21/10/2025

Assignment #3 - 2D Game Project

Due: Nov. 6 by 10 PM

- Must include some collision data
- Win / Lose condition, make it clear
- Encapsulation: Group multiple variables and functions into a logical idea. (objects)
- use an array of a class type
- Methods of motion to create a dynamic game
- Methods of collision detection to create a highly interactive game

Game ideas:

- Car game
  - Player has to drive around avoiding objects
  - Player has to get to the end of the road within a certain amount of time

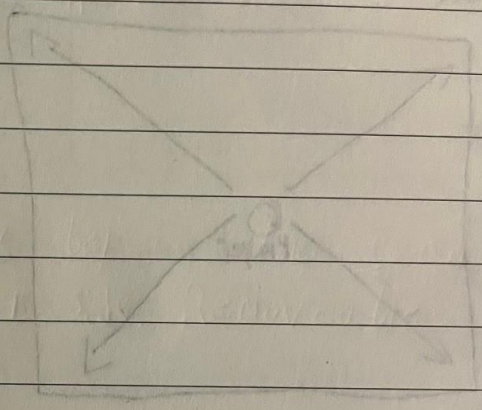
Player:

- Score : int
- R : int (red value in rgb)
- G: int (green value in rgb)
- B: int (blue value in rgb)
- vector: int (Player location)
- PlayerSize: vector2 int (height, width)
- ~~texture~~ ~~playering: string?~~ ~~(image of player)~~

Move X coordinate P1X - 30

~~Game is offsite~~

- Game objective is to stop frogs that are crossing the streets, trying to get weapons. Use whatever you can to stop them.



Variables:

- Vector2: groundObjLS1 (125, 300)
- Vector2: groundObjLS2 (75, 400)
- Vector 3: groundObjLs3 (25, 500)

~~These~~ These are the objects that save on the ground on the left side

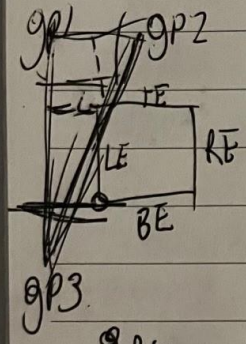
- Vector2 Point1_1
- vector2 Point1_2
- These are the lines between the road and grass on the left side. Removable

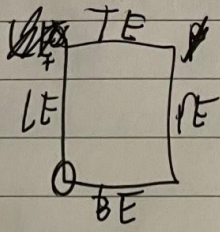
- int screen=1:
can flip between various screens to show. use if statements in update()

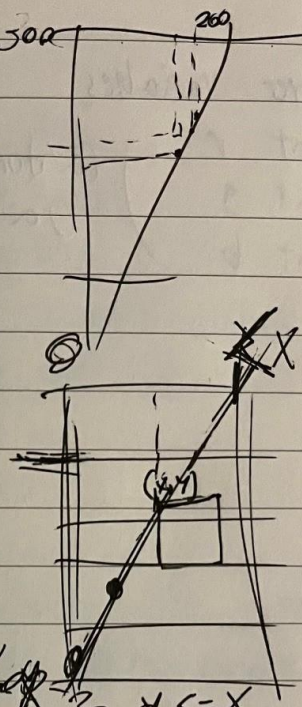
- Vector2[] roadLines = new vector2 [5]
- bool drawLine = true
- Holds all the vectors of where to draw roadline. drawline will be used to determine if a line should be drawn

- int. Texture Choice
- Chooses between 3 side texture options

gRoad Point 1 = (0, 300)
gP2 = (200, 300)
gP3 = (0, 800)







gP4 = (600, 300)
gP5 = (800, 300)
gP6 = (800, 800)

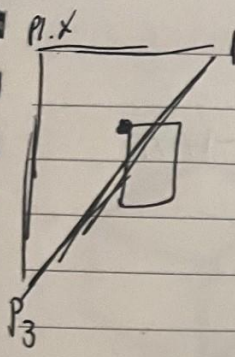
if playerX < gP2.X = true {
if PlyCurrent Y Pos / 3

YPos X

rise / run = (3/8 = 0.375

200 = 75

if (Ply Y <= Ply X)



P1.X < TL < P2.X

P2.Y TL > P2.Y

- Graphing and creating collision for triangle is proving too difficult. Grass will now be square

A multiplyer for score should drop at certain points in game after a set amount of time

if (time.elasped % 10. == 0)

time = 1 sec = 1 Modulo 10

2 sec = 2 (every 10 seconds, appears

5 sec = 5 12 time

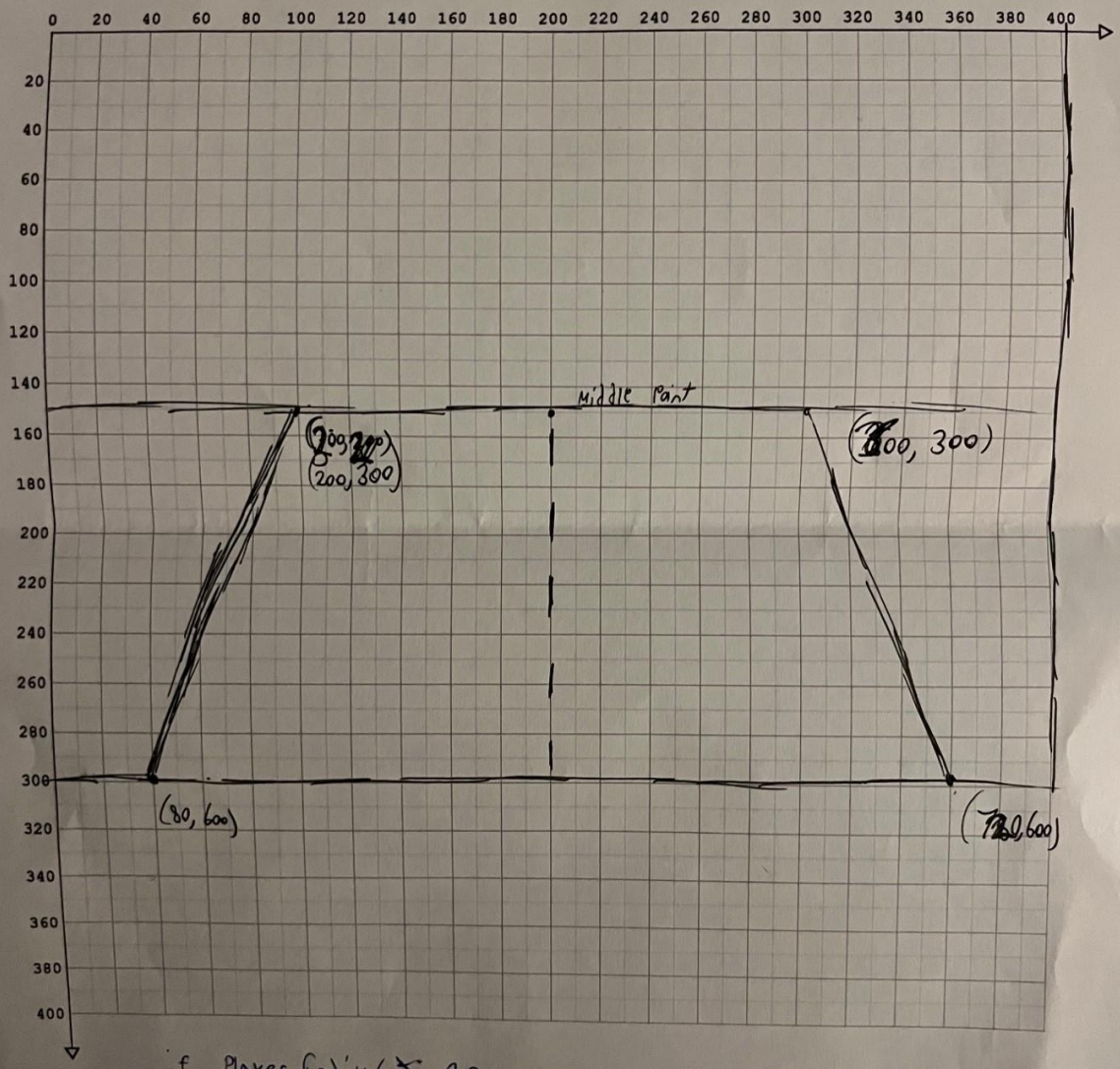
10 sec = 0 every 20 seconds, appears

20 sec = 0 6 time

30 sec = 0 30 seconds, 4 times

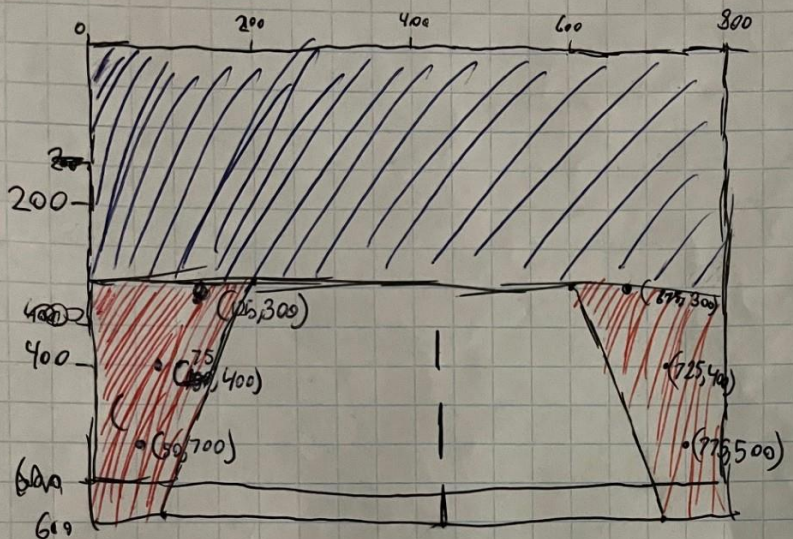
40 seconds, 3 times

□ = 20 px ⊞ = 80x80 px



if Player radius ≥ 80

Pixel Paper - 400 x 400
Graph Paper for Screen Coordinates

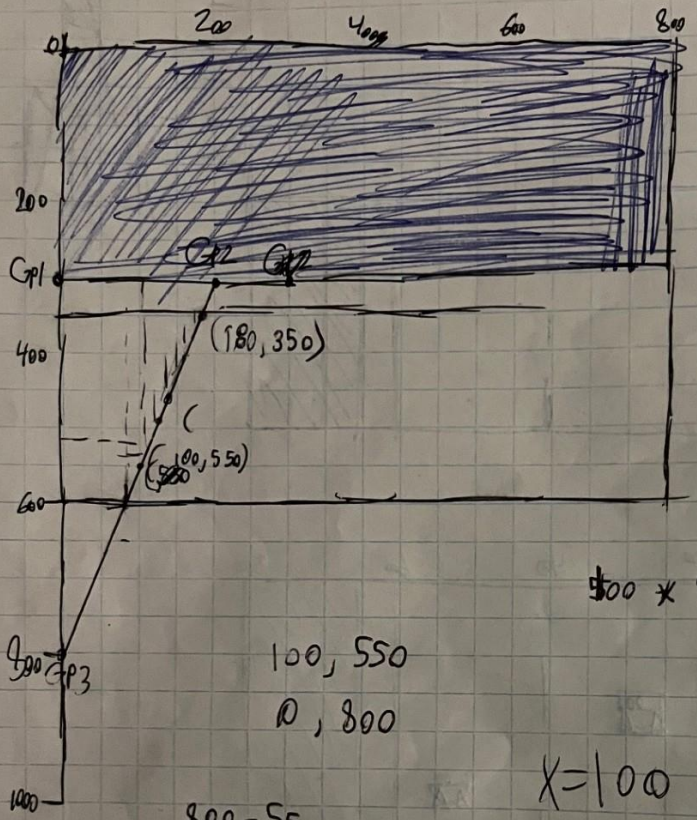


~~Between~~

Player cannot drive on red zone. Ground objects appear in this lane around 3-4 points to simulate distance

- Blue zone represents sky. certain objects like clouds appear here.
- Objects on left side of road can appear on (125,300), (75,400), (50,500)
- Objects on right side of road can appear on (675,300), (725,400), (775,500)
- correction: objects on left side = ~~(300, 100)~~ (100, 220), scale=1
  (40, 300), scale=2
  (-20, 400), scale=3

- right side objects = (



1. Player < GP2.X
2.

5.50

800 * 4.5

800 x

100, 550

0, 800

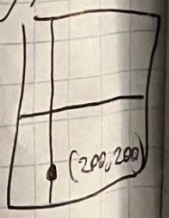
$\frac{800-550}{0-100}$

$\frac{350}{-100} = -2.5$

X=100

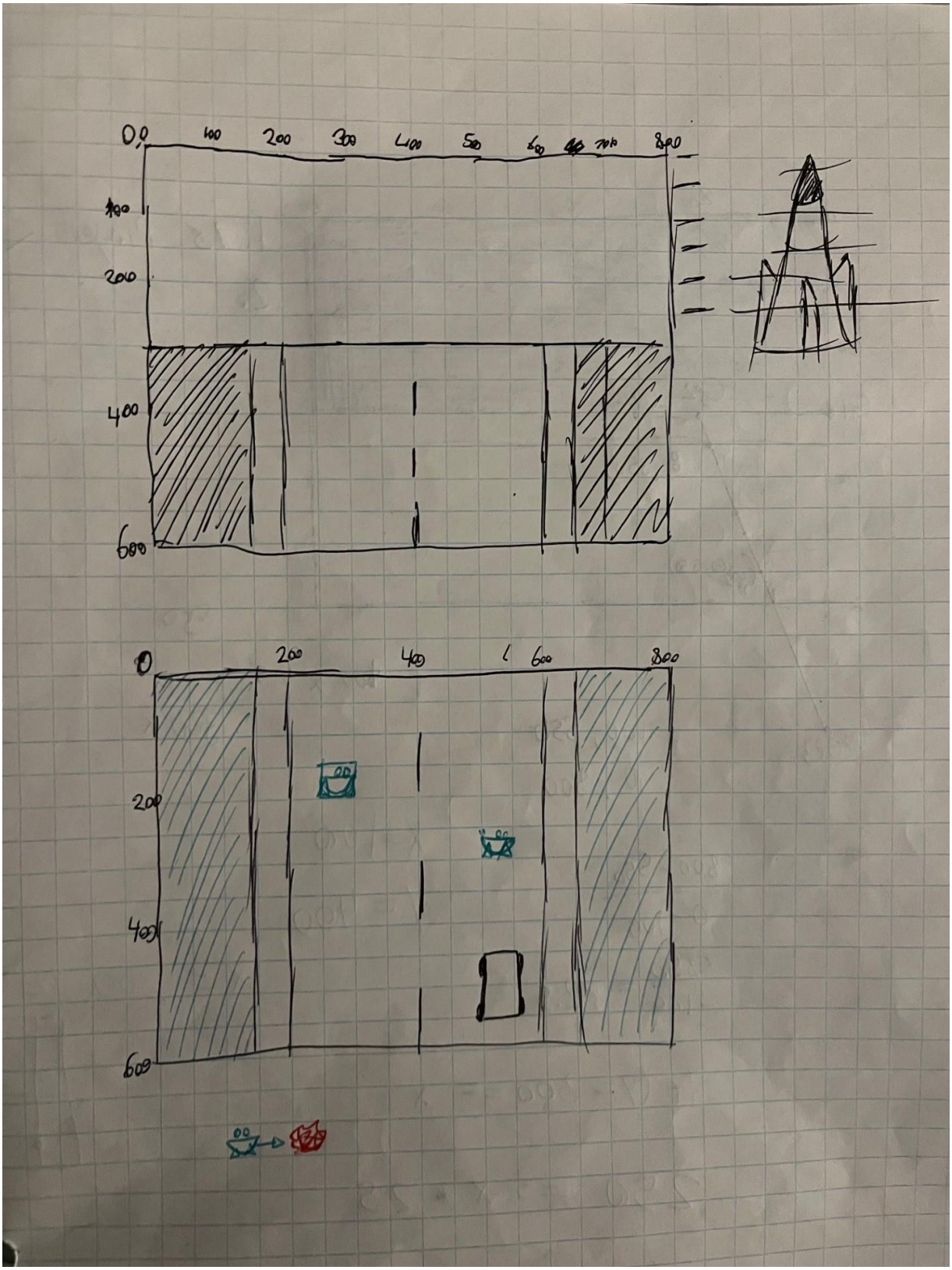
Y=400

X = 200, Y = 200



if (Y - 300 == X

250 == X * 25


0,0
100
200
300
400
600
800
200
400
600
800
200
400
600