San Francisco State University
CSC 413
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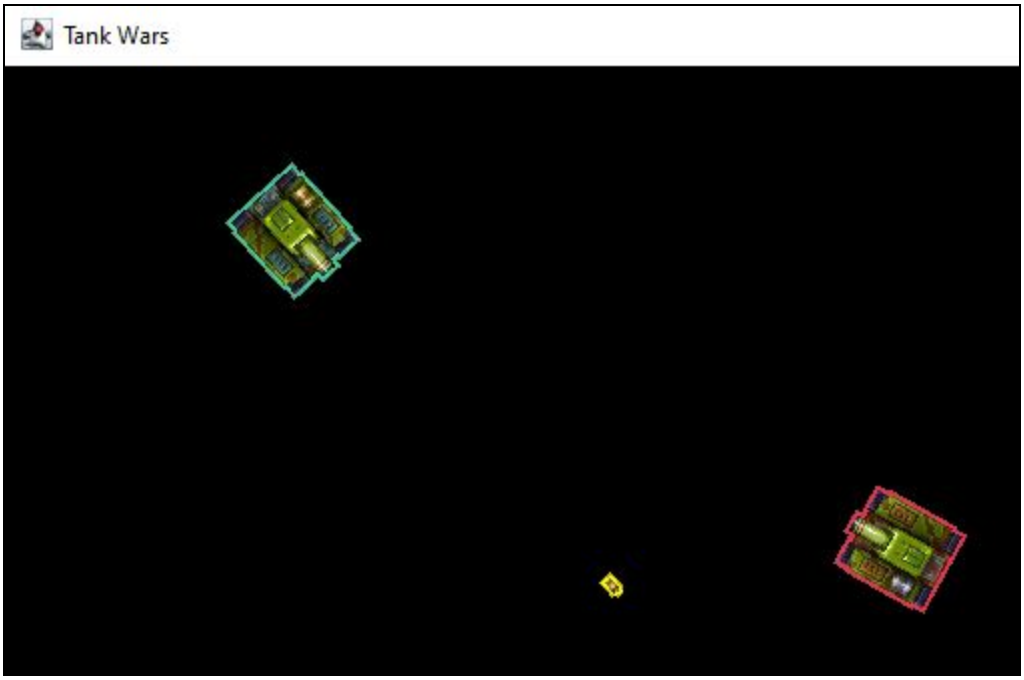
Term Project: Part 1

Overview

The goal of the term project is to apply design principles we've learned in class to develop a simple tank video game with a focus on extensibility for additional features.



Submission

The term project will be split into two parts.

Part 1 of the term project is due on **Monday, November 30, 2020** at **11:59 pm PT**. However, note that you don't need to have everything in Part 1 to be working completely correctly to get most of the credit, as long as it is all implemented by the final submission (along with Part 2).

Whatever you submit for Part 1 by November 30 will be graded at a high level, with a point value from 0 to 15 based on how much is implemented. You do NOT need to have everything working perfectly to get the full 15 points, as long as the major components detailed in this handout are submitted showing a reasonable effort towards completion. There will be no late submissions accepted for Part 1.

When Part 2 is due at the end of the semester, I will grade both parts at that point in time to determine the remaining 85 points for the overall term project grade.

Requirements for Part 1

Gameplay requirements:

- Must support a start menu, game screen, and end menu.
- Must support a player tank and a non-player tank on the screen at the same time.
- Must support the player tank moving around based on keyboard input.
- Must support the player shooting shells in response to keyboard input.
- Must support a single, basic AI tank that moves differently from the player.

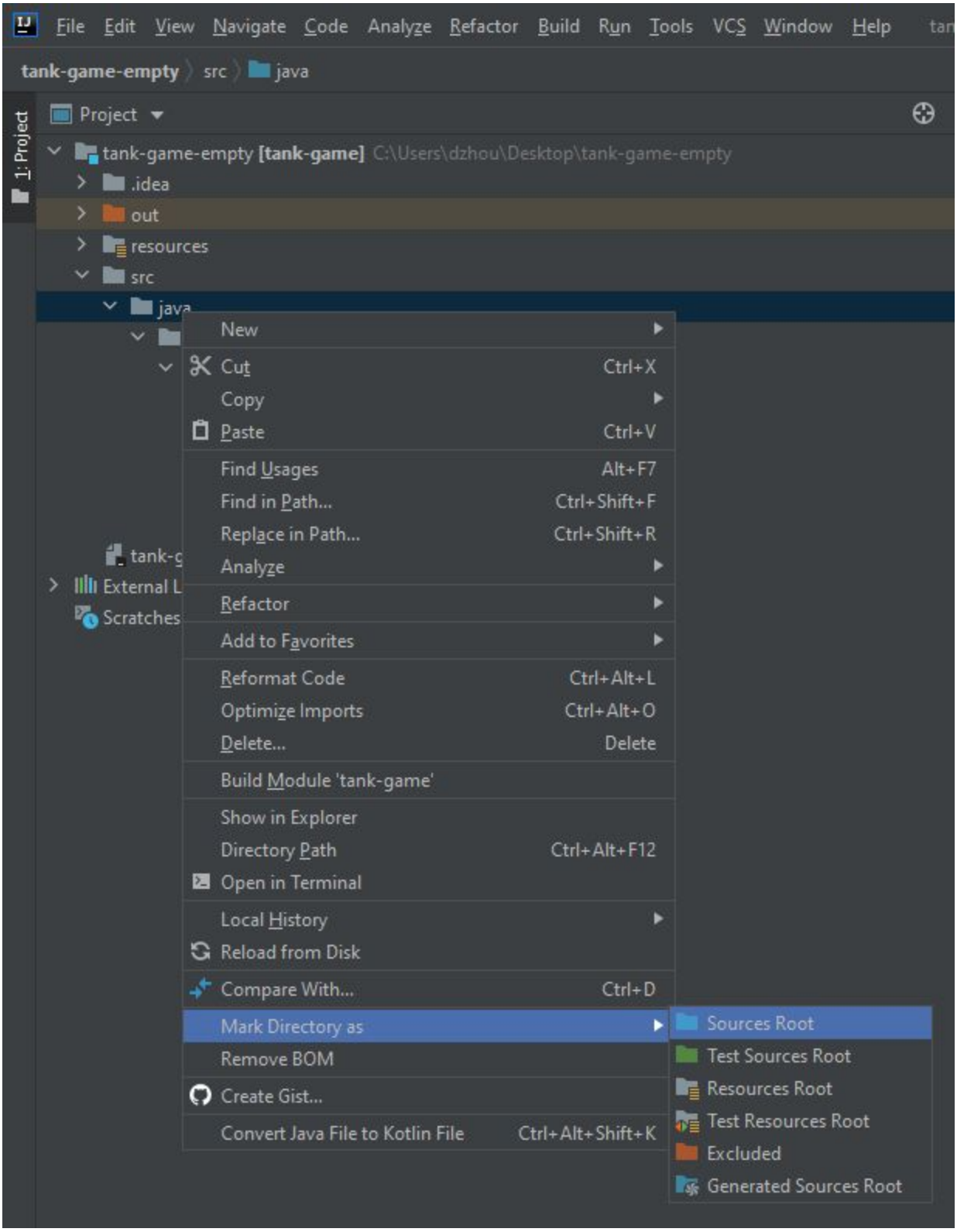
Design requirements:

- Must separate logic for the model from the view, with a controller driving the game.
- Must use an appropriate class design to share code for drawing the player tank, the AI tank, and shells.
- Must use an appropriate class design to share code for moving the player tank and the shells.

Assignment Setup

Please refer to the handout for Assignment 0 on detailed steps for setting up a private GitHub repository, for setting up an IntelliJ project for the starter code provided on iLearn, and for steps on how to submit your assignment to GitHub. You are expected to invite the instructor (Git name: dawsonmz) as a collaborator for the private repository you create. Your assignment will be graded based on what is submitted to GitHub.

Your IntelliJ project will need to mark the correct sources root folder and resources root folder to run the game. You can do so by right-clicking the “src > java” directory in the project navigation panel on the left, and selecting “Mark Directory as… > Sources Root”, as shown below.


File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
tank-game-empty src java
1: Project
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.idea
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resources
src
java
New
Cut Ctrl+X
Copy
Paste Ctrl+V
Find Usages Alt+F7
Find in Path... Ctrl+Shift+F
Replace in Path... Ctrl+Shift+R
Analyze
Refactor
Add to Favorites
Reformat Code Ctrl+Alt+L
Optimize Imports Ctrl+Alt+O
Delete... Delete
Build Module 'tank-game'
Show in Explorer
Directory Path Ctrl+Alt+F12
Open in Terminal
Local History
Reload from Disk
Compare With... Ctrl+D
Mark Directory as
Remove BOM
Create Gist...
Convert Java File to Kotlin File Ctrl+Alt+Shift+K
Sources Root
Test Sources Root
Resources Root
Test Resources Root
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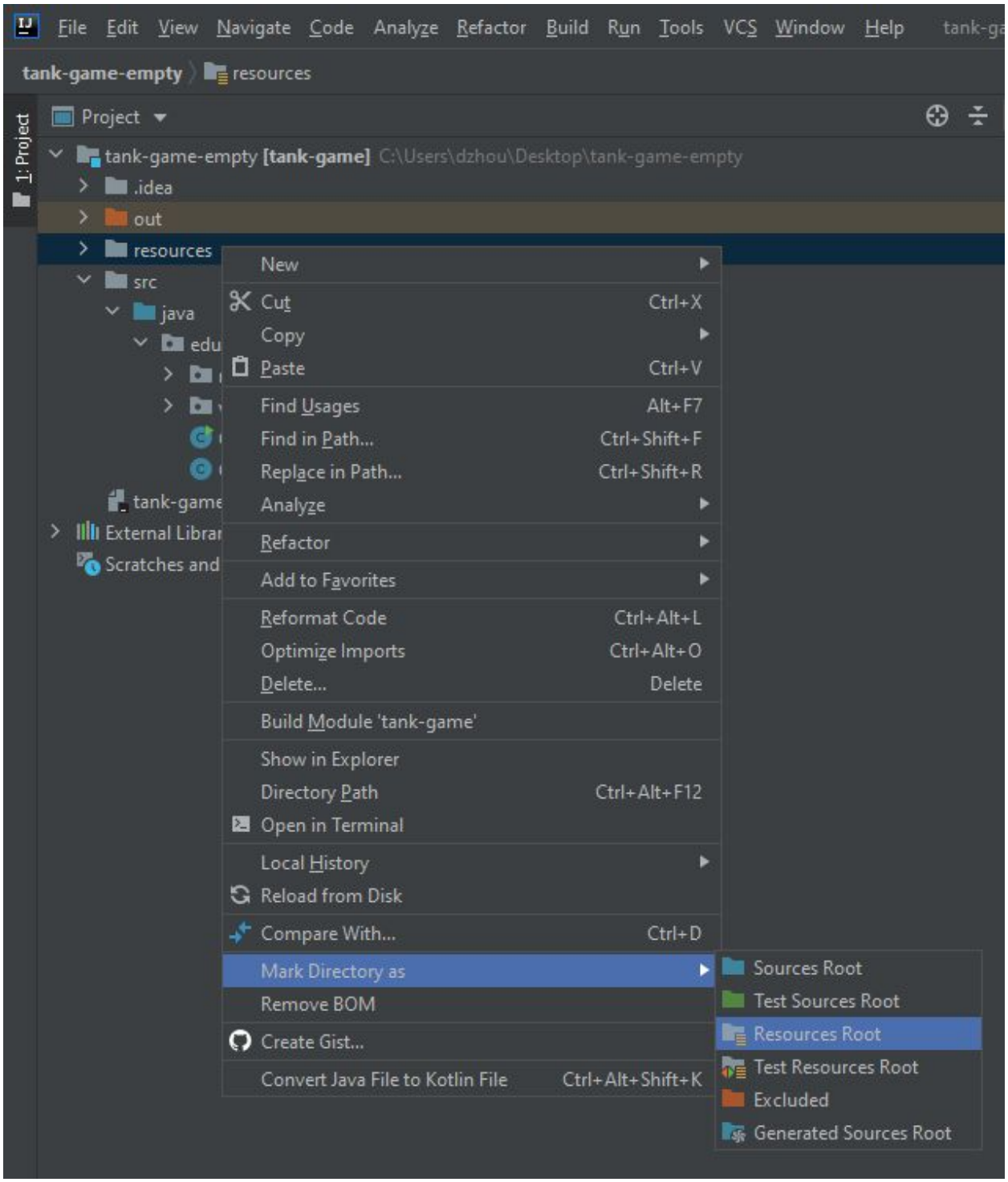
Scratches

You'll also need to mark the resources folder as a resource for a project to include the images and sound files for the game. You can do so by right-clicking the "resources" directory in the same project navigation panel, and selecting "Mark Directory as... > Resources Root", as shown below.



Lectures 25 and 26 cover the various detailed steps you'll take in implementing the tank game. Rather than repeat all of those details in writing here, I will instead refer to the video recordings of the lectures for a guide on how to get started.

Office hours, both scheduled and one-off, will be your other primary resource for help on the term project. Please reach out to me if you have any questions at all!