Parking Garage

BY:

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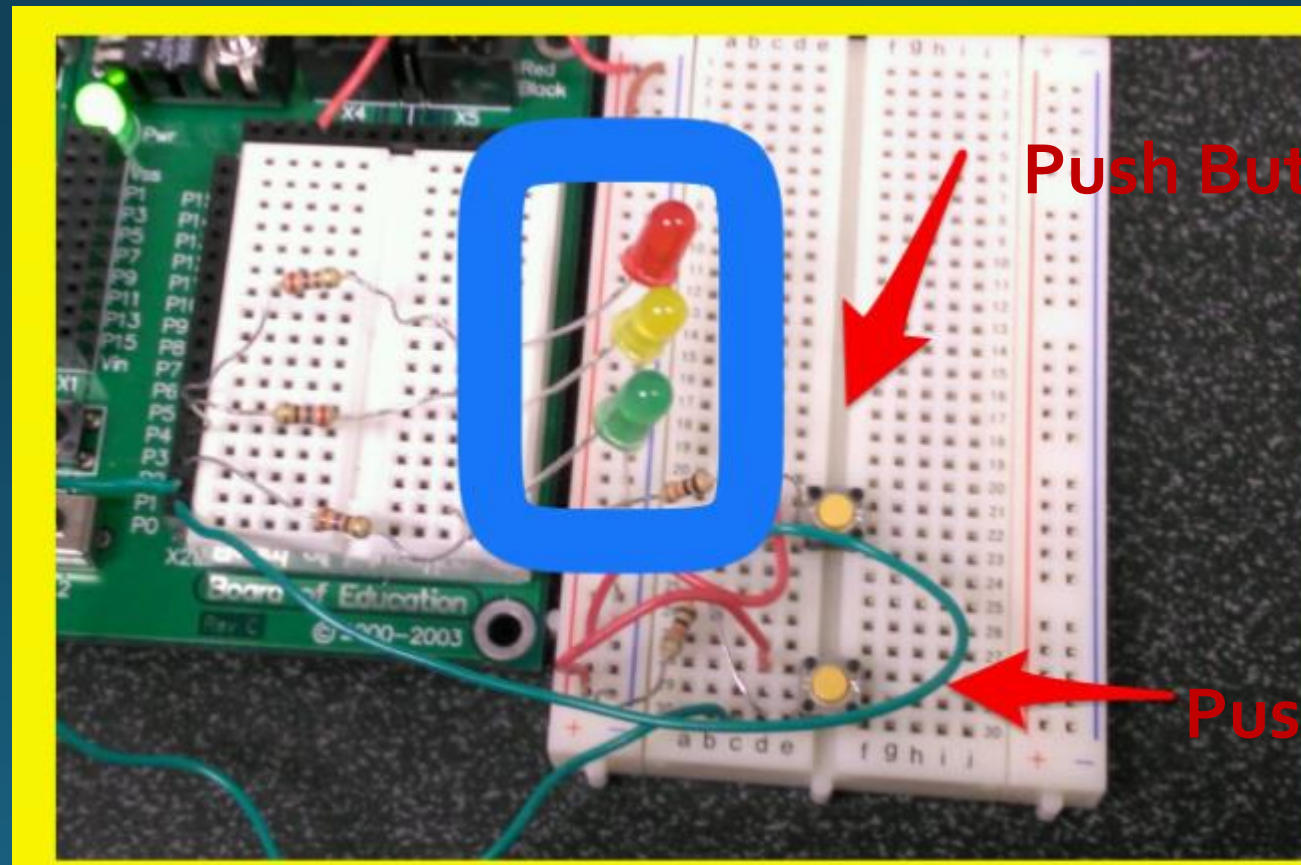
Skyler Grable-Gibson

EECT 112-51C

Materials Used

- Push button: Qty. 2
- Red light: Qty. 1
- Yellow: Qty. 1
- Green light: Qty. 1
- Resistors:
  - 270 ohm Qt. 3
  - 10k ohm Qt. 2
- Basic stamp

Purpose:

- To set up a 10 car parking garage using three light to determine the amount of space that are available

Set Up:

Push Button In

Push Button Out

Code:

- Variables:

```
Cnt         VAR Byte
PBUP        PIN 0
PBDN        PIN 1
LEDG        PIN 2
LEDY        PIN 3
LEDR        PIN 4


INPUT 0: INPUT 1
OUTPUT 2: OUTPUT 3:OUTPUT 4
```

- Cnt: Count variable
- PBUP: Push button IN/UP
- PBOUT: Push button DOWN/OUT
- LEDG: LED GREEN
- LEDY: LED YELLOW
- LEDR: LED RED

- The input is the PBUP/PBDN
- The output are all the LED

Main Code

```
Cnt = 0       The Cnt is set at zero which means the parking garage is empty

START:

    IF (PBDN = 1) AND (Cnt = 0) THEN START           ' the progaram start when the PB up is
    PAUSE 200
    IF PBUP = 1 THEN Cnt = Cnt +1: GOSUB CHECKCOUNT   ' after the count goes one up
    PAUSE 200
    IF PBDN = 1 THEN Cnt = Cnt -1: GOSUB CHECKCOUNT      'if the pb down is press the counts down

    GOTO START
```

- Purpose is to determine the amount of vehicles going in and out.

Check point Subroutine

```
CHECKCOUNT:

    IF (Cnt > 0) OR ( Cnt < 9) THEN GOSUB GREEN
    IF Cnt = 9 THEN GOSUB YELLOW
    IF Cnt = 10 THEN GOSUB RED
    IF Cnt = 0 THEN GOSUB RSET
    IF Cnt = 11 THEN Cnt = 10
    IF Cnt = 10 THEN GOSUB RED

  GOTO START
```

- This code check counts to determine when the green, yellow, and red lights need to turn on and off depending on the amount of available spaces .

Final Subroutine

```
RSET:
    LOW LEDG: LOW LEDY: LOW LEDR
    RETURN

GREEN:
     LOW LEDR: LOW LEDY: HIGH LEDG
    RETURN

YELLOW:
 LOW LEDG: LOW LEDR : HIGH LEDY
    RETURN

RED:
    LOW LEDG: LOW LEDY: HIGH LEDR
    RETURN
```

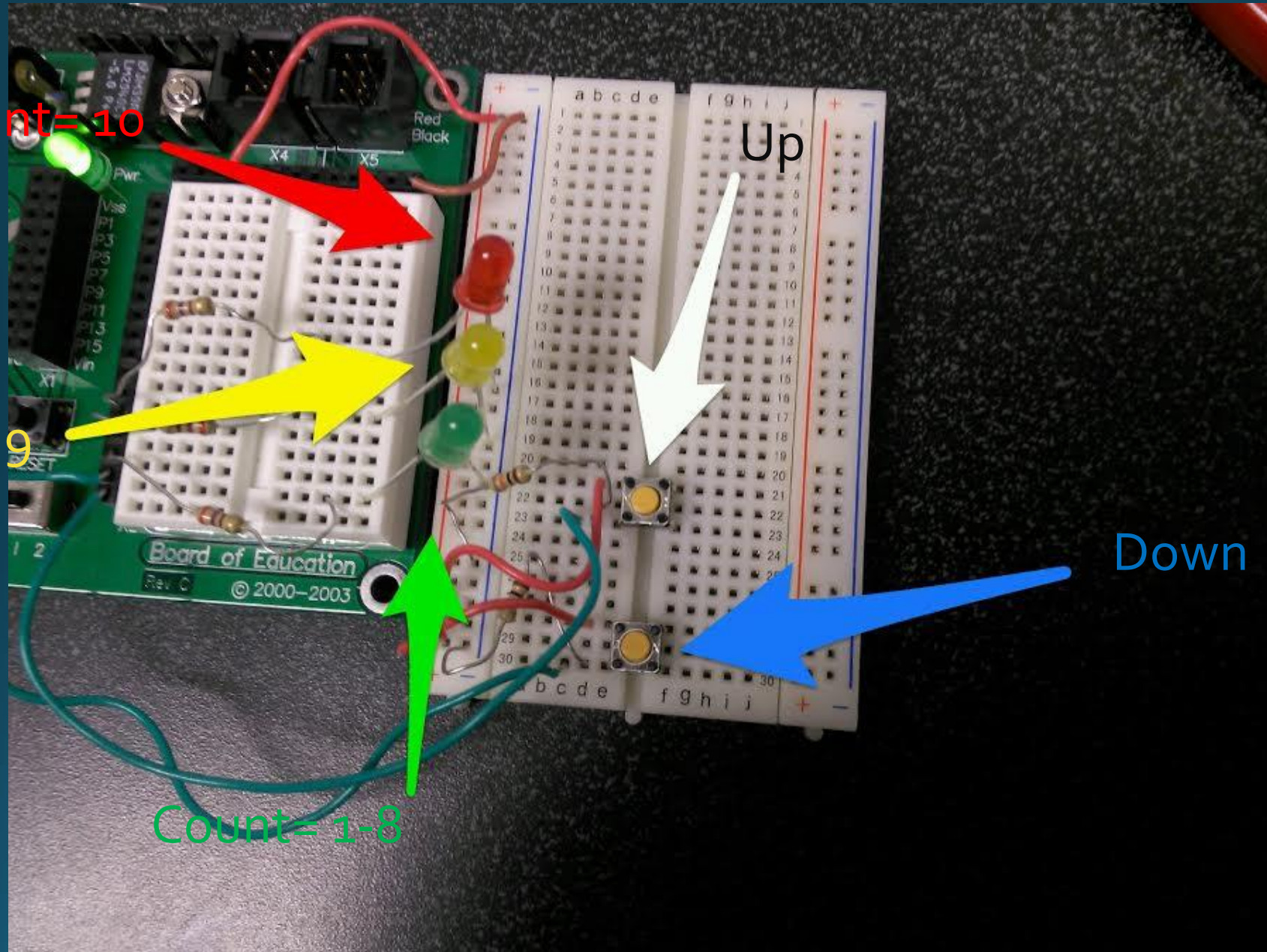- This will turn the LEDs on or off based on the count check.

Count starts at 8