System A

- For System A, you can perform the lab portion using a virtual Raspberry pi on your own laptop. You can choose to bring and use your own physical Raspberry pi if needed.
- A picture of a SenseHat is shown in Figure 1.

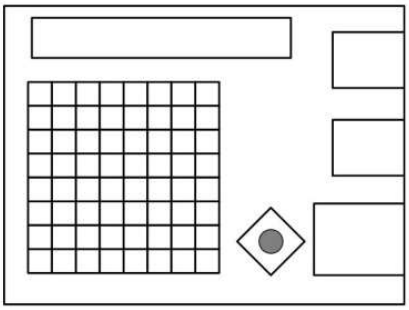
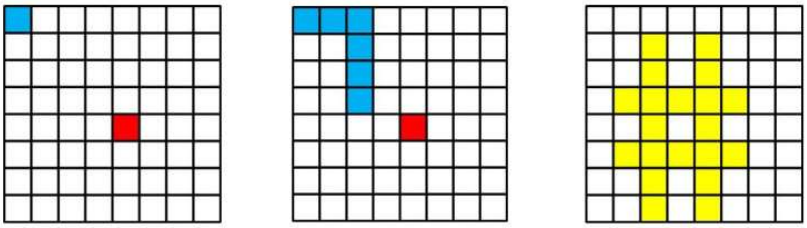


Figure 1. SenseHat

- Students need to write a Python program to perform the following functions.
  - When a program starts, a red dot and cyan color dot should be shown on the LED matrix as shown in Figure 2 (A)
  - A user should be able to control the cyan dot like a snake game using the joystick
  - If the cyan dot reaches the red dot, a yellow color '#" symbol should be displayed.
  - If the button is pressed, the LED matrix should be able to be initialized as shown in Figure 2 (A)



(A) (B) (C)

Figure 2. SenseHat LED matrix

- A header for a typical Raspberry Pi board is shown in Figure 3. The LED matrix is controlled via I2C communication. Specifically, the names are SDA1 and SCL1.
  Fill out the following table (Table 1). Header pin numbers are numeric values. Make sure to include this in your lab report.

Figure 3. Raspberry Pi Board Pinout

	A header pin number
SDA1	3
SCL1	5

Table 1. Pin number, I2C