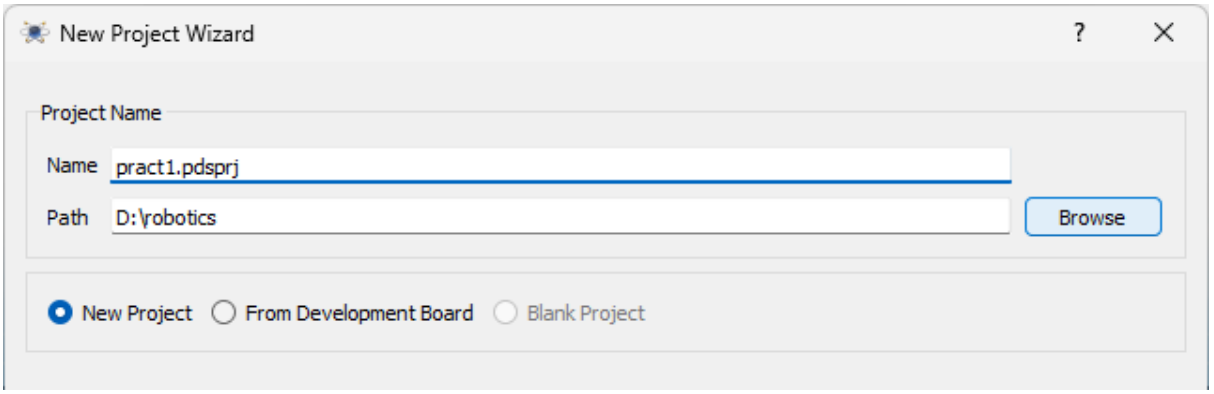
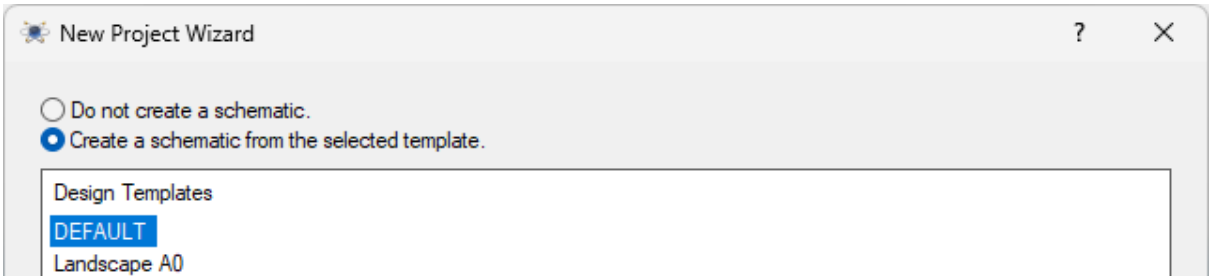
Practical 3

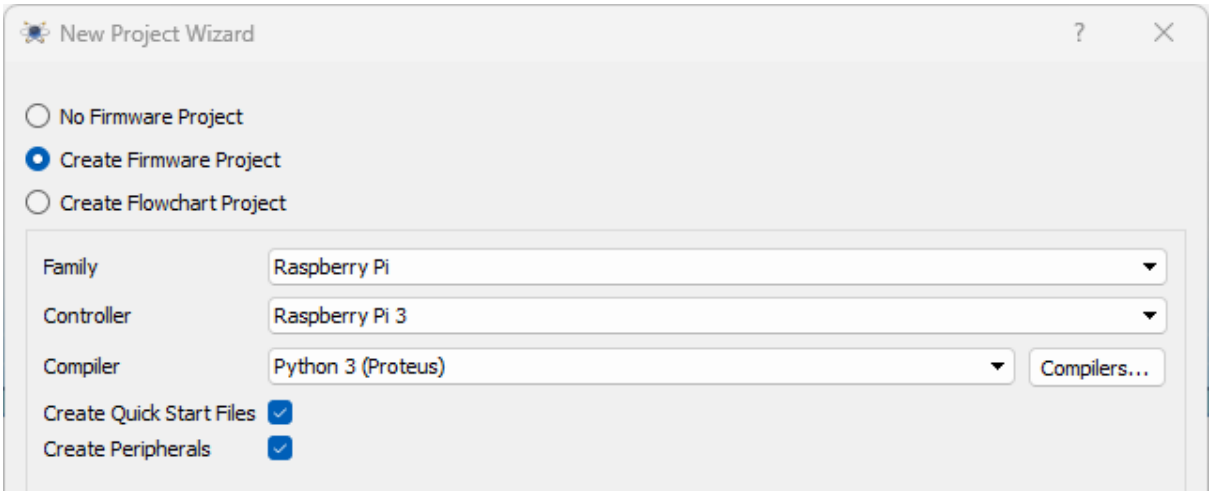
Aim: - Write Python code to test motors.

Step 1:Create a new proteus project



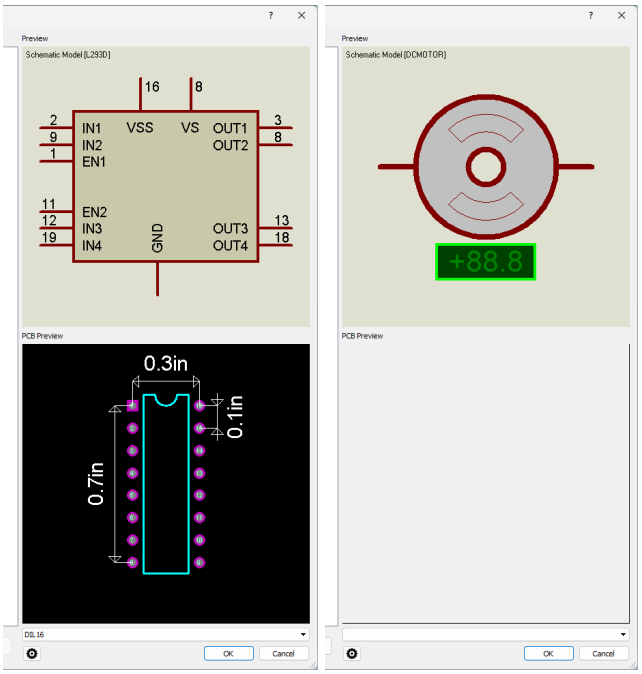


Step 2: Select Raspberry pi as option under Create Firmware Project

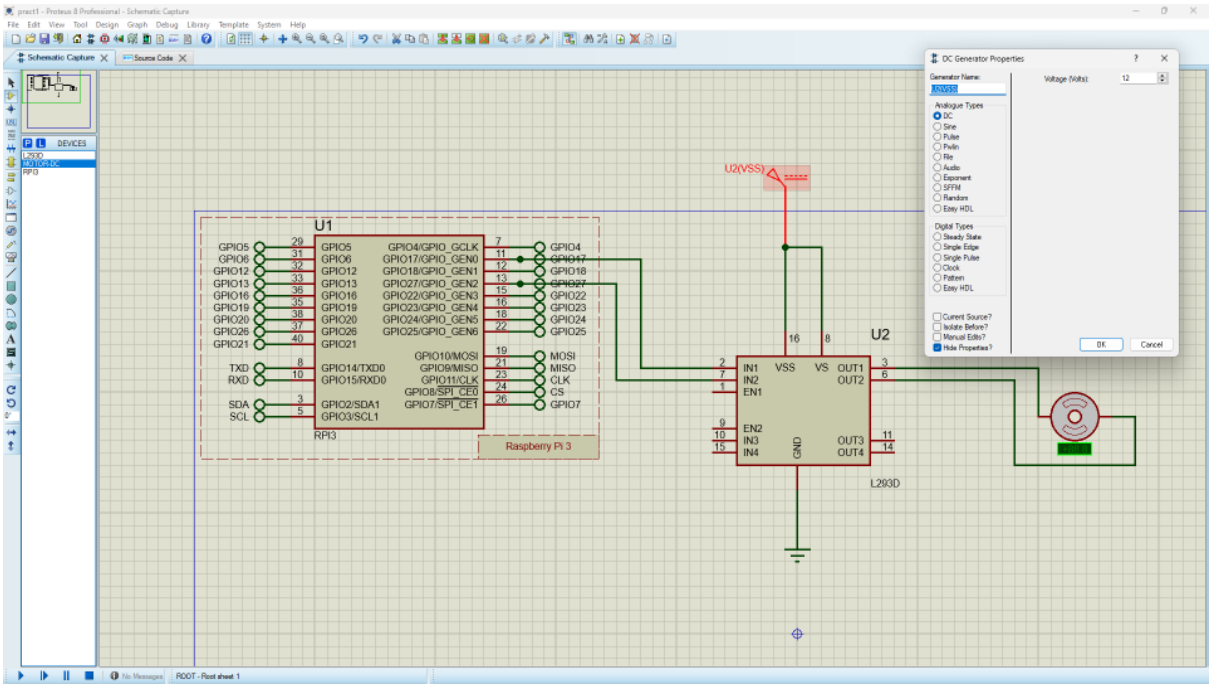


Step 3: Add the components necessary to test the motor.

- **DC (Generators) (Set to 12 Volts)**
- **MOTOR-DC (Devices)**
- **L293D (Devices)**
- **GROUND (Terminals)**

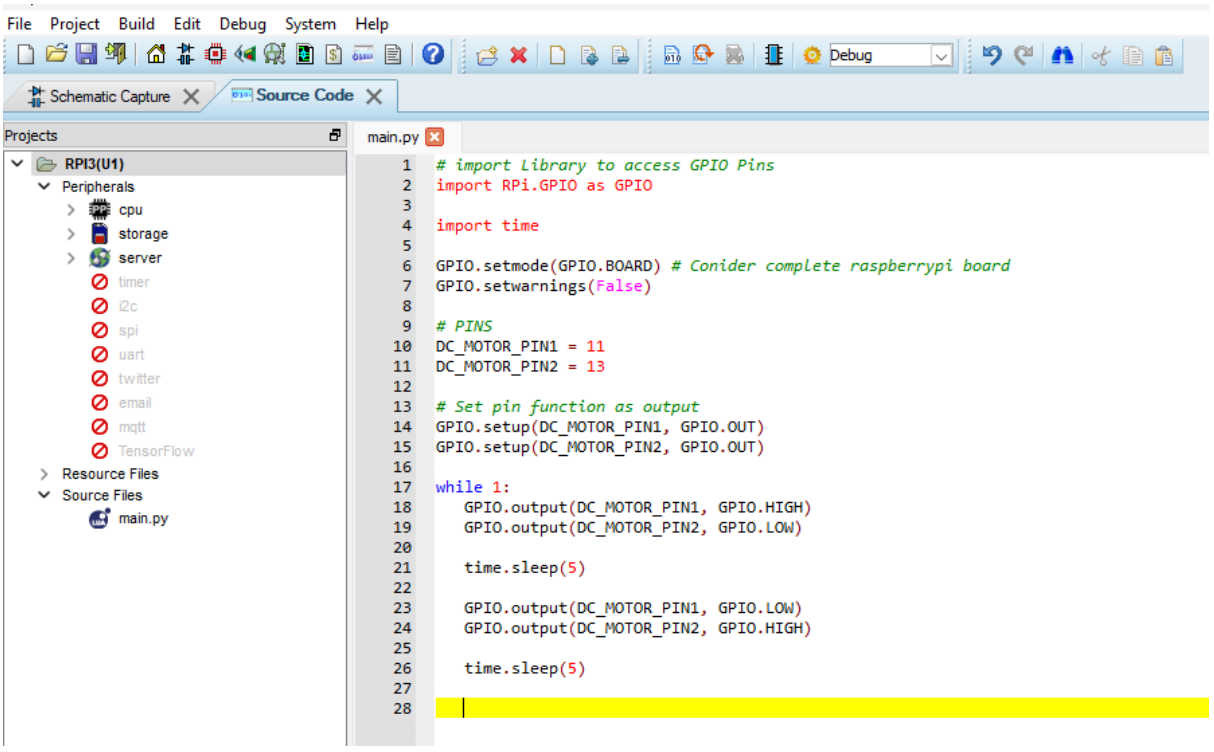


Step 4: Complete the connections



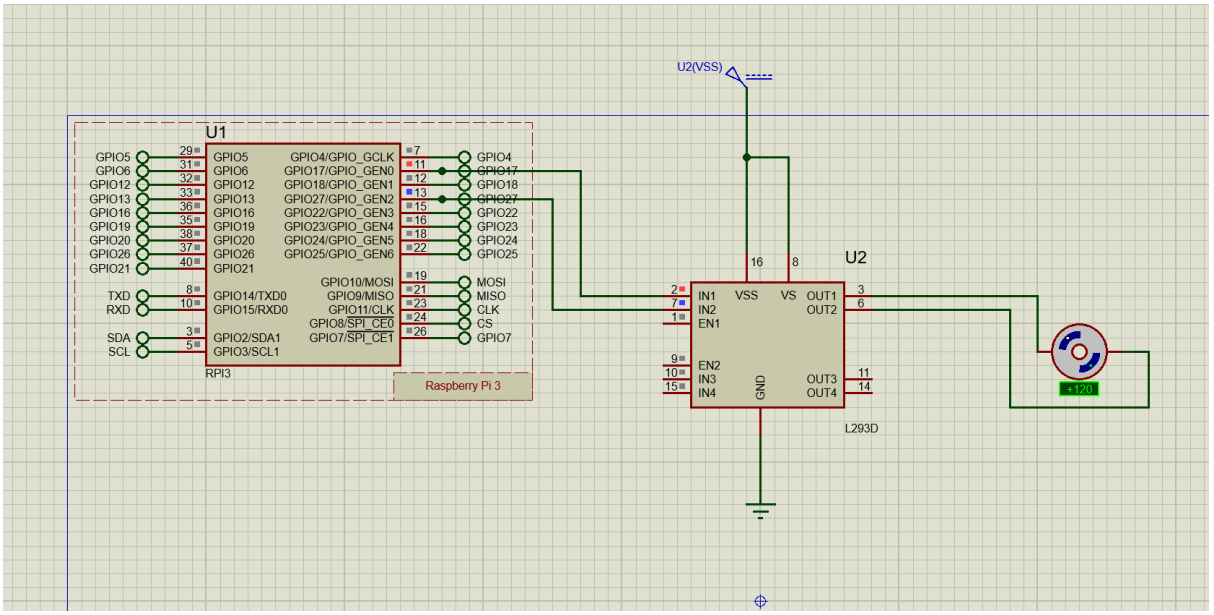
Step 5: Edit the source code with appropriate pins for motor control

```
# import Library to access GPIO Pins
import RPi.GPIO as GPIO
import time

GPIO.setmode(GPIO.BOARD) # Conider complete raspberrypi board
GPIO.setwarnings(False)
# PINS
DC_MOTOR_PIN1 = 11
DC_MOTOR_PIN2 = 13
# Set pin function as output
GPIO.setup(DC_MOTOR_PIN1, GPIO.OUT)
GPIO.setup(DC_MOTOR_PIN2, GPIO.OUT)

while 1:
   GPIO.output(DC_MOTOR_PIN1, GPIO.HIGH)
   GPIO.output(DC_MOTOR_PIN2, GPIO.LOW)
   time.sleep(5)
   GPIO.output(DC_MOTOR_PIN1, GPIO.LOW)
   GPIO.output(DC_MOTOR_PIN2, GPIO.HIGH)
   time.sleep(5)
```



Step 6: Run the simulator. The motor should run clockwise and anticlockwise at 5 second intervals

Clockwise



AntiClockwise