The Raspberry Pi senseHAT is full to the brim of great technology that we can make use of.

In immediate mode for example type in;

PRINT SENSETEMPERATURE and press Enter

This will display the current room temperature reported by the senseHATs built in heat sensor. Try these;

PRINT SENSEHUMIDITY and press Enter

PRINT SENSEPRESSURE and press Enter

As you can see we can find out all kinds of useful information about our environment from these brilliant little sensors, but there's more... much much more.
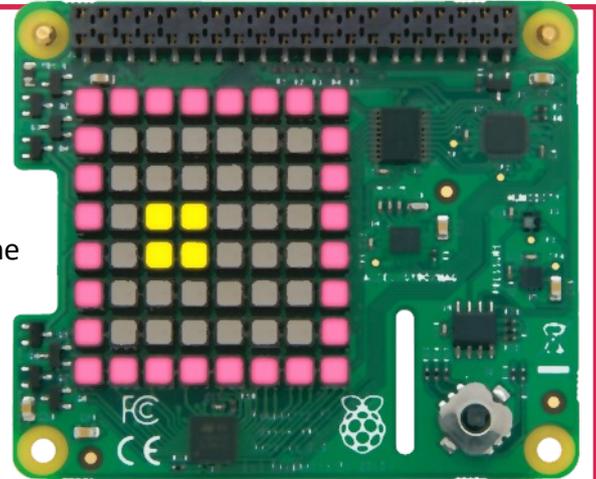
```
x = 3
y = 3
LOOP
  SENSECLS
  SENSECOLOUR = RASPBERRY
  SENSERECT (0, 0, 7, 7, 0)
  SENSECOLOUR = LIGHTYELLOW
  SENSERECT (x, y, 1, 1, 1)
  IF SENSEGYROX > 5 THEN
    IF x > 1 THEN x = x - 1
  ENDIF
  IF SENSEGYROX < -5 THEN
    IF x < 5 THEN x = x + 1
  ENDIF
  IF SENSEGYROY > 5 THEN
    IF y > 1 THEN y = y - 1
  ENDIF
  IF SENSEGYROY < -5 THEN
    IF y < 5 THEN y = y + 1
  ENDIF
  WAIT (0.01)
REPEAT
```

Type in and run this little program on the left. We start by initialising a couple of positional variables x & y that we will use to move a block around the RGB LED matrix.

We have a main LOOP and REPEAT.

First off we draw a RASPBERRY red rectangle around the outside of the matrix and then add a little LIGHTYELLOW box in the middle of it.

Notice we have used the x & y variables to position the box.

Next we check the the senseHATs Gyrometer sensor to see if the system has been titled either left, right, forward or backwards.

ADVANCED CHALLENGE:
You now have enough to make a security device. Can you make it so an alarm (any sound will do!) is made if the system is moved?

You will need to make it more sensitive so adjust the gyro value to lower than 5 - 3 would be good. You also need to add sound commands in each of the gyro IF THEN ENDIF sections. Good luck!

The senseHAT constantly updates the system variables SENSEGYROX & SENSEGYROY so they can be read to see if the position of the device has changed.

Add these lines to your program and run it again; Just put them before or after the WAIT(0.01) statement.

PRINTAT(0, 0); SENSEGYROX
PRINTAT(0, 1); SENSEGYROY

This will display the numerical values stored in the senseHATs Gyro variables. As you move the device you will see the values change.