

## Sprint #0 Report

### Instructions

#### Objectives

- Make decisions on the SOS software development project.
- Learn unit testing and GUI programming in the language of your choice.

#### Deliverables and Grading Policy

Read the “CS 449 Homework Overview” document **carefully** and make the key decisions for the software development. Use the following template to complete your report.

#### 1. Key Decisions of the SOS Project (2 points)

Object-oriented programming language	Java
GUI library (strongly encouraged)	Swing library
IDE (Integrated Development Environment)	ECLIPSE
xUnit framework (e.g., JUnit for Java)	JUnit
Programming style guide (must read it carefully)	Java Style Guide read
Project hosting site	GitHub
Other decisions if applicable	N/A

Sample programming style guides:

- Google Java Style Guide: <https://google.github.io/styleguide/javaguide.html>
- Google C++ Style Guide: <https://google.github.io/styleguide/cppguide.html>
- Google Python Style Guide: <https://google.github.io/styleguide/pyguide.html>

#### 2. Unit testing (4 points)

Find a tutorial on the unit test framework you have chosen and write at least two xUnit tests of a program you have written or found elsewhere. Attach here (1) the screenshot of your program execution and (2) the source code of your program.

Here's the screenshot of the unit testing execution of a program that I found online:

```
1
2
3 import org.junit.Assert;
4 import org.junit.Test;
5
6
7 public class CircleAreaTest {
8
9     private final double DELTA = 0.01;
10
11     @Test
12     public void testCalculateAreaWithPositiveRadius() {
13         double radius = 10;
14         double expectedArea = Math.PI * radius * radius;
15         double actualArea = CircleArea.calculateArea(radius);
16         Assert.assertEquals(expectedArea, actualArea, DELTA);
17     }
18
19     @Test
20     public void testCalculateAreaWithNegativeRadius() {
21         double radius = -10;
22         try {
23             CircleArea.calculateArea(radius);
24             Assert.fail("Exception was not thrown for negative radius");
25         } catch (IllegalArgumentException ex) {
26             Assert.assertEquals("Radius cannot be negative", ex.getMessage());
27         }
28     }
29 }
30
31
```



Failure Trace

java.lang.Error: Unresolved compilation problem:  
CircleArea cannot be resolved  
at CircleAreaTest.testCalculateAreaWithNegativeRadius(CircleAreaTest.java:23)

Problems

Description	Resource	Path	Location	Type
CircleArea cannot be resolved	CircleAreaTest.j...	/UnitTestingProgram/...	line 15	Java Problem
CircleArea cannot be resolved	CircleAreaTest.j...	/UnitTestingProgram/...	line 23	Java Problem
Build path specifies execution environment JavaSE-Test			Build path	JRE System Libr...
Project 'Test' has no explicit encoding set			/Test	No explicit proj...

Here's my source code file:

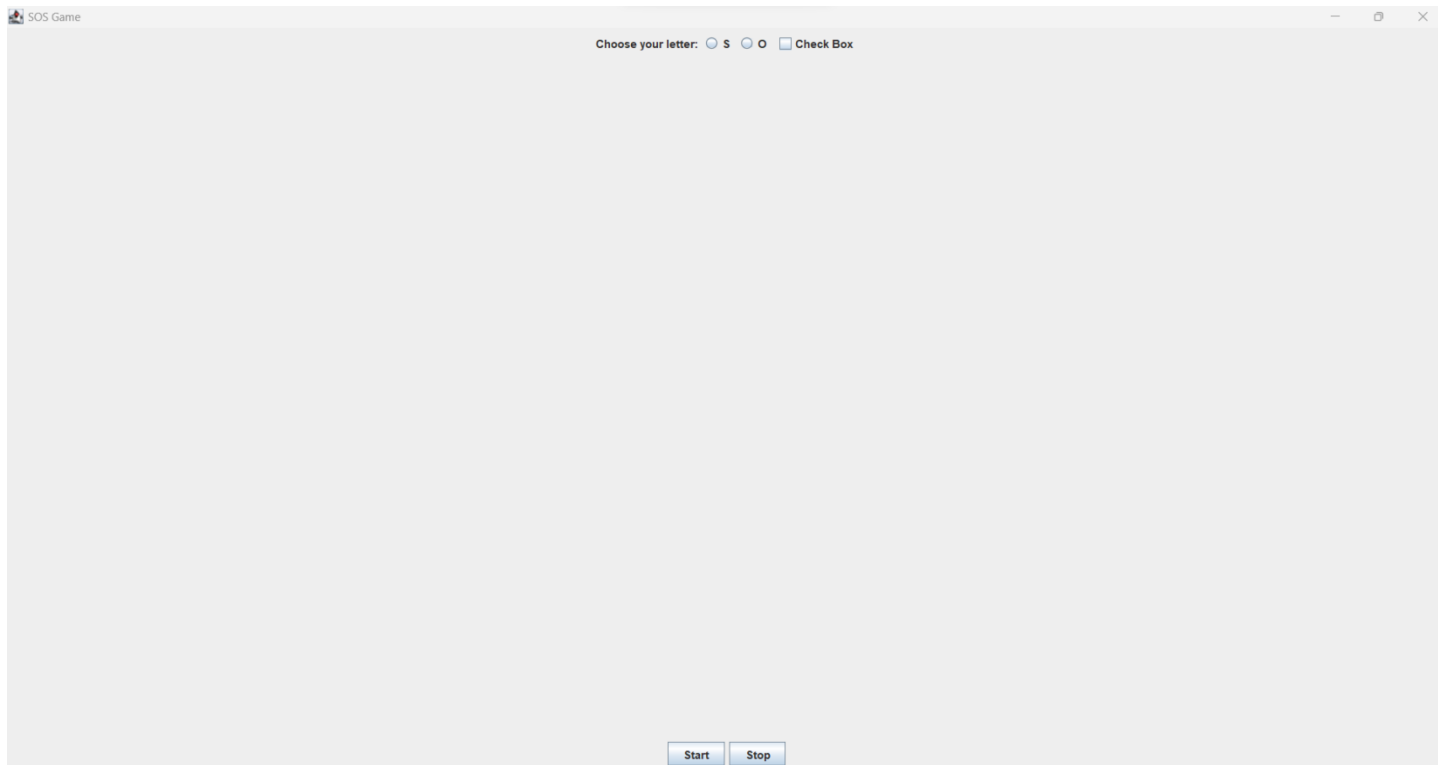
   
CircleAreaTestTest.java CircleAreaTest.java  
a

### 3. GUI programming (4 points)

Write a GUI program in the language you have chosen for your SOS project. The GUI of your program must include text, lines, a check box, and radio buttons. While you are recommended to consider the GUI for the SOS game board, it is not required. In this assignment, any GUI program of your own work is acceptable.

Attach here (1) the screenshot of your program execution and (2) the source code of your program.

This is what it looks like when I run my program, I found a lot of help online because it's my first-time writing JAVA:



Here's My Source code file:



FirstProgram.java