PROJECT SIX
PERFORMANCE CHECKLIST

Check off the functionality of each subsystem. You are encouraged to do this incrementally by subsystem, as each subsystem is added to the circuit board. Before you leave the lab today, demonstrate to the TA that each subsystem functions correctly, and that you have filled in values for each item that should be measured

USER INPUTS - START AND STOP BUTTONS

Does the "start" LED illuminate when the "start" button is pressed?	yes	no	
Does the "stop" LED illuminate when the "stop" button is pressed?			

SENSOR INPUTS

Does the light sensor LED illuminate when light is shined on the light sensor? (and it is off otherwise)			
Does the "stop" LED illuminate when the thermistor is heated above room temperature? (and it is off otherwise)			
Does the "stop" LED illuminate when the motor current exceeds 150 mA? (and it is off otherwise)			

DIGITAL LOGIC

	yes	no	
Does the Q output of the RS flipflop appropriately switch between logic high and logic low when each of the "on" or "off" functions is activated?			
Does the "run" status LED illuminate whenever the Q output is logic high?			

POWER OUTPUT

Is the voltage at the collector of the NPN transistor less than 1V when the Q output of the RS flipflop is logic high (true)?	yes	no	value
Is the voltage at the collector of NPN transistor close to power supply voltage when the Q output of the RS flip flop is low?			
Does the motor run only when the Q output of the RS flipflop is logic high (true)?			
Does the motor stop only when the Q output of the flipflop is logic low (false)?			

CHANGE RECORD

2022-10-04 changed to be consistent with light sensor active when illuminated instead of active when shaded, in order to be consistent with previous projects. Minor other changes to wording.

2022-03-01 shortened considerably based on prior work with the digital logic circuit and calibration setpoints that are provided to the students

2021-11-15

Adjusted voltage values to better match the range observed by students in the lab this semester.