**Hardware Device Information:**

**Motors:**

|  |  |  |
| --- | --- | --- |
| **Variable Name** | **REV Hub Port** | **Config Name** |
| *frontLeftMotor* | H2 channel 0 | LF\_Motor |
| *frontRightMotor* | H2 channel 1 | RF\_Motor |
| *rearLeftMotor* | H2 channel 2 | LR\_Motor |
| *rearRightMotor* | H2 channel 3 | RR\_Motor |
| *horizontalMotor* | H3 channel 0 | HorizMotor |
| *verticalMotor* | H3 channel 1 | VertMotor |

**Servos:**

|  |  |  |
| --- | --- | --- |
| **Variable/Config Name** | **REV Hub Port** | **Function** |
| *hookyBoi* | H2 servo 0 | Hooks on to Foundation |
| *clampyBoi* | H2 servo 1 | Clamps on to Skystone |
|  | H2 servo 2 |  |

**Sensors:**

|  |  |  |
| --- | --- | --- |
| **Variable/Config Name** | **REV Hub Port** | **Function** |
| *cantTouchThis* | H2 port 0 | Horiz extension control |
|  |  |  |
|  |  |  |

**Hardware Programming Info:**

**Motors:**

|  |  |  |
| --- | --- | --- |
| **Variable Name** | **Position Info** | **Drive Speed:** |
| *horizontalMotor* | *Start:* -502 | *Max:* 930 | 0.2/0.5 (SLOW > 620 OR < -275) |
| *verticalMotor* | *Start:* \_\_\_ | *Max:* |  |

**Servos:**

|  |  |  |
| --- | --- | --- |
| **Variable Name** | **Range** |  |
| *clampyBoi* | *Start:* ~0.34 | *Max:* 0.4 |  |
|  |  |  |

**Pseudocode:**

**General Format:**

1. **Grab Skystone**

* Move forward \_\_ inches (*Motor Encoder)*
* Scan first three Stones (*Phone Camera*)
* Move up to Skystone (*Motor Encoder*)
* \*Rotate if needed\* use Servo arm to grab (*clampyBoi*)
* \*Rotate if needed\* wall-align + drive to Foundation (*Motor Encoder*)

1. **Move Foundation**

* Slowly drive up to Foundation (*Ultrasonic/Distance Sensor*)
* Grab using arm (*hookyBoi*)
* Drag Foundation towards wall (*Motor Encoder* OR *Ultrasonic/Distance*)

1. **Park under Skybridge**

* Move to wall + align (*Motor Encoder*)
* Drive straight to be under bridge (*Motor Encoder*)

**Auto Programs:**

**Away from Foundation:**

* Start at close Skystone, drive under SB close to wall, drag Foundation, park close to wall

16 programs

**Close to Foundation:**

* Drag Foundation, drive under SB close to wall, get far Skystone, drive back close to wall, park close to wall

32 programs

**Close to blocks:**

* Try to get skystone closer to the wall
* Have teammate pull foundation
* Put skystone on foundation
* Park

48\*2 = 96 *yayyyyyyyyy*