

Limit switches
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Alright, so you have learned how to use motors and stuff, and that is very important for any of the robot code, but what can really make a robot good is the use of switches. A limit switch is a digital switch which will have the value of 1 or 0. A limit switch can be used thought to do many things, such as count how many times something have been hit, and stop a motor from destroying the robot.

```
-- from user_routines --  
/* FIRST: Set up the I/O pins you want to use as digital INPUTS. */  
digital_io_01 = digital_io_02 = digital_io_03 = digital_io_04 = INPUT;  
digital_io_05 = digital_io_06 = digital_io_07 = digital_io_08 = INPUT;  
digital_io_09 = digital_io_10 = digital_io_11 = digital_io_12 = INPUT;  
digital_io_13 = digital_io_14 = digital_io_15 = digital_io_16 = INPUT;  
digital_io_18 = INPUT; /* Used for pneumatic pressure switch. */  
--
```

the code above just set all of them to be an input so that the processor knows it.
But as you can see there are 16 inputs, more than you will probably need. In your code, to check a digital input, all your code has to say is

```
--  
if (digital_io_01)  
{  
    //do this if true  
}  
--
```

because limit switches are digital, you can use them as a boolean in an if statement. Meaning you dont have to put =1 in the code above, it should work fine the way it is.

```
--  
pwm01=200;  
  
if (digital_io_01)  
{  
    pwm01 = 127;  
}  
--
```

the code above would run pwm01 at 200 and then when the digital input 01 was turned on, the motor would go back to 127.

with limit switches you can use loops and if statements to make thing occur when the switches are active. A simple concept that can be used to do many things.