**Code conversation full solution - Slider bar graph**

**Code for program is here:**

**Describe what the whole program is doing in a couple of sentences:**

The program responds to the position of the slider and displays it as a bar graph on the micro:bit. The further to the right the slider is positioned the bigger the bar graph. This is contained in the bargraph function that expects a number between 0 and 5 as its parameter and then displays 0 to 5 lines of LEDs.

**Fill in the blanks**

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| --- | --- |
| ***Code*** | ***What is this line doing?*** |
| from microbit import | imports the micro:bit module to give you access to all the hardware that is built-in into your board |
| This function will determine the bargraph display on the micro:bit |  |
| def bargraph(a): | defines a Python function called bargraph () passing parameter ‘a’ - a number between 0 and 4 |
| display.clear() | calls the micro:bit display.clear() function which sets the brightness of all of the LEDs to 0, i.e. off. It clears the LED display screen |
| for y in range(0, 5): | starts a for loop. Iterating through from 0 to 4.  for y in range (5) does the same thing. |
| if a > y: | If a is greater than y then... |
| for x in range(0, 5): | for x within range 0 to 4.... |
| display.set\_pixel(x, 4-y, 9)\* | ...call the inbuilt function display.set\_pixel() so that the ‘for x’ loop lights up all the LEDs in the current row. |
| while True: | Loop forever |
| slider\_posn = int(pin2.read\_analog() / 200) | The function pin2.read\_analog gives a number between 0 and 1023 depending on the voltage at pin2. This is then divided by 200. This gives a maximum position reading of 1023/200=5 (once it has been cast as an integer). |
| bargraph(slider\_posn) | The value for slider position is now passed back as a parameter to the function bar graph. |

\*display.set\_pixel(x,y,value) - this inbuilt function sets the brightness of the LED at row x and column y to value, which has to be an integer between 0 and 9. In this case the brightness is always set to the maximum 9.