

```

1  from machine import Pin, ADC
2  import time
3
4  class default_moisture_sensor:
5      PIN = 27
6
7  class MoistureSensor:
8      @classmethod
9      def get_default_moisture_sensor(cls):
10         return MoistureSensor(default_moisture_sensor.PIN)
11
12     def __init__(self, moisturePin:int = default_moisture_sensor.PIN):
13         """
14         Implements for a moisture sensor using the built in 12-bit ADC.
15         Reads from analog in and converts to a int from 0 (white) to 100 (black)
16
17         :param leftPin: The pin the left moisture sensor is connected to
18         :type leftPin: int
19         :param rightPin: The pin the right moisture sensor is connected to
20         :type rightPin: int
21         """
22         self._sensor = ADC(Pin(moisturePin))
23
24         self.MAX_ADC_VALUE: int = 65536
25
26     def _get_value(self, sensor: ADC) -> float:
27         return int((sensor.read_u16() / self.MAX_ADC_VALUE) * 100)
28
29     def read(self) -> int:
30         """
31         Gets the the reflectance of the left reflectance sensor
32         : return: The reflectance ranging from 0 (white) to 1 (black)
33         : rtype: int
34         """
35         return self._get_value(self._sensor)
36
37 if __name__ == "__main__":
38     sensor = MoistureSensor.get_default_moisture_sensor()
39     try:
40         while True:
41             reading = sensor.read()
42             print(f"Moisture reading: {reading}%")
43             time.sleep(0.5)
44     except KeyboardInterrupt:
45         print("Stopped by user.")
46

```