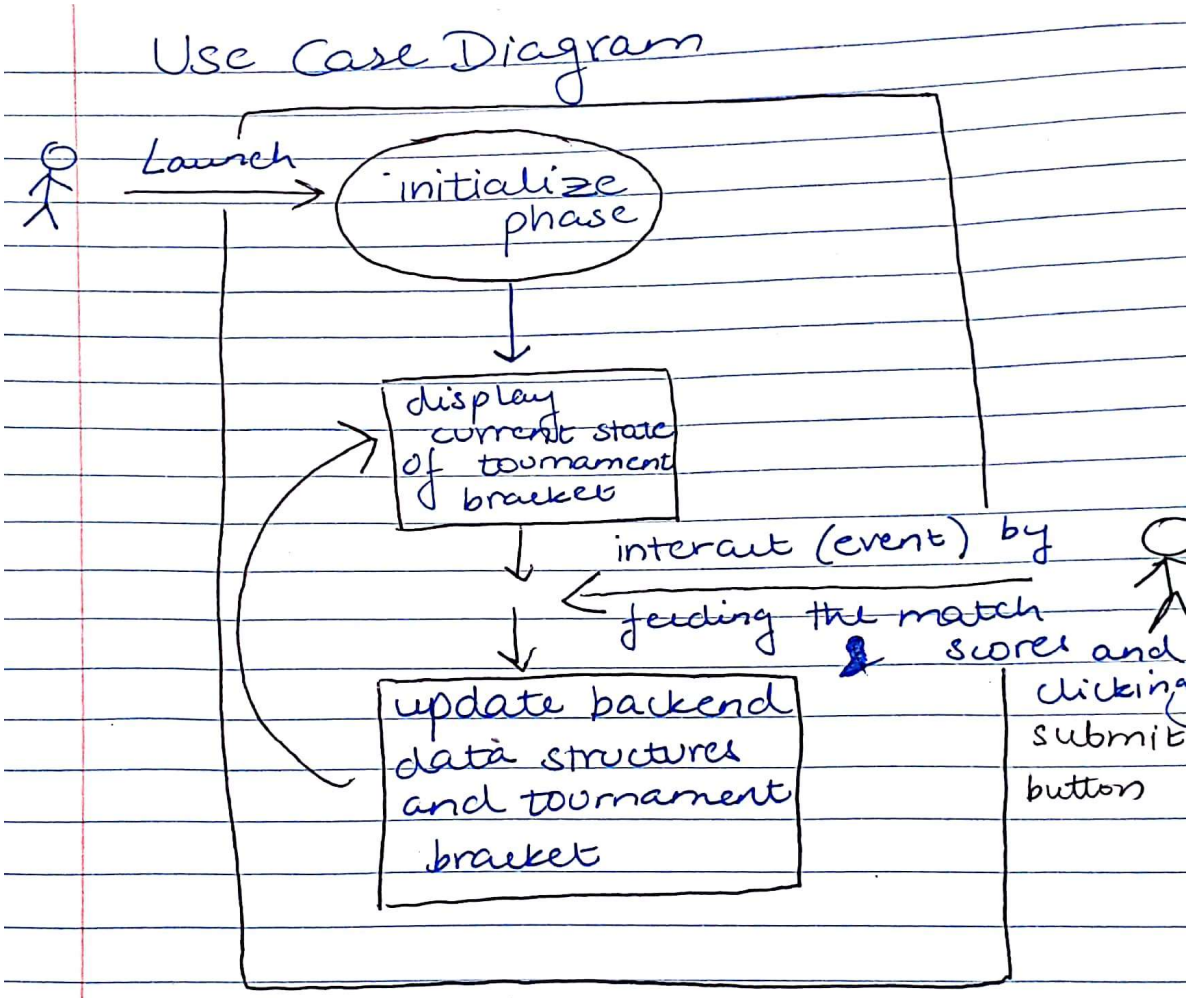
| | | | |
|---|---|---|---|
| int | getScore 2 | - | Getter for score2 |
| void | setScore | int score1, int score2 | Setter for score1 and score2 |
| Team | getWinne r | - | Gets winner by comparing the score or handling the tie (calls a private method to do so) |

# Team

Return type name parameters description

| | | | |
|---|---|---|---|
| Construc tor | Team | String name, int round, int rank | Puts in initial values |
| int | getRank | - | Getter for Rank |
| int | round | - | Getter for Round |
| - | round | int round | Setter for Round |
| String | name | - | Getter for name of the Team |

**Use-Case Diagram:**




initialize phase → read data from the file and set the data structures up.
[see object diagram for initialized state of objects].

## Object Diagram: