Coding with Reflection

Literate Programming

Samantha Carley – sc1748

I chose the game called “Power of Thor” and used the Python language. I started out by reading the prompt and any other information provided on how the game would be “played”. I then started programming a bit, trying to understand how to move Thor around the scene. After understanding how the mechanics worked, I then took a planning/writing approach. I think my approach would have been different given a different medium since I did not understand how CodinGame itself worked.

**Overview and Thought Process**:Thor must be moved around the scene via code in order to get to the “light”. To move him, we specify the direction in a print statement. In order for all test cases to be solved, we can implement conditional statements to test where Thor is within the scene. When implemented, the code should automatically move him to the light depending upon his starting position.

**Pseudocode**:

Thor’s x coordinate = initial\_tx

Thor’s y coordinate = initial\_ty

Light’s x coordinate = light\_x

Light’s y coordinate = light\_y

*First, we obtain Thor’s current position and perform some conditional statements to figure out which direction to send him.*

Game loop start

IF Thor’s x coordinate is less than the light’s x coordinate:

xDirection = East

Update Thor’s position.

ELSE IF Thor’s x coordinate is greater than the light’s x coordinate:

xDirection = West

Update Thor’s position.

END

IF Thor’s y coordinate is less than the light’s y coordinate:

yDirection = South

Update Thor’s position.

ELSE IF Thor’s y coordinate is greater than the light’s y coordinate:

yDirection = North

Update Thor’s position.

END

*So, now that we’ve got the optimal x direction and y direction for Thor to move, we can append them together, since the game is designed to move Thor in all eight directions (N, NW, SW, etc).*

Print(xDirection + yDirection)

Starting to code without reflection or writing the pseudocode led me to miss out on discovering the solution sooner. I was just “plugging and chugging” by hard-coding Thor’s movements without understanding how to solve the entire problem. This also led me to getting too fixated on each of the test cases that were presented; whereas the idea is to program the solution for any test case. Writing out the pseudocode certainly helped with the conditional statements.