

1. There was no significant change in voltage.

This circuit would not be useful as the input doesn't change the output. The circuit does nothing.

2. The voltage started at a positive value and when the button was pressed it jumped to a negative value.

Yes. This would be useful in a circuit as this would be a good inverter.

Pushbutton State	"Input Value"
Pressed	0
Released	1

4. Circuit 2 creates an inverted response because the output detects a voltage coming from the source. But when the button is pushed, it then detects the ground which is why it outputs a negative value. While Circuit 3 has the same response as the pushbutton. That is because the output detects ground at first. Then when the button is pushed, it sees the source so it outputs a positive value.

PB1	PB2	SS1	Input 1	Input 2	LED1	BiLED1
Released	Released	Off	0	0	OFF	OFF
Pressed	Released	Off	0	0	OFF	OFF
Released	Pressed	Off	0	0	OFF	OFF
Pressed	Pressed	Off	0	0	OFF	OFF
Released	Released	On	0	0	OFF	OFF
Pressed	Released	On	1	0	ON	GREEN
Released	Pressed	On	0	1	ON	RED
Pressed	Pressed	On	1	1	ON	OFF

2. The states when BiLED1 is off is when input 1 and input 2 are both 0's or 1's. When the slide switch is to ground, the circuit has no power so all LEDs are off. When both buttons are released, all LEDs are off. When both buttons are pushed voltage there is

no potential difference between Input 1 and Input 2 so the LEDs don't turn off.

