The Project

**The Problem:**

I am going to create a game designed to entertain users between the ages of 5 and 25. I will write the program using the Pygame library in Python to create the game. The hardware required to run the game will be a computer as it will not run on mobile devices.

**Existing Games:**

There are already existing 2D-Platformer games in existence such as the Mario or Sonic games and I am taking inspiration from the platformers that I have played to create a game that will have the features that I would want in a 2D Platforming game.

**Limitaitions:**

Using Pygame library to create the game will limit me to creating a 2D game as Pygame does not have any 3D capabilities. However this is not a problem as the game I am designing is 2D.

Because I am usng python it will also mean that the program will only run on PC and not mobile devices as python on mobile is significantly different and does not have the required libraries.

There will be limitations to how much I can achieve such as the timeframe that I am limited to and the fact that is just me working on the project and that I am working alone and not in a development team.

**Features:**

* The game will need to have sprites that will make up the player controlled character and the enimies.
* The sprites will need to be able to move around the screen. The player controlled sprite must respond to buton presses by the player. The sprites of the enimies must be able to move and attack the player.
* Gravity will need to apply to all of the spirtes and pull them towards the bottom of the screen so that if the character jumps or falls off something then they will fall towards the ground and not just float.
* Collision detection will be necessary as it means that the sprites cannot walk through walls and fall through the floor.
* A world/map/enviroment wil need to be created for to move around in.
* The map will need to scroll as the character moves so that they dont just walk into the edge of the screen. It will also need to contain things that can damage the player so that they have something which they need to avoid.
* A health system will be needed so that the player can be damaged/killed so that there is a losing condition.
* A score system will need to be implamented so that the player can keep track of how well they are doing.

**Aspirational features:**

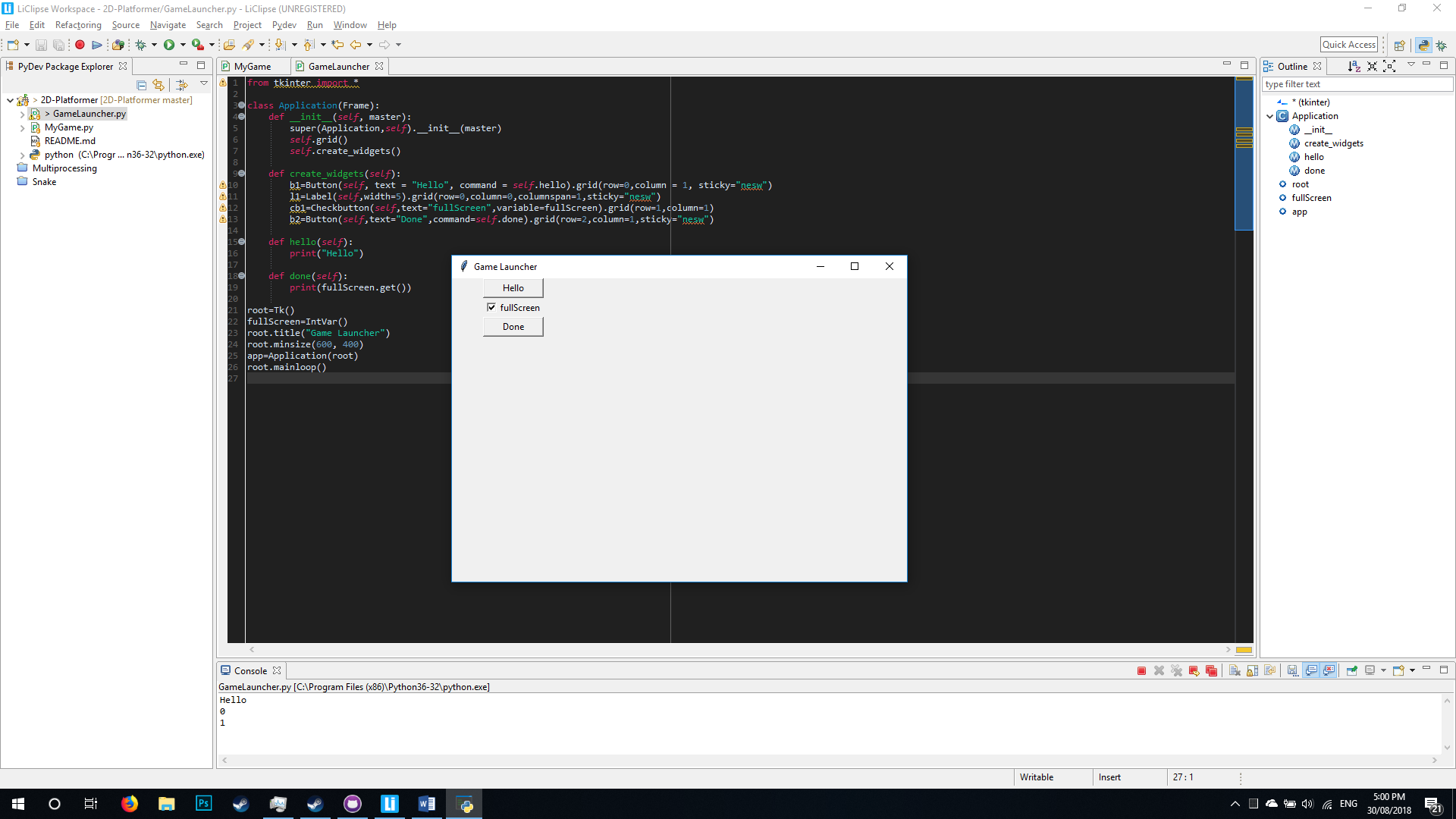
* The ability to save the curent progress could potentially be implemented later on once the main features of the program has been set up.

Success criteria… (measurable)

## Planning:

I created a list of features that I wanted to implement and then ordered them from most important to least so that I had a basic plan to follow.

## Getting Started:

I considered that the computer which the player is using might only have a low resolution monitor so I wanted the player to be able to choose the resolution before the game launched, this is why I decided to use the tkinter library to create a game launch menu.

I first got the basics working:

* I chose a resolution for the window which would still display on lower resolution monitors (600x400 pixels).
* I created a button to test that it would work and execute the specified command.
* I created a tick box and a button to output its current status for which I had to use .get()
* I also set the title of the window which may change later.