HACKLAB SOLUTIONS

ASSIGNMENT

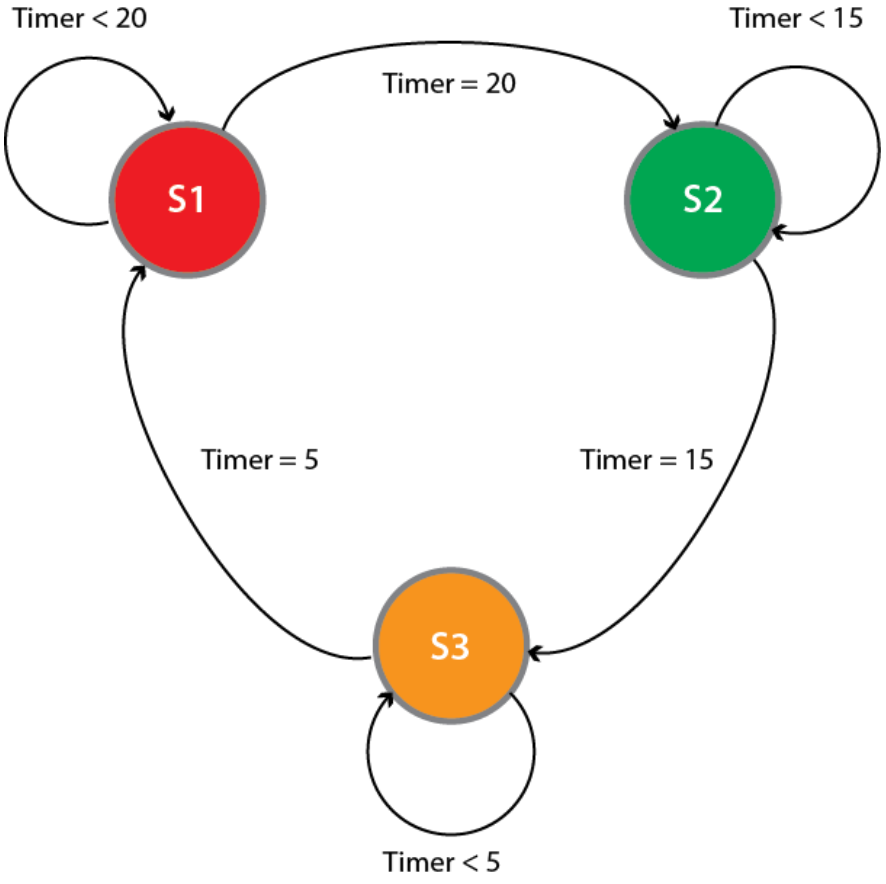
Finite state machines are an integral building block for designing digital logic. Finite state machines are equally helpful when you are trying to design a bug-free code. Mealy and Moore are two kinds of Finite State Machines popularly used by designers. You can review them here (Finite State Machines explained)

Task 1 Design a State Machine

Design a demo website which uses an FSM to control a traffic light as described below. The traffic light can be simulated with 3 buttons (Red, Green, and Yellow). The buttons turn black when inactive.

Transitions:

- Initial State is Red
- If we're in state Green and wait for 15 seconds (6 minutes), then we can go to state Yellow.
- If we're in state Yellow and wait 5 seconds, then we can go to state Red.
- If we're in state Red and wait 20 seconds, then we can go to state Green.



Task 1.1 Add a click event

Whenever the button is clicked, the state machine will jump to the corresponding state. For example, if the current state of the traffic light is yellow and you press the green button, the traffic light will now continue from the green state (the red state will be skipped for this current iteration)

Git is a popular version control system which is used for tracking code changes, tracking who made changes and collaborative coding.
You can go over the basics of Git from here (
Git Tutorial for Beginners: Learn Git in 1 Hour)

Task 2

Uploading the code to GitHub

- Create a repository on Github named HacklabAssignment 1
- Create a branch 'feature' on that repository
- Push the code written in Task 1 to the **'feature'** branch
- Merge the feature branch with the **'master'** branch

Task 3

Host the website on any online server and share the link along with the Github repo. (We prefer AWS or Azure or Google cloud but you can choose any other hosting provider.)