# Pushbutton Activity Rev 1.0

## Directions:

Review the sample code files provided in the piRover Pushbutton lesson. Answer the following.

1. Copy the line or lines of code below that tell the Raspberry Pi GPIO that you will be using pin numbers and not GPIO numbers.

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1. Copy the line or lines of code below that tell the Raspberry Pi GPIO that pin 24 is connected to the pushbutton and it is an input.

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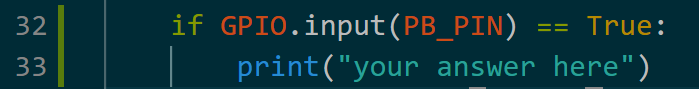
1. Copy the line or lines of code below that read the status of the pushbutton.

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1. If the status of the pushbutton is stored in the **state** variable as shown in the initial code block of the pushbutton.py code, what is the value of the state variable if the pushbutton is not pressed (released)? What is the value of the state variable if the button is pushed?

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1. You see this line of code in a solution configured like pushbutton.py



Would you replace “your answer here” with **“the button is pushed”** or with **“the button is released”**?

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1. Review the code on or around line 56 of the pushbutton.py solution. The comment line indicates that the loop should turn the LEDs on and off ten times. This does not work. What is the behavior? Explain why the counter does not function as desired.

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1. Review the pushbutton\_toggle.py solution. Explain how the problem seen in the previous code was fixed using wait for push and wait for release.

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1. The pushbutton toggle code is running. The LEDs are on, and the user is not pressing the pushbutton. What line or lines of code are continually running at this point? Copy the code lines below.

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1. The pushbutton toggle code is running. The LEDs are on, and the user is holding the pushbutton down. What line or lines of code are continually running at this point? Copy the code lines below.

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1. Explain the purpose of the lamp\_on variable in this solution. What is its data type and why is it required?

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1. Comment out the “lamp\_on = False” statement on or around line 59. Run the code. What is the behavior? Explain.

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1. Review the pushbutton\_cycle.py solution. Specifically, compare the original code starting at or around line 31 with the block of code that replaces this code starting on or around line 75. In the second block of code the pushbutton was tested at the end of the loop. In the initial code block it was tested at the beginning. Does this change the function or operation of the code? Why or why not? Explain.

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## Assessment:

Submit this document (PushButtonActivity.docx or PushButtonActivity.PDF) to Moodle along with other files in this week’s zip file.