

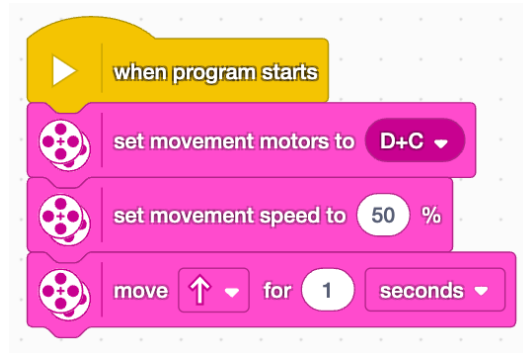


Parkside Montessori LEGO

TACObot Movement with Python

Example

These two programs do the same thing:



```
from hub import port
import motor_pair
import runloop

async def main():
    motor_pair.pair(motor_pair.PAIR_1, port.D, port.C)
    await motor_pair.move_tank_for_time(motor_pair.PAIR_1, 1000, 550, 550)

runloop.run(main())
```

Helper Functions for Arm Control

```
from hub import port
import runloop
import motor

async def raise_arm():
    await motor.run_to_absolute_position(port.A, 45, 300)
    print("Arm raised")

async def lower_arm():
    await motor.run_to_absolute_position(port.A, 315, 300)
    print("Arm lowered")

async def main():
    await raise_arm()
    await runloop.sleep_ms(1000)
    await lower_arm()

runloop.run(main())
```

More Movement Functions

Tank Movement by Time

```
# Turn in place for 1 second at 50% speed
await motor_pair.move_tank_for_time(motor_pair.PAIR_1, 1000, -550, 550)
#
#           Motor pair -----+
#           Duration in milliseconds -----+
# Left motor velocity (-1100 to 1100) -----+
# Right motor velocity (-1100 to 1100) -----+
```

Tank Movement by Rotation

```
# Drive forward for 5 revolutions at 20% speed
await motor_pair.move_tank_for_degrees(motor_pair.PAIR_1, 360*5, 220, 220)
#
#           Motor pair -----+
#           Rotation in degrees -----+
# Left motor velocity (-1100 to 1100) -----+
# Right motor velocity (-1100 to 1100) -----+
```

Arc Movement by Time

```
# Arc turn to the left for 2 seconds
await motor_pair.move_for_time(motor_pair.PAIR_1, 5000, -50)
#
#           Motor pair -----+
#           Duration in milliseconds -----+
#           Steering arc (-100 to 100) -----+
```

Arc Movement by Rotation

```
# Drive straight for 2 revolutions
await motor_pair.move_for_degrees(motor_pair.PAIR_1, 360*2, 0)
#
#           Motor pair -----+
#           Rotation in degrees -----+
#           Steering arc (-100 to 100) -----+
```

Continuous Movement

```
# Arc turn to the right until a stop() command is received
# Note that we don't use await here
motor_pair.move(motor_pair.PAIR_1, 100)
#
#           Motor pair --+
#           Steering arc (-100 to 100) -----+

# Keep driving for 1 second
await runloop.sleep_ms(1000)

# Stop moving
motor_pair.stop(motor_pair.PAIR_1)
```