

Activity

DC Motor

Controlling DC Motor using PictoBlox



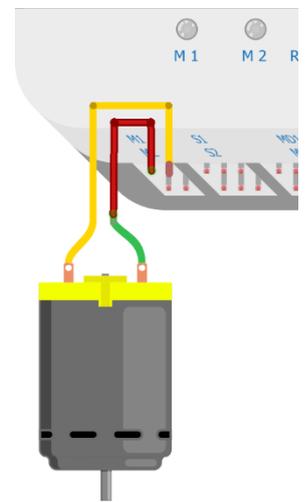
In this activity you will learn how to program evive to control the speed and the direction of rotation of a DC motor using PictoBlox and create hardware control for the motor using slide switch and potentiometer.

STEP-BY-STEP

1. Open **PictoBlox**, connect evive, select the Board as evive, and upload firmware.
2. Connect the DC motor to the M1 motor control channel of evive.

CONTROLLING MOTORS

3. To control the motor, we use these two blocks:
 - a. **Run motor () in direction () with speed () %** block takes the motor port, the **direction of rotation** (forward or reverse) and **speed of rotation** (between 0 to 100 %) as input from the user and rotates the motor accordingly.
 - b. **() motor ()** block is a stack block free or locks the motor connected to the selected slot.
4. Make the following script where Tobi will ask the user to set the speed and direction. Make two variables to store speed and direction of the motor.



```

when clicked
  forever
    ask "In which direction you want to control motor? (1 - clockwise, 2 - anticlockwise)" and wait
    set Direction to answer
    ask "At what speed I should run the motor?" and wait
    set Speed to answer
    if Direction = 1 then
      run motor 1 in direction forward with speed Speed %
    if Direction = 2 then
      run motor 1 in direction reverse with speed Speed %
  
```



CONTROLLING MOTOR USING POTENTIOMETER AND A SLIDE SWITCH

5. Now, to program the first five LEDs with different colours, make the following script. Run the script to see the change in the LED strip.
6. Make the following script in which using potentiometer 1 reading, we will set the speed of the motor and using the slide switch, we will set the direction of the rotation.
 - a. If slide switch is up – Motor run forward.
 - b. If slide switch is down – Motor runs backward.
 - c. If slide switch is in middle – Motor will be free.

