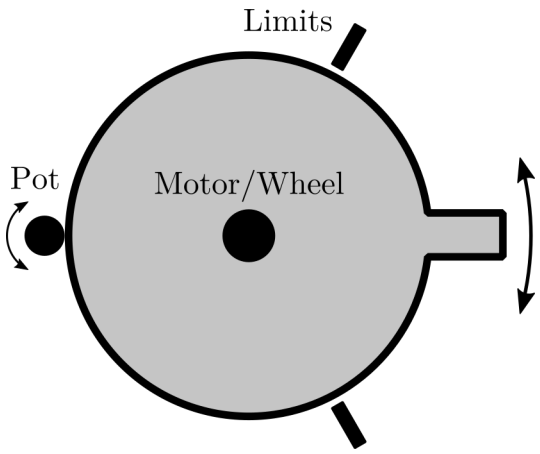
Name: **RIN:**

For all written code, you may shorten the names of constants and functions if what you intend to write is clear. Some provided code may also be shortened. Pseudocode will receive minimal partial credit.

A motor with a wheel attached is used to accurately position a device along it's arc. The wheel edge drives the shaft of a multi-turn potentiometer; where the potentiometer is used to provide a positioning feedback signal for the mechanical system. The potentiometer, a 10 kΩ pot, is wired between 0 V and 3.3 V such that as the motor turns clockwise (motor "forward," or positive direction) the potentiometer wiper output voltage increases. The position of the wheel is restricted by two "limits" which prevent the wheel from turning further. Both limits have "limit switches" mounted on them to indicate that the motor has contacted the limit. The limits are located at ±60° from the center position, 0°, as shown.



The motor operates the same as in the RSLK (P3.6:ENABLE(1), P5.5:DIR(0-FORWARD), P2.6:PWM). The +60° limit switch is on P4.0, and the −60° switch is on P4.1, both LOW when pressed.