

CSE 1321L: Programming and Problem Solving I Lab

Assignment 5 – 100 points

PyGame

What students will learn:

- 1) Incorporating prior programming knowledge to game development
- 2) Developing a larger scale, graphical program
- 3) Problem solving

Overview: We will be making a basic video game using PyGame. While the result of this project should be fun, the real goal is to give you the opportunity to apply everything you've learned about programming up to this point. There are many fields of software development, but the fundamentals you've learned so far can be applied to all of them.

Assignment 5A: An A-MAZE-ING Adventure!

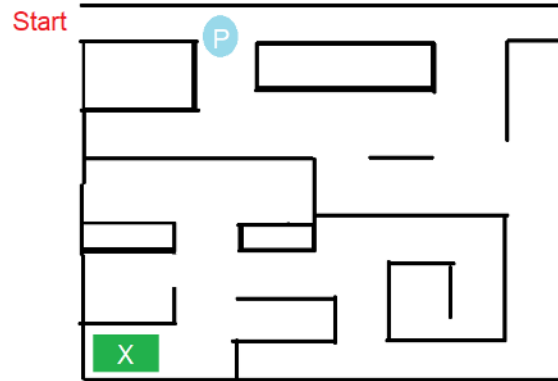
For this assignment, you will build a simple timed maze game. You will move a character through a maze to obtain a treasure. Once the treasure is obtained the maze layout will change, and you must navigate back out of the altered maze before the time limit.

You have the freedom to design and create your own maze layouts, images, and sounds (as long as they are school-appropriate). However, it must meet the following requirements:

- The screen must be 800 pixels wide by 600 pixels tall
- The maze must have multiple paths and dead ends, and at least one path to the treasure.
- You must be able to move a player through the maze with the W, A, S, D keys (up, left, down, and right respectively).
- You must implement collision code so that the player can not move through the walls
- When the player collides with the treasure, the following events must occur
 - The treasure is no longer drawn on the screen
 - A sound effect is played
 - The maze layout changes in some manner – you must follow a new route to leave the maze
 - A 30 second timer must appear on the screen and count down every second
- The game must end when either the player returns to the start or the timer reaches 0

An example maze is shown below, both to give you ideas and also to illustrate that we are not grading your submission based on artistic talent.

Timer: 30



Submission:

1. You will submit all required files to run your game.
2. File names must be correct.
3. Upload all files (simultaneously) to the assignment submission folder in Gradescope.