Simulation Exercise

1. Problem Statement

- Simulate the "Simple Pendulum" experiment using HTML5, CSS3, and Javascript with the following outcomes :
    1. User should be allowed to vary the length of the pendulum
    2. Calculate and display the result of :
        a. Time Period
        b. Natural Frequency(rad/s)
        c. Natural Frequency(Hz)
    3. Plot a graph of Amplitude Vs Time Period

2. NEC Simulator Interface follows the following format:

- The simulator window is 768px * 540px (Width * Height) (px: pixels)
- **Variable Parameter Tab**:
    - ✓ A slider to vary "Length" of string
    - ✓ A slider to vary mass of ball
    - ✓ A slider to vary acceleration due to gravity
    - ✓ Drag and drop option to vary speed of oscillation

- **Controls Tab**:

  Start button to control the animation

- **Results section:**

  To display the result

3. Documents submitted by the development team:

A. Simulation folder in below format: Separately uploaded.

B. Steps to run the simulator

1. Click on Restart button to begin experiment.
2. Vary length of the string using the slider.
3. Vary mass of the ball using the slider.
4. Set acceleration due to gravity (9.8m/s) using the slider.
5. Drag and drop the pendulum to vary speed.

C. Coding Technologies used for development

LANGUAGES

- CSS
- JAVA
- HTML
  - FUNCTIONS

- window.setinterval()
- context.clearrect()

OPENSOURCE CODER

- VISUAL STUDIO