**Report for HW 3**

Question 1:

First, I create snake.html and snake.js for html and java script purpose. I first adding some code in snake.html to show the button and the canvas on the webpage. Then I set onClick function on every button on the html to start(), left(), and right() function in snake.js.

Screenshot 1: The output of snake.html with three button “Start”, Turn Left” and “Turn Right”

A screenshot of a cell phone

Description automatically generated

Then I start working on snake.js. First, I initialize the x= 0, y = 300, this will be the coordinate for the snake to appear on canvas. Then, I create a list of objects which is the body of the snake. I set the direction to “east” as the default moving direction of the snake. Then in start() method, I create context for the canvas to plot on the canvas which is also the body of the snake. I change the value of text to “Stop” after the start() method is operating. Then I set a timer for 25 milliseconds, the timer will perform a function. Inside the function, I increment the value of x and y according to the moving direction. I have a function increment() which increase or decrease the value of x and y according to the direction. Then, after increment(), I check the condition of the snake. The snake should stop when the stop button is selected, the head of snake hit it own body and the head of snake hit the wall of the canvas. I have a function check() to handle all this condition. I use the list of object to check whether the snake collide with his body. I use the coordinate to make sure the head of snake do not collide with the wall of canvas. Then I have another two function call left() and right() where it perform the same thing with start() but it change the value of direction which depends on the current moving direction of the snake.

Screenshot 2: The snake start moving when start button is selected. The start button changes to “Stop”.

A screenshot of a cell phone

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Screenshot 3: The snake stop moving when stop button is selected. The stop button changes to “Start”

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Screenshot 4: The snake turns left when the turn left button is selected.

A screenshot of a social media post

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Screenshot 5: The snake turns right when the turn right button is selected.A screenshot of a social media post

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Screenshot 6: The snake stops when its head hits its body.

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Screenshot 7: The snake stops when its head hits the wall.

A screenshot of a social media post

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Question 2:

First, I create a hw.js file in my working directory. Then I start to code in the hw3.js. Indies the hw.js, I need to add a line of code “var rs = require('readline-sync');” to enable the node.js to perform in my working directory. Also, I have to install ‘readline-sync’ in my working directory. Then I create four function for each of the question in quesiton2. Then I use console.log to print the answer for each question.

A screenshot of a cell phone

Description automatically generatedScreenshot 8: The output of my hw3.js on my terminal