

Code Review

We decided to tackle each of the classes the other person wrote, including the test classes, and fix any code smells we find. Some of the fixes are identified code smells, while some are just for better code quality (eg. exception handling)

Leaderboard :

- Renamed constant “playerListSize” to “leaderboardCapacity” (**confusing variable name**)

10	10		
11		-	import static utilities.Constants.playerListSize;
	11	+	import static utilities.Constants.leaderboardCapacity;
12	12		
13	13		/**
58		-	if (playerScores.size() < playerListSize) {
	58	+	if (playerScores.size() < leaderboardCapacity) {

(in utilities.Constants)

21	21		// Leaderboard related
22		-	public static final int playerListSize = 5;
	22	+	public static final int leaderboardCapacity = 5;
23	23		public static final String leaderboardFile = "src/main/java/leaderboard/leaderBoard.txt";
24	24		// Entities related

- Refactored writeToFile() method for better exception handling and make sure fileW is closed
- Refactored readFromFile() method for better exception handling and make sure fileReader is closed
- Included description for javadocs (**lack of documentation**)

98		-	* @param index
	98	+	* @param index index of playerScore in Leaderboard

- Changed the typing to generic typing

23	23		private Leaderboard() {
24		-	this.playerScores = new ArrayList<PlayerScore>();
	24	+	this.playerScores = new ArrayList<>();
25	25		readFromFile();
26	26		}
210	222		public static Leaderboard Clone() {
211	223		
212		-	ArrayList<PlayerScore> playerScores = new ArrayList<PlayerScore>();
213		-	Leaderboard l = new Leaderboard(playerScores);
214		-	return l;
	224	+	ArrayList<PlayerScore> playerScores = new ArrayList<>();
	225	+	return new Leaderboard(playerScores);
215	226		}
216	227		}

Buttons :

- added title param description in javadoc (**lack of documentation**)

- anonymous action listener - replaced with lambda expression (for all buttons)

```
public static void addPlayButton(JPanel panel, String buttonName) {  
    JButton playButton = new JButton(buttonName);  
    playButton.addActionListener(new ActionListener() {  
        @Override  
        public void actionPerformed(ActionEvent e) {
```

```
public static void addPlayButton(JPanel panel, String buttonName) {  
    JButton playButton = new JButton(buttonName);  
    playButton.addActionListener(e -> {
```

- removed unused import - static ui.GameUI.revalidateMainScreen, java.awt.event.ActionEvent, and java.awt.event.ActionListener

Elements :

- addRewardPanel(JPanel panel, int numOfRewards) - numOfRewards is not used in this method/any of its derived methods, so change addRewardPanel(this, int) to addRewardPanel(this) everywhere its been used (**unused variable**)

PanelWithBackgroundImage :

- changed private image to private final image

EntitiesTest :

- changed variables entities, tesPos and testPos2 to final
- removed unused import character.Player and import org.junit.jupiter.api.BeforeEach

EntitiesGeneratorTest :

- simplified assertTrue/False to assertEquals/NotEquals

PlayerTest :

- changed variable testScore to final

PlayerScoreTest :

- removed unused import static org.junit.Assert

Trap :

- changed switch statement to enhanced switch

```
switch (trapType) {  
    case BOOBYTRAP:  
        points = Constants.boobyTrapDmg;  
        break;  
    case TRAPFALL:  
        points = Constants.trapFallDmg;  
        break;  
    default:  
        throw new IllegalArgumentException("Invalid TrapType");  
}
```

```
int points = switch (trapType) {  
    case BOOBYTRAP -> Constants.boobyTrapDmg;  
    case TRAPFALL -> Constants.trapFallDmg;  
    default -> throw new IllegalArgumentException("Invalid TrapType");  
};
```

CharacterModel :

- replace switch with enhanced switch