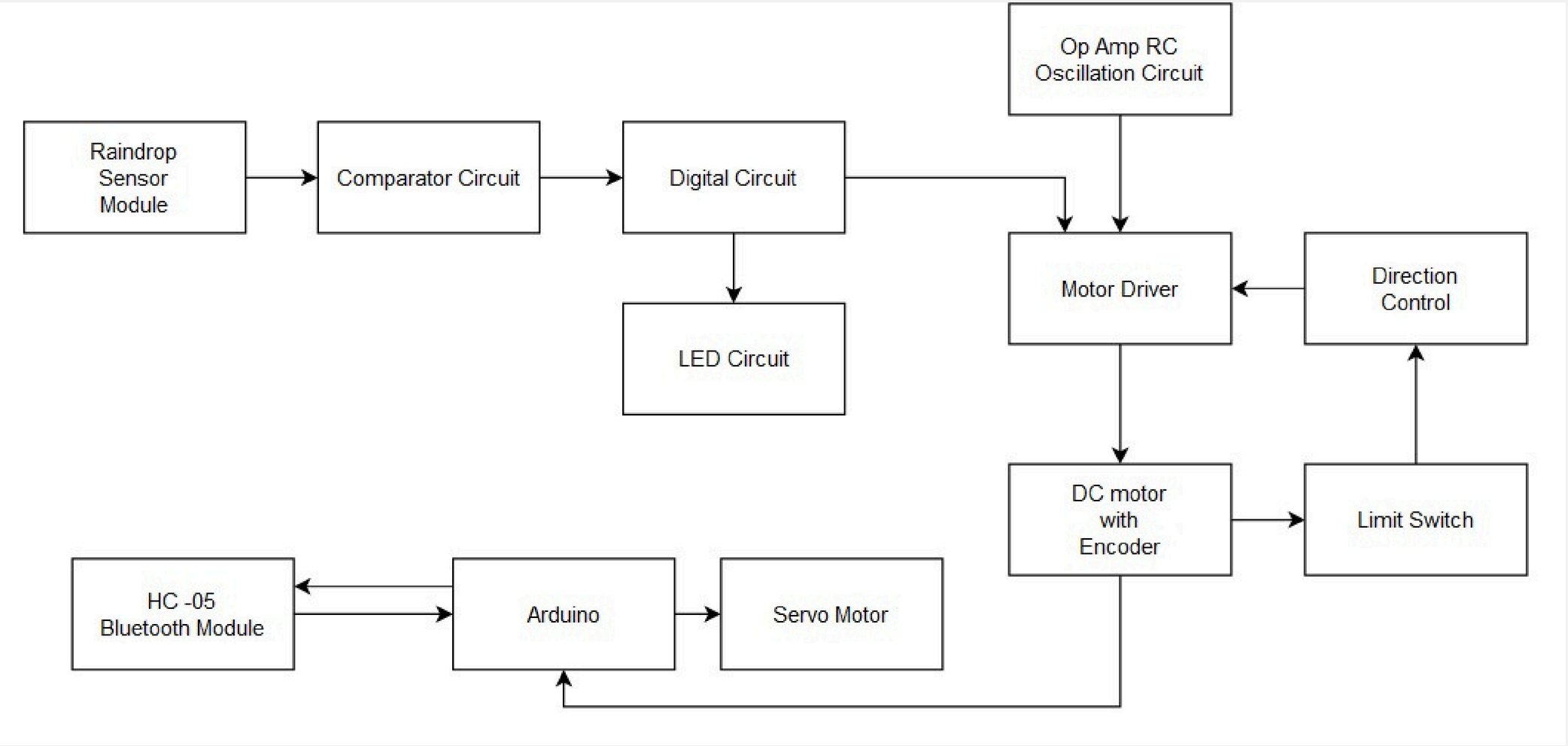
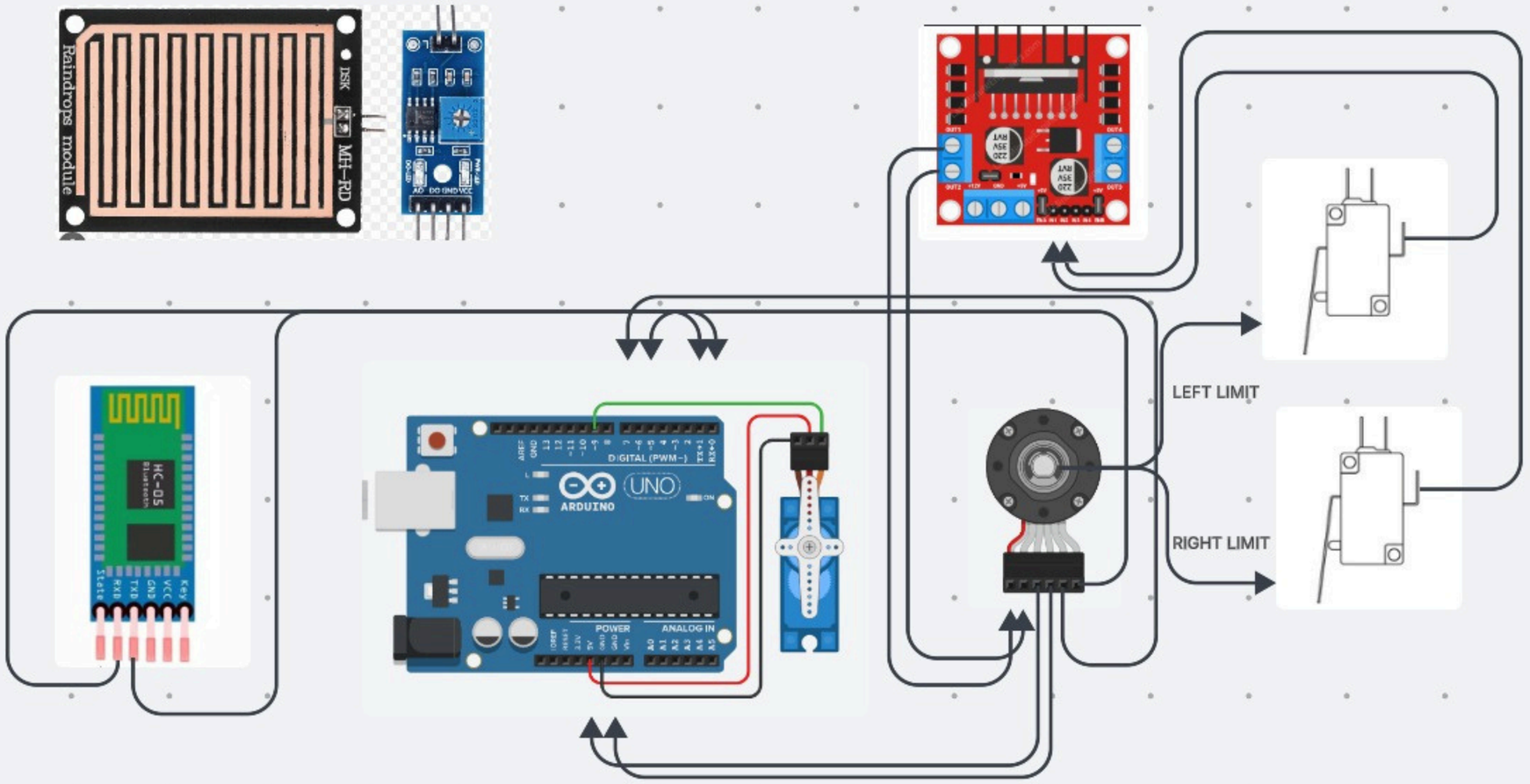
KRITI'25

HostelID-90

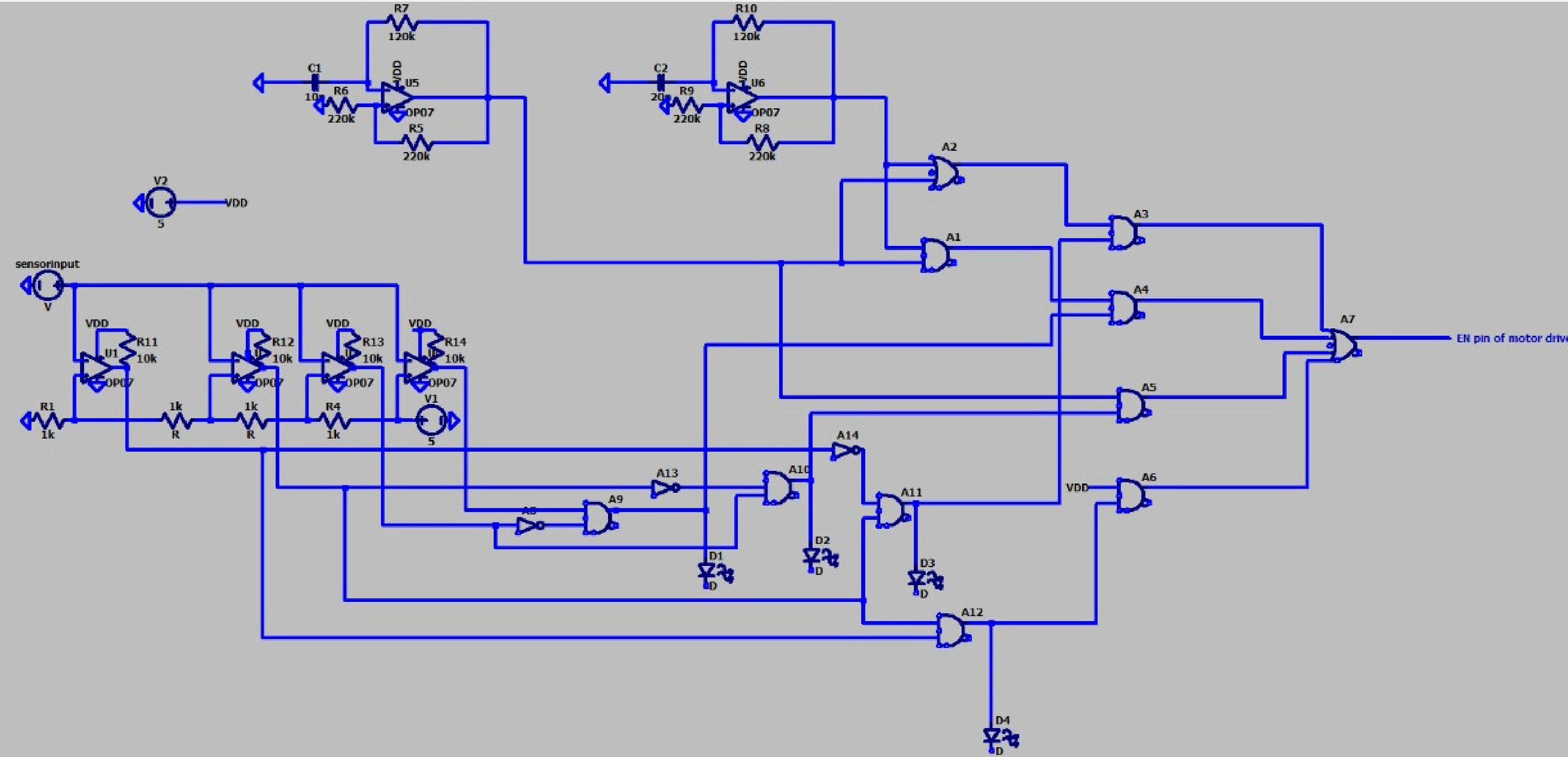
FLOWCHART


Op Amp RC
Oscillation Circuit
Raindrop
Sensor
Module
Comparator Circuit
Digital Circuit
LED Circuit
Motor Driver
Direction
Control
DC motor
with
Encoder
Limit Switch
HC -05
Bluetooth Module
Arduino
Servo Motor

CIRCUIT SCHEMATIC



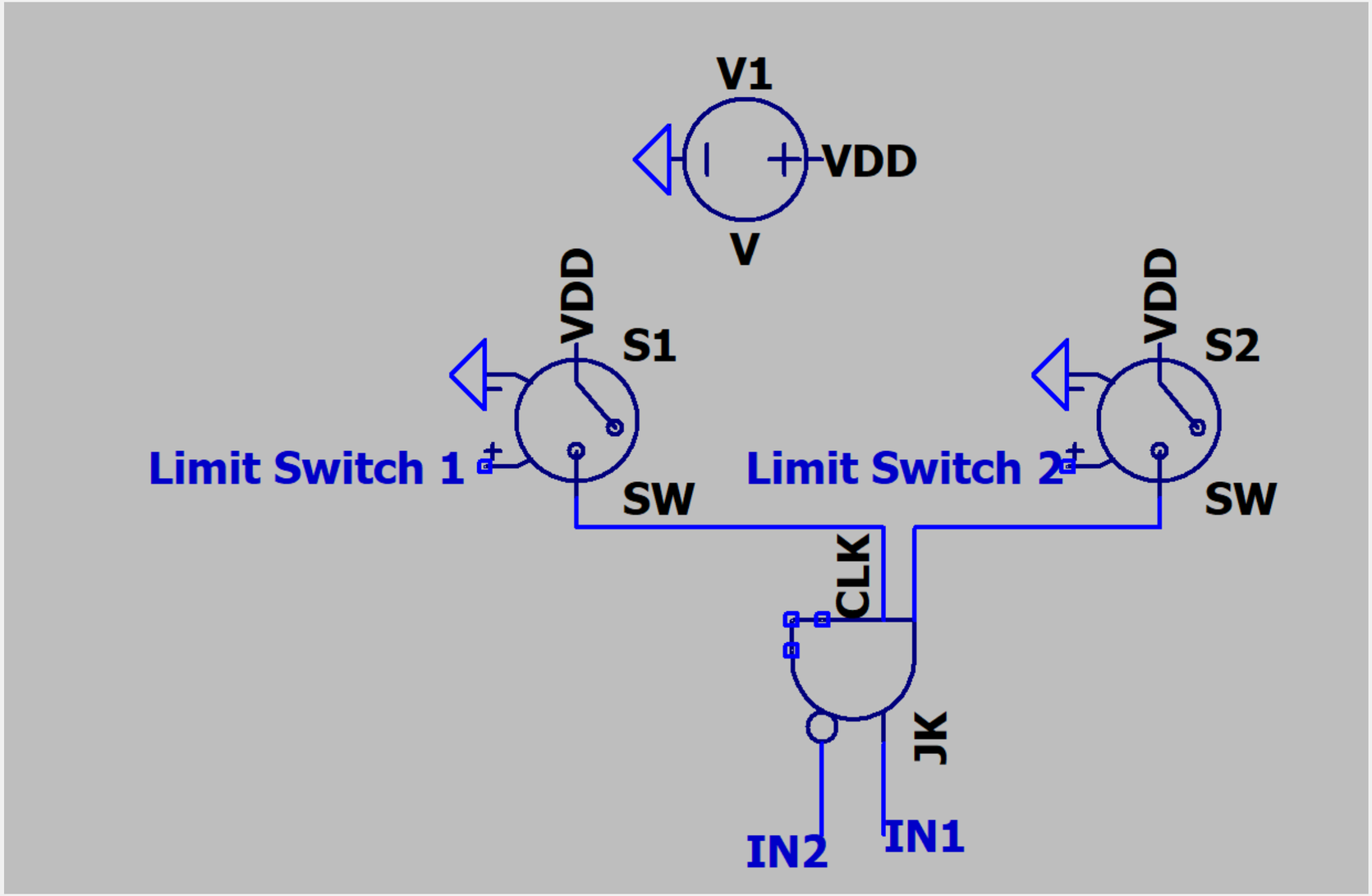
CIRCUIT


R7
120k
C1
10
R6
220k
U5
VDD
OP07
R5
220k
R10
120k
C2
20
R9
220k
U6
VDD
OP07
R8
220k
V2
5
VDD
sensorinput
V
VDD
U1
R11
10k
OP07
VDD
U2
R12
10k
OP07
VDD
U3
R13
10k
OP07
VDD
U4
R14
10k
OP07
R1
1k
1k
R
1k
R
R4
1k
V1
5
A2
A1
A3
A4
A5
A6
A7
EN pin of motor drive
A14
A13
A10
A9
A11
A12
VDD
D1
D2
D3
D4

Process

First we created a pwm wave of 50% duty cycle with op amp -rc oscillator, of 2 diff frequencies and the used and and “or” to generate pwm of 25% and 75% duty cycle, used comparator circuit to to differentiate 4 speed levels then used a combination of these led inputs and pwm signals to produce final pwm to enable pin of motor driver, the 0-180 direction control of dc motor is done using limit switch-jk flioflop. the speed of motor is read thrpugh the encoder by arduino which correspondingly changes the direction of needle. raindrop sensor module and arduino output of wireless breaking is connected through transistor circuit.

WIPER MECHANISM



WIRELESS BREAKING