Paper Clip Switch

Hello everyone I hope you are ready to learn more about the BE BOARD and another very important component called the switch. What is a switch? well a switch will allow you to turn on and off other componenets or it will allow you to initialize different parts of your code like for example an LED. We will be using 2 straightened Paperclips as our switch they work well as they are good conductors. We will also be using a different port of the BE BOARD it is called a Digital input and it will read whether or not the paperclip switch is connected or disconnected using the switch as a path to ground from digital pin 3 of the BE BOARD.

{Explain conduction}

{Video showing the hardware}

Now we can configure the hardware by simply adding a straightened paperclip to the GND pin on the BE BOARD and then adding another straightened paperclip to digital pin 3 of the BE BOARD.

{Video}

Now if you are ready we can go ahead and open the Arduino IDE that you installed in the last lesson. Once the Arduino IDE is opened we can begin to write the software for the push button.

{Video of code with explanations of each line of code (Pullup resistors, Digital Input, Digital Read, etc)}

Now that the code is done we can press the compile and upload button on the Arduino IDE while the Arduino is connected to the computer. We can start the exercise by connecting one of the paperclips to the other.

{Video}

Did you see somthing happen? Well you should have... Once the paperclips were connected you will notice that the LED13 turns on this means that the switch is closed, but as we learned in the code this actually means the switch is connected to ground instead of power. Now if you disconnect the paperclips from eachother you will notice L13 turns off. This means that the switch is being pulled-up to +5V and is now off.

{Video of switch disconnected}

If you see that your switch is not shorting as it should be check the paperclips to make sure they do not have any insulation around them because if they do they will not conduct.

I want to thank you for joining me in part 2 of lesson 2 please join me for part 3 of lesson 2 where I will go over analog inputs of the BE BOARD using a potato.