



ARTIFICIAL INTELLIGENCE AND PROGRAMMING ROBOT

PRACTICAL NO 2

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Practical No. 2

Aim:

Write a program to create a robot and add two motors to it, make it move forward, left and right.

Theory:

Motors are one of the primary mechanisms by which robots move. Some motors can be attached to wheels that drive a robot around. Other motors might cause joints in a robot limb to move. Yet others might move the control surfaces of a robotic airplane or submarine. A robot might have many different kinds of effectors to perform specific tasks, but many of these effectors are being moved around by motors.

What motors do is convert the electrical energy that powers the robot into mechanical energy that allows the robot to do work. There are two measurements of a motor that are important for understanding how much work it can do.

Speed is what the maximum speed of the motor is. This is usually measured in revolutions per minute, or RPM. 1 RPM means that the axle of the motor will turn completely around a circle once in a minute, which is very slow. Even a very cheap DC motor will have a speed rating of at least 1000 RPM.

Torque is the measure of how much strength the motor outputs. A simple way to think about it is that if you attached an arm with a weight on it to the axis of the motor, what is the maximum amount of weight that the motor could lift.

Code:

```
package movewithmotor;
import ch.aplu.robotsim.*;

public class MoveWithMotor {

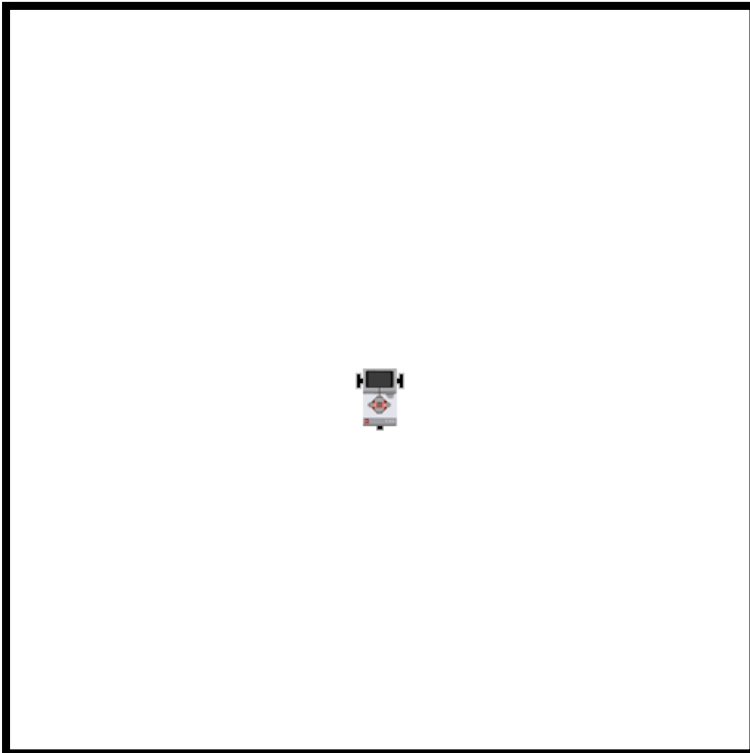
    public MoveWithMotor() {

        LegoRobot robot = new LegoRobot();
        Motor motA = new Motor(MotorPort.A);
        Motor motB = new Motor(MotorPort.B);
        robot.addPart(motA);
        robot.addPart(motB);

        motA.forward();
        motB.forward();
        Tools.delay(2000);
    }
}
```

```
motA.stop();  
Tools.delay(2000);  
  
motB.stop();  
Tools.delay(2000);  
  
motA.backward();  
motB.forward();  
Tools.delay(2000);  
  
motB.backward();  
Tools.delay(2000);  
  
robot.exit();  
}  
public static void main(String[] args) {  
    new MoveWithMotor();  
}  
}
```

Output:



Conclusion: We successfully use two motor on a Lego robot to move the robot.