

ButtonTrigger Pseudo-Code

ONE BUTTON

Here is some pseudo-code for the algorithm for the Button Trigger program you have to write for Assignment 12. Use this as a guide to help you develop your Arduino software.

Remember that pseudo-code is not a literal script for the Arduino code. It is a sketch for how to think about writing your code.

SETUP

```
set all pin modes
  button pin:          INPUT
  main LED:           OUTPUT
  binary counter LEDs (3): OUTPUT
```

LOOP

```
check button status
if it has been pressed then
  increment button counter by 1
  if button counter is 0
    display binary zero (0-0-0) on the binary LEDs
  if button counter is 1
    display binary one (0-0-1) on the binary LEDs
  if button counter is 2
    display binary two (0-1-0) on the binary LEDs
  if button counter is 3
    display binary three (0-1-1) on the binary LEDs
  if button counter is 4
    display binary four (1-0-0) on the binary LEDs
  if button counter is 5
    display binary five (1-0-1) on the binary LEDs
  if button counter is 6
    display binary six (1-1-0) on the binary LEDs
  if button counter is 7
    display binary seven (1-1-1) on the binary LEDs
```

QUESTIONS: What happens when the counter goes higher than 7?
What will your program do? What should it do?

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TWO BUTTONS

Now here is pseudo-code for the enhancement of the assignment to add the second button. Now, pressing the first button should increment the counter by one (+1), and pressing the second button should decrement it by one (-1).

Differences from the first version are marked in *bold italics*.

SETUP

```
set all pin modes
  button 1 pin:          INPUT
  button 2 pin:          INPUT
  main LED:                OUTPUT
  binary counter LEDs (3): OUTPUT
```

LOOP

```
check button 1 status
if it has been pressed then
  increment button counter by 1
check button 2 status
if it has been pressed then
  decrement button counter by 1
if button counter is 0
  display binary zero (0-0-0) on the binary LEDs
if button counter is 1
  display binary one (0-0-1) on the binary LEDs
if button counter is 2
  display binary two (0-1-0) on the binary LEDs
if button counter is 3
  display binary three (0-1-1) on the binary LEDs
if button counter is 4
  display binary four (1-0-0) on the binary LEDs
if button counter is 5
  display binary five (1-0-1) on the binary LEDs
if button counter is 6
  display binary six (1-1-0) on the binary LEDs
if button counter is 7
  display binary seven (1-1-1) on the binary LEDs
```