

# Micro:bit Project Sheet 18 Serial Coms (Py)

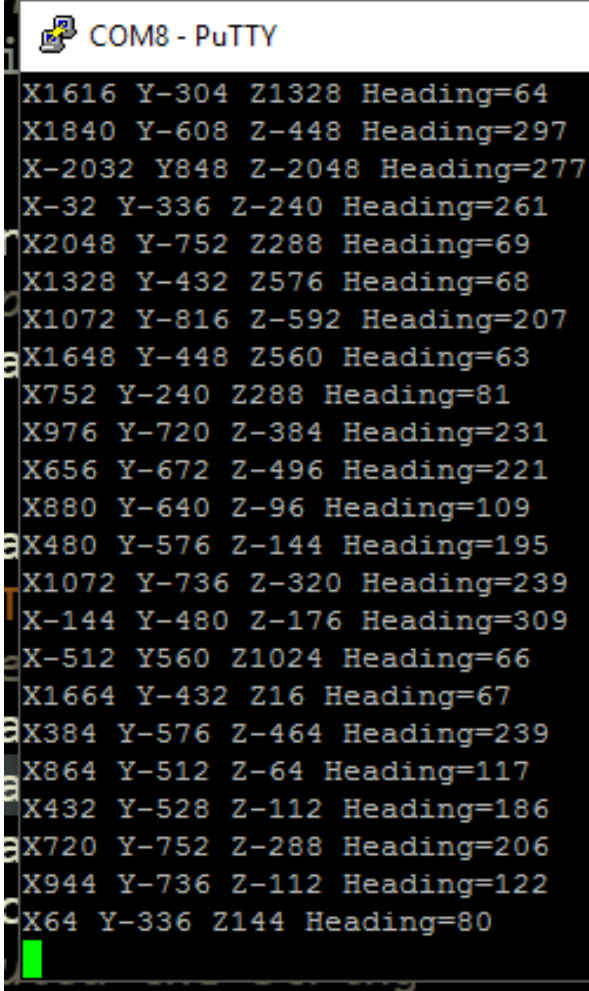
## Success Criteria

Be able to send simple data to a host PC over the serial UART using  $\mu$ Python

## $\mu$ Python

```
1 # Add your Python code here. E.g.
2 from microbit import *
3
4 #initilise the serial port
5 uart.init(baudrate = 115200, bits=8,parity=None,stop=1)
6 #calibrate compass
7 compass.calibrate()
8
9 while True:
10     if button_a.is_pressed():
11         while True:
12             #read values for accelerometer and compass heading
13             x=accelerometer.get_x()
14             y=accelerometer.get_y()
15             z=accelerometer.get_z()
16             h=compass.heading()
17             #build the string
18             TOWrite="X" + str(x)+" Y"+str(y)+" Z"+str(z)+" Heading="+str(h)+"\n\r"
19             #write to serial port
20             uart.write(TOWrite)
21             ##human readability
22             sleep(50)
23
24         if button_b.is_pressed():
25             break
26
27     else:
28         display.show("PRESS A")
29
30
```

## Example Output



```
COM8 - PuTTY
X1616 Y-304 Z1328 Heading=64
X1840 Y-608 Z-448 Heading=297
X-2032 Y848 Z-2048 Heading=277
X-32 Y-336 Z-240 Heading=261
X2048 Y-752 Z288 Heading=69
X1328 Y-432 Z576 Heading=68
X1072 Y-816 Z-592 Heading=207
X1648 Y-448 Z560 Heading=63
X752 Y-240 Z288 Heading=81
X976 Y-720 Z-384 Heading=231
X656 Y-672 Z-496 Heading=221
X880 Y-640 Z-96 Heading=109
X480 Y-576 Z-144 Heading=195
X1072 Y-736 Z-320 Heading=239
X-144 Y-480 Z-176 Heading=309
X-512 Y560 Z1024 Heading=66
X1664 Y-432 Z16 Heading=67
X384 Y-576 Z-464 Heading=239
X864 Y-512 Z-64 Heading=117
X432 Y-528 Z-112 Heading=186
X720 Y-752 Z-288 Heading=206
X944 Y-736 Z-112 Heading=122
X64 Y-336 Z144 Heading=80
```

## Testing

- Is connection made (Serial 115200 check your com port in Windows)
- Does your console receive the data?

## Notes

#1 you will need to install the serial driver for Windows (see hints and tips page)

#2 You will need to install a serial console to receive the data—eg PuTTY (see hints and tips page)