Hello,

As part of your interview process for the summer position at the Virtual Human Interaction Lab, we will be asking you to complete a short programming assignment. This assignment involves receiving code for a simple Python game and making various changes and improvements. The details and instructions are below:

Details:

1. You have **2 days** to complete the assignment
2. Please work **alone** – do not ask friends or classmates for help
3. You may use the internet, you may Google things, you may use any resources except another person
4. Assignment is **DUE** 48 hours after receipt of this email
5. Please zip up your project folder (include code and any other files – images, sounds, etc) and send to [tweiss2@stanford.edu](mailto:tweiss2@stanford.edu)

Set Up Instructions:

1. Go to Python.org
2. Click on the Downloads tab
3. Download Python
4. Install Python
5. **\*\*For PC\*\*:** Make sure you check the box labeled “Add python to PATH””
6. Go to Pygame.org
7. Click on “Getting Started” at the top
8. **For Mac:** Copy the line “python3 -m pip install -U pygame --user"
9. **For PC:** Copy the line “py -m pip install -U pygame --user"
10. Open Terminal (or Windows equivalent) and paste
11. Download Game.py from the zip folder in this email; save it to your computer
12. You should now be able to run Game.py (using Terminal)

The Assignment:

This is a simple game in which the player controls a central character with the arrow keys. The player can “eat” moving polygons (enemies) that are smaller than him (by colliding into them) but has to avoid any enemies that are larger than him. Every time a player successfully eats an enemy, he grows in size. Eventually, the player can grow large enough to eat all of the enemies.

It is your job to implement as many of the following changes as you can:

\*\*Important\*\* *We do not expect you to accomplish all of these tasks; please prioritize them how you see fit, and accomplish as many as you can*

1. Give your enemies (moving pentagons) a rotation
2. Give your enemies (or yourself) a color
3. Vary the shape of your enemies (make some squares, hexagons, or even an image)
4. Increase number of enemies as time goes on
5. Add a sound effect for when you eat an enemy
6. Implement a score board
7. Add a background
8. Improve the collision function
9. Add a Game Over screen
10. ***Have fun and be creative – feel free to make any other changes, outside of this list***