**Game Gui:**

Main window

Submit time (button)

Create opponent (button)

Leaderboard (textArea)

Opponent creation screen

Name (Text entry and button)

Skill level (scroll bar)

Create button

Are you sure to create character screen

Ok (button)

Cancel (button)

**Algorithm for determining when players sleep**

/\* this entire chunk determines if a player will go to sleep early or not \*/

Boolean sleepEarly = determineSleepEarly(Helen)

Public static Boolean determineSleepEarly(Opponent O) {

Int random = java.soemthing.random(1, 111);

if (random > opponent.skill level){

return false;

}

Return true;

}

**The opponent class**

Int skill level

Int elapsed time

goToSleep{} //calls algorithm and uses it to update elapsedTime

**Saving game state**

must store all created opponent objects and their state

**Utils**

printStatus(textArea, Opponent… args) {} //updates the leaderboard with the current rankings and scores, does NOT change any opponent instance variables

generateNewScores(Opponent…args) {} //calls goToSleep for all opponents