Project Summary:	Rubble Road Group #10	
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Our project is a game coded in Python. The game is called Rubble Road. It involves driving a car and avoiding obstacles. The goal is to drive the car for as long as possible before crashing. As you drive further, you pick up speed boosts which gradually increase your speed. On the road are rocks in 3 lanes which you must avoid by pressing the left and right arrow keys. This moves the car into one of the 4 corresponding lanes and keeps you alive. The score increases by 10 for each row of rubble you drive past.

Design Process:

Our group originally wanted to create a rhythm game in which you hit beats to the music playing in the background. This idea eventually changed to driving a car on lanes and making obstacles ‘fall’ down onto the car to create the illusion of the car driving forward. We knew we had to make separate classes for the parts of our game. We made one for the car, obstacles, speed boost, lane lines, and scoreboard. Getting the images of the car, lanes, and obstacles was simple, but getting the obstacles to fall at an increasing speed and reappear at the top was more complicated. Eventually, we decided to give every object that was falling towards the car the same variable of speed. Every time you cross over a speed boost, the variable speed would increase by .15, so all the obstacles would slowly get faster and faster until you inevitably crash.

After you crash, we added a caption that shows “game over” and “press space to restart!”. Once you press space, all object are teleported back to the top of the screen and the scoreboard is reset. Near the end, we decided to add music and sound effects to our game when you crash, boost, and just a main theme. Once those sounds were added in, the game felt much more complete. The final step to completing the game was to add a fluid animation to the car’s movements in-between lanes. Since the car always sits at the bottom of the screen with the obstacles and boosts coming towards it, the cars y value never changes. So, to give the car fluid motion we gave the car a target x value and an actual x value. If the target x value is greater than the actual x value, you would be turning right and if the target x value is less than the actual x value, you would be turning left. We incremented the movement by moving 5 frames every time you were checked to not be in the actual x value. That made the cars movement fluid back and forth between the lanes.

Result:

When we finally finished our game after many days and many heads of hair lost, it turned out a lot better than we expected it to be at the end. With the sounds and a fluid animation the project was polished nicely. We would have liked to add a start screen where when you launch the program, you would get a button to press to start the playable game.

Reflection:

This project really helped us learn to understand and create code in python. With none of us having any prior experience in python at all, we were able to create a game in python from scratch. We learned a lot about python and the skills required to make a game. This project overall was a great learning experience for us.