6.Get Temperature value

Learning goals: Read the temperature data detected by the on board sensor.
Experimental phenomena: The terminal prints the currently detected temperature value, and the RGB matrix scrolls to display the "temp=temperature" value.

1.Create python file

nano temperature.py

We need to input content as shown below:

```
#!/usr/bin/python
from sense_hat import SenseHat
sense = SenseHat()

# Set the direction of rotation (0,90,180,270 for choice),default is 0
sense.set_rotation(180)

# Set color R G B value
color_text = (0, 0, 255)
color_back = (0, 0, 0)

while True:
    # Obtain the temperature value on the sensor. The following methods can be used to obtain the temperature.
    # temp = sense.temp
    # temp = sense.temperature
    # temp = sense.get_temperature_from_humidity()
    temp = sense.get_temperature()

    # The terminal prints out the temperature value and saves two decimal places.
    print("Temperature: %0.2f C" % temp)
    # The parameter scroll_speed changes the scrolling speed, the default is 0.1, text_colour is the font color , and back_colour is the background color.
    sense.show_message("temp=%0.2fC" % temp, scroll_speed=0.05,
                       text_colour=color_text, back_colour=color_back)
```

As shown below:

```
#!/usr/bin/python
from sense_hat import SenseHat

sense = SenseHat()

# Set the direction of rotation (0,90,180,270 for choice),default is 0
sense.set_rotation(180)

# Set color R G B value
color_text = (0, 0, 255)
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while True:
    # Obtain the temperature value on the sensor. The following methods can be used to obtain the temperature.
    # temp = sense.temp
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    # The terminal prints out the temperature value and saves two decimal places.
    print("Temperature: %0.2f C" % temp)

    # The parameter scroll_speed changes the scrolling speed, the default is 0.1,
    # text_colour is the font color , and back_colour is the background color.
    sense.show_message("temp=%0.2fC" % temp, scroll_speed=0.05,
                       text_colour=color_text, back_colour=color_back)
```

Please press Ctrl+O to save, press Ctrl+X to quit.

The code of the experiment, please refer to **temperature.py** in the Python sample program folder.

2.Commonly function

①Multiple methods to read the temperature value on the sensor:

```
# Obtain the temperature value on the sensor. The following methods can be used to obtain the temperature.
# temp = sense.temp
# temp = sense.temperature
# temp = sense.get_temperature_from_humidity()
temp = sense.get_temperature()
```

②The terminal prints out the temperature value and saves two decimal places, and display RGB matrix:

```
# The terminal prints out the temperature value and saves two decimal places.
print("Temperature: %0.2f C" % temp)

# The parameter scroll_speed changes the scrolling speed, the default is 0.1,
# text_colour is the font color , and back_colour is the background color.
sense.show_message("temp=%0.2fC" % temp, scroll_speed=0.05,
                   text_colour=color_text, back_colour=color_back)
```

3.Running program

Input the following command to running:

python temperature.py

After running the program, the temperature value will be printed on the terminal, and the RGB matrix will scroll to display the “temp=temperature” value:

```
pi@raspberrypi:~/sense_hat $ python temperature.py
Temperature: 27.14 C
Temperature: 27.18 C
Temperature: 27.22 C
Temperature: 27.22 C
Temperature: 27.22 C
Temperature: 27.14 C
Temperature: 27.20 C
Temperature: 27.07 C
Temperature: 27.03 C
Temperature: 27.12 C
Temperature: 27.12 C
```