SPIDER TASK-2

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## LINE FOLLOWING BOT USING ADC
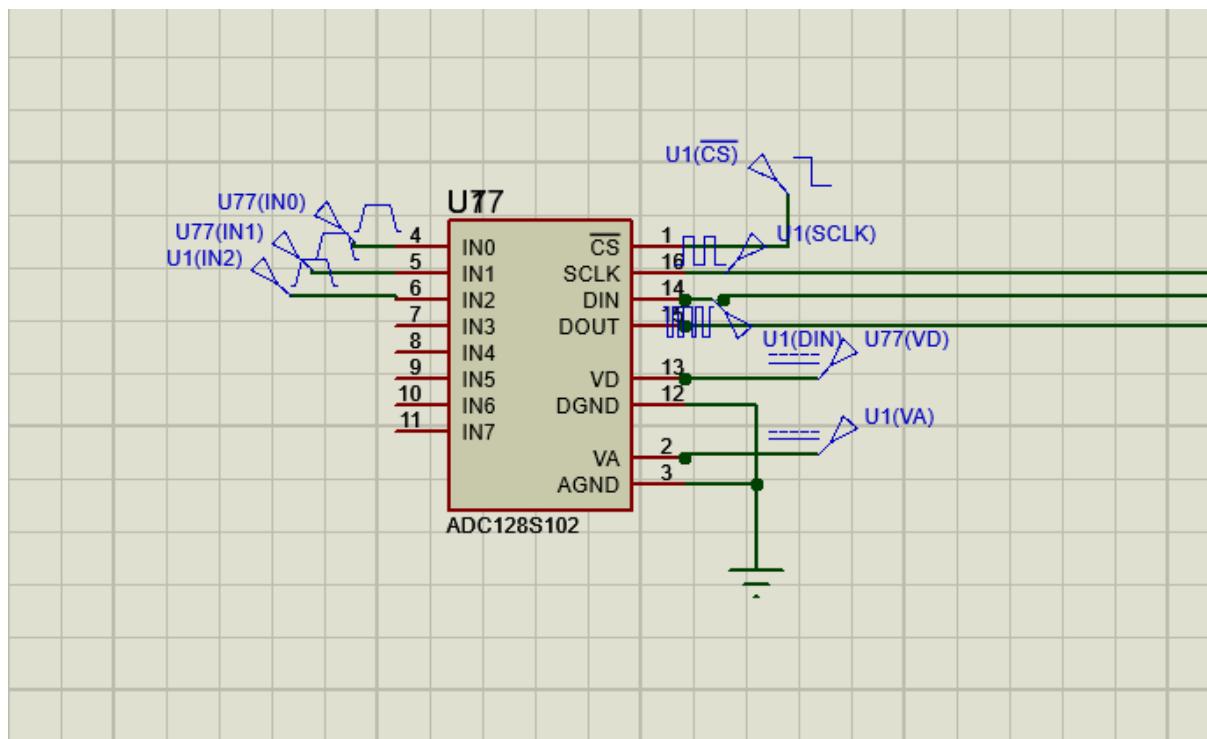
Components:

The circuit mainly consists of five components:
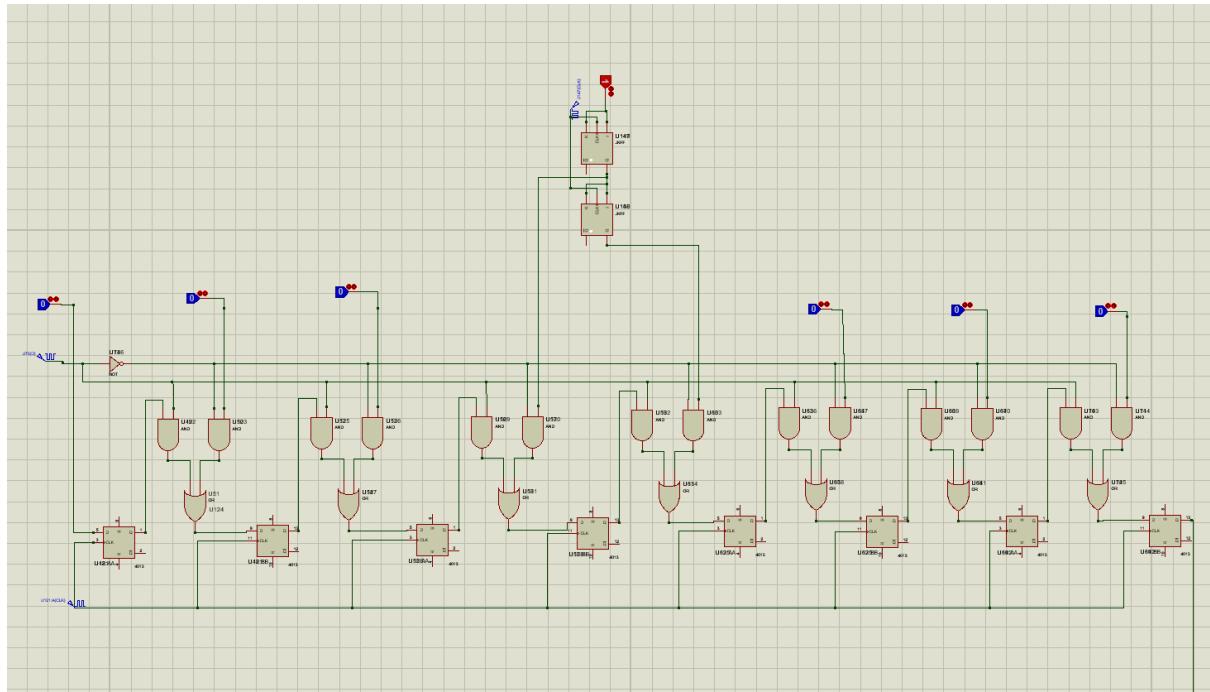
- The ADC
- The 8 bit PISO Shift register
- The 12 bit SIPO Shift register
- The logic circuit to control the motors
- The motor driver

Functions of various components:
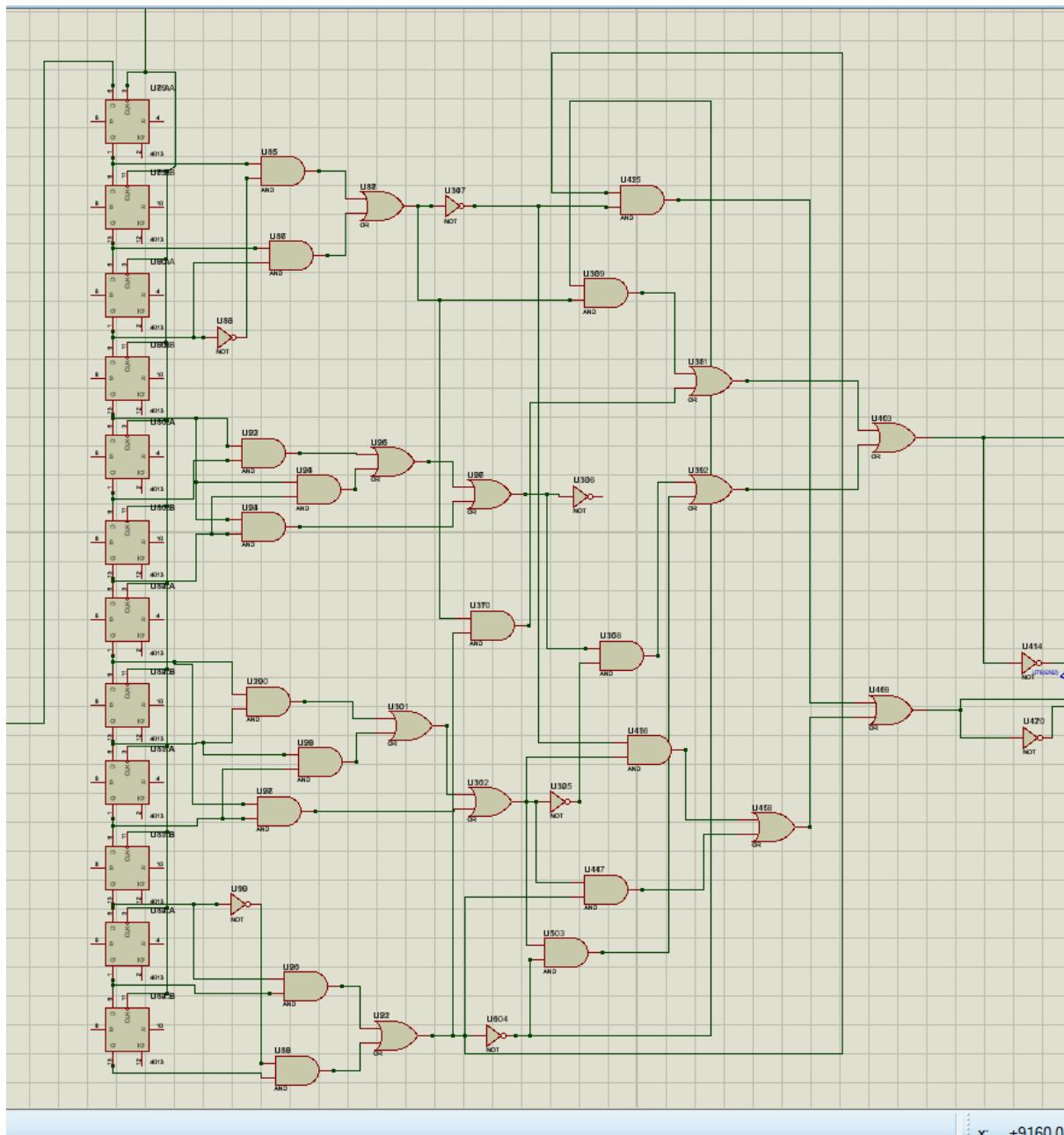
The ADC is given the 3 analog inputs in the pin A0, A1, A2 and to control the register of the ADC in the DIN pin a 8 bit shift register is connected. The CS pin is kept low for working purpose and the SCLK is given a clock input of 8Mhz.The VA and VD reference are given their respective values
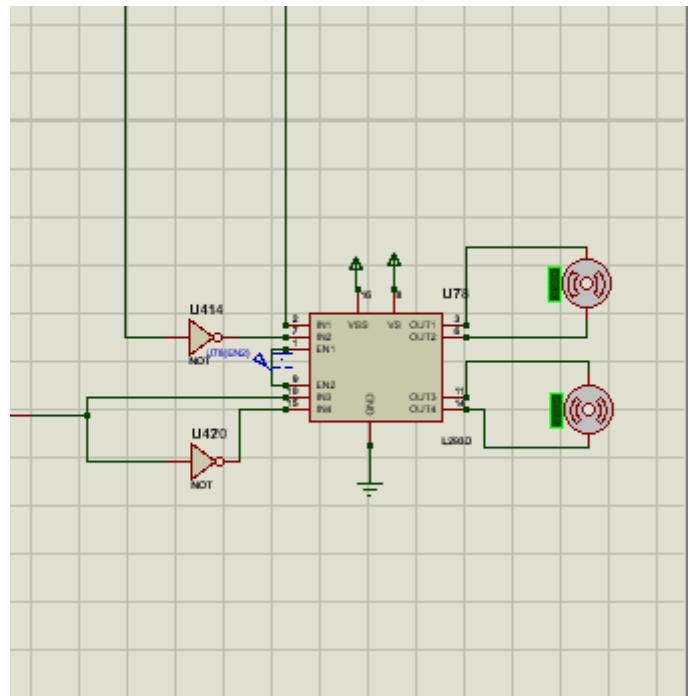
The 8 bit PISO shift register is used to give a 8bit input to the din pin of the adc to cycle through different analog input which is being used by us (Basically the first three inputs which we will be using) To change between the three inputs I am using a 3 bit counter based on JK flip flops

The 12 bit SIPO is used to take the DOUT from the ADC and manipulate it to get the required outputs using logic gates and then using the motor controller l239d we are able to control the two motors and achieve the required output

The SIPO Shift Register

The Motor Driver