**Our Simulator-EEG Integration Requirements**

* We want to generate following triggers
  + Start Recording
  + Left Turn
  + Right Turn
  + Straight Drive
  + Stop Recording
* Generate a distance-based trigger. When the vehicle crosses a certain distance, the event will be generated and EEG will be recorded for 4 seconds after the trigger
* Multiple such events will be generated (for a single subject) based on the number of turns. For Example: If there are 4 right turns and 4 left turns, we will generate 8 + 2 + X events. Where X is the number of events for Straight Drive.
* When each event is generated an integer number between 1 to 255 will be outputted on the USB port

Tentative Solution 1

* + If (Vhcl.Distance > 60km)
    - Output integer 6 on USB port
  + If (Vhcl.Distance > 40km)
    - Output integer 4 on USB port
  + If (Vhcl.Distance > 20)
    - Output integer 2 on USB port

Tentative Solution 2

* It looks like Mini-Maneuver commands will not be able to access the USB port of the simulator. Hence the other solution might be to write a Plain Wrapper
* How the plain wrapper must be deployed and invoked? How do we write commands such as in solution 1?

Matlab simulink, generate triggers – access information from matlab. IPG carmaker triggers, its important to connect to matlab. Matlab -> Simulink -> toolboxes -> IPGplugin Simulink -> open IPG via Simulink -> function blocks -> integrated matlab functions -> call matlab script -> trigger subsystems -> blocks get trigger -> when simulation is running you can trigger the block after every msec or so. Open IPG in matlab. Within the matlab function -> interpreted matlab function -> script -> saved as .m file -> write a function and write a command where you can generate the trigger. Progammming manual -> how do you connect with Simulink. Once start simulatikon, “trigger subsystem bloc” Open matlab -> IPG Control -> Trigger sunsystem block -> Write function to run the script every few milisec