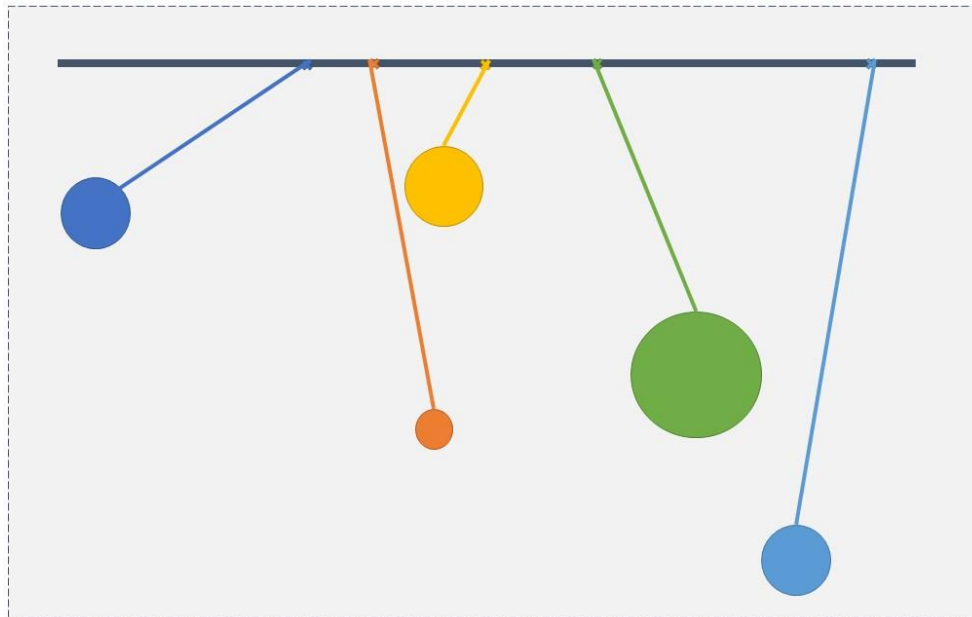


## Take Home Exercise Internship

In node.js, implement a "simple pendulum" in 1 dimension. A REST interface will allow to set up an initial angular offset and a string length (or other settings of your choice). It will also allow you to read the last coordinates, such as to be able to represent the pendulum in a UI, in an external process. The rate of simulation may be higher than the rate of visualization. Let's run 5 instances of the simple pendulum node.js process, each on its own tcp port.

Let's have one UI process, displaying in the web browser the five pendulums. It would allow the user to configure them (starting angle, length, or anything else you have chosen) in an intuitive way, conveying an easy-to-use user experience. The UI should be done using pure javascript and some CSS. Finally, all the resulting parameters of that "configuration" would be transferred in JSON format to the REST API.



The UI would also expose some simulation controls (start, pause, stop), and would poll periodically the 5 pendulum instances (using a HTTP client) to display them. A refresh rate of a few frames per second is fine.

Document briefly the resulting REST interface.

We hope you enjoy the challenge!