1. From the mechanics explorer window, move the camera to a position to view the HEBI arm in its entirety with the gripper facing the camera and capture a screenshot of it at the 40th second and include it here.

A computer screen shot of a robot

Description automatically generated

2. Within the scope, use the “Cursor Measurements” tool within the top toolbar to toggle on the “Cursor Measurements”, “Signal Statistics”, and the “Peak Finder” side panel tools then capture this current view of the scope and include it here.

A screenshot of a computer

Description automatically generated

3. Using the “Cursor Measurements” tool determine the position of the joints in the below table at the 40th second.

|  |  |
| --- | --- |
|  | Position (rad) |
| Base | 2.25 |
| Shoulder 1 | 1.16 |
| Gripper Spool | -0.767 |

4. Using the “Cursor Measurements” tool, complete the below table.

|  |  |  |
| --- | --- | --- |
|  | Peak Velocity (rad/s) | Peak Torque (N\*m) |
| Base | 0.6879 | 142.5 |
| Shoulder 1 | 0.5754 | 76.20 |
| Gripper Spool | 0.7306 | 33.18 |

Using the peak finder tool and signal statistics tool provided values well outside of the expected range of values for the max/ peak values for certain traces. Usually, these values were towards the end of the simulation when erratic behavior in the plots occurs (Around 76.9 seconds to be exact). So, using common reasoning the value that seemed the most relevant and applicable out of the peak values was selected. This value being selected is usually the second or third peak finder value that isn’t around that 76.9 second mark.