**Question**

1. Implement control logic of a “washing machine” using Stateflow as per given sequence:

* If the power supply is available, the system gets activated
* If the Water supply is not available, stop the process & indicate through LED
* Soaking time should be 200s followed by Washing time of 100s.
* Then rinsing happens for next 20s & dryer runs for 50s

After all the processes have completed turn on the finished LED

     2. Make a Simulink chart for the “Gear shift” logic as per below conditions:

        Speed Range(kmph)        Gear

              0 to 15                         1

             16 to 25                        2

             26 to 40                        3

             41 to 60                        4

             Above 61                       5

 Give speed input while the simulation is running & display the gear number.

**NOTE:** If you are using Matlab R2021a above versions, kindly convert you to lower or equal to R2021a version and attach it in the submission.

Conversion: Save > Pervoius Version > Choose R2021A or lower version.

**Grading Policy :**

1. Upload the supporting results as images or by any other means
2. Write a detailed report
3. Report attached as an image will lead to zero marks
4. plagiarism is not tolerated
5. upload Simulink files if needed through the google drive, any external links will not be accepted

**Your Answers**

Problem 1:

1. First state will always remain ON until the power supply is ON. This state will trigger lamps A & B.
2. Second state will intiate when both power and water supplies are ON, if either of the supplies is OFF state 2 will return to state 1 and thus the water level indicator lamp will not glow.
3. After satisfying the initial condition, Soaking cycle will run for 20 sec which is indicated subequently by the lamp.
4. Once the Soaking cycle is completed, after 20 sec the state will change to Washing having run-time for 200 sec.
5. Subsequently after completion of Washing state, 100 sec Rinsing state will intiate.
6. After 20 sec drying stage i.e. dryer will run for 50sec
7. After 50 sec cycle will stop & lamp H will flash.

Problem 2:

Input Signal Velocity could be given by Signal Builder Block.

Gear Shifting is represented with Lamps.