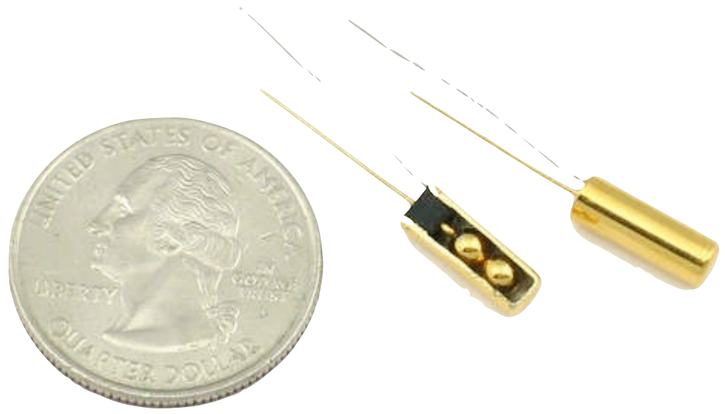
Tilt Sensor

Super-fun switch that responds to tilting

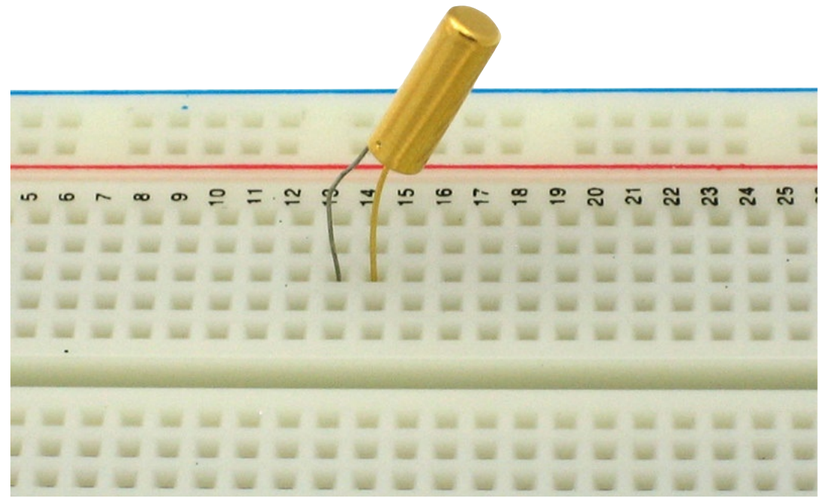
Tilt sensor



- Responds to change in orientation

- Has moving conductive material inside, such as a rolling ball or blob of mercury

- Is an on/off switch only (no in-between)

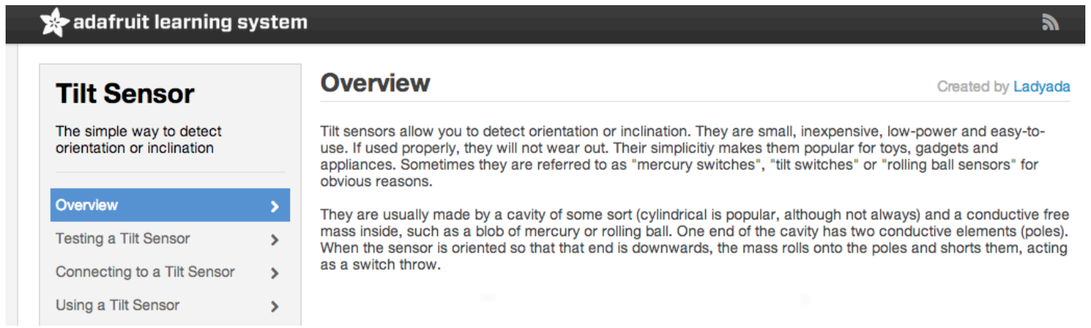


Tilt sensor in action

(embedded video available at https://vimeo.com/51713960)

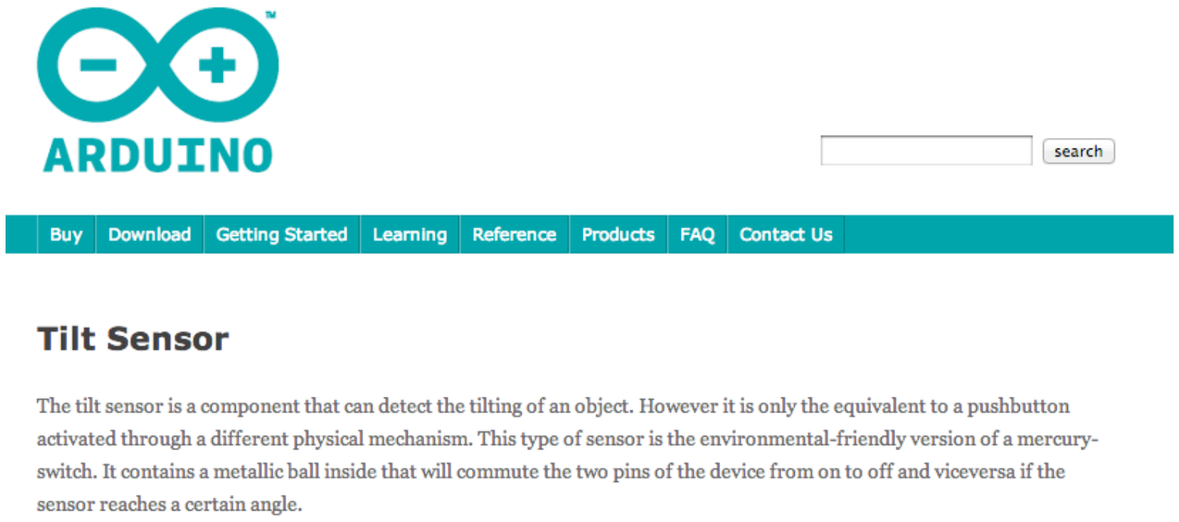
can be used in interactive toys, or any items with large, imprecise movements

Handy tutorials on Adafruit and Arduino websites

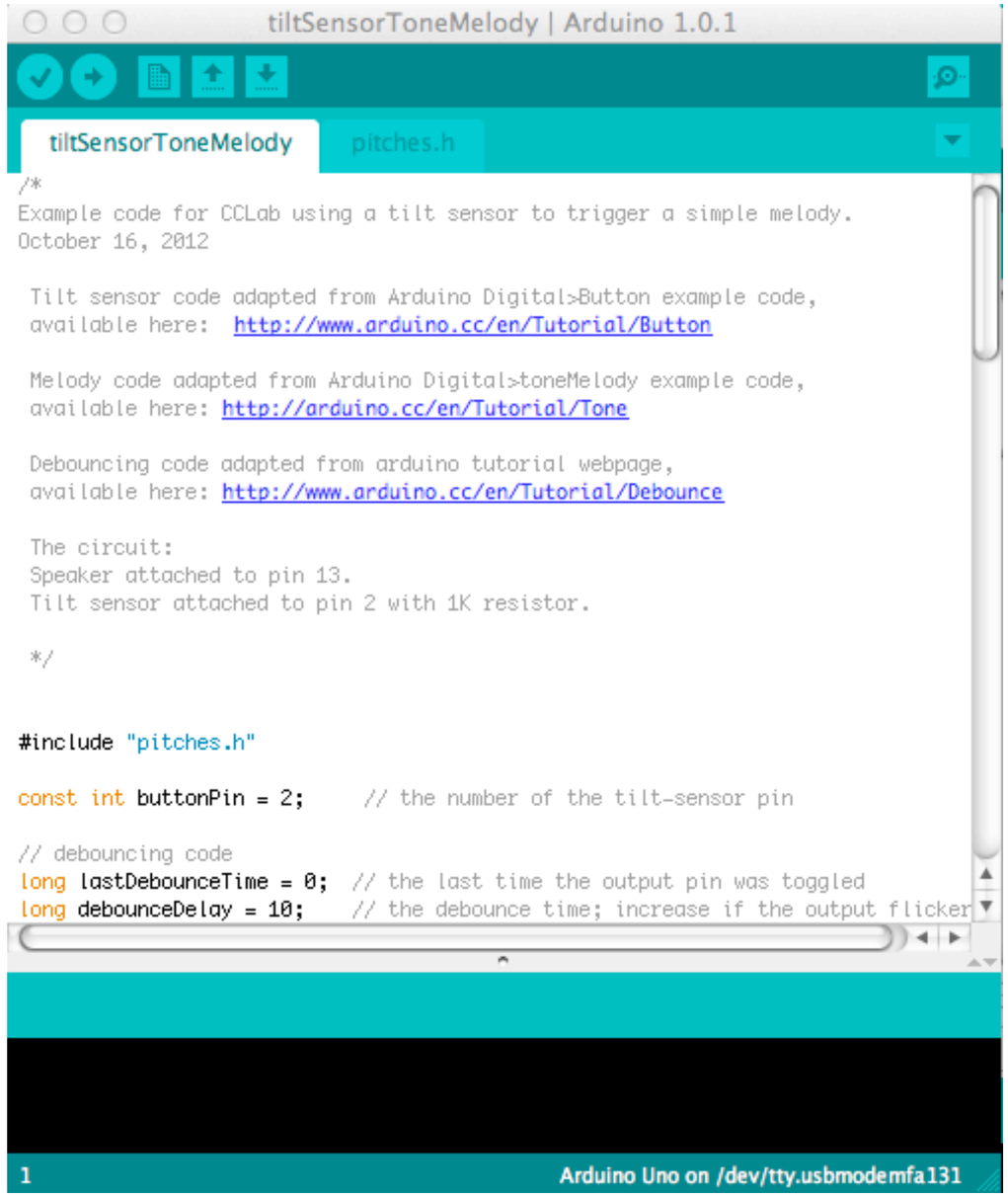


http://learn.adafruit.com/tilt-sensor

http://www.arduino.cc/en/Main/TutorialTiltSensor



Code for simple melody trigged by tilt sensor



https://github.com/jenniferpresto/ccLab_Fall_2012/tree/master/tiltSensorToneMelody

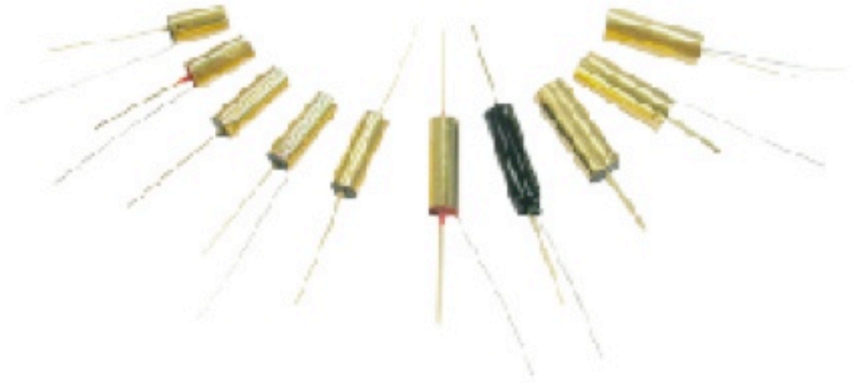
Note that the code includes debouncing code, which smooths the signal coming from the sensor (by requiring two readings separated by a slight delay) and makes it more reliable. The output from the sensor can otherwise be shaky, as the sensor can be sensitive to vibrations.

Retailers:

Sparkfun ($1.95):
https://www.sparkfun.com/products/10289

Adafruit ($2.00):
http://www.adafruit.com/products/173

Tilt Switch Ball-Rolling Switch AT Series



SPECIFICATION

- Electrical Rating : <6mA 24VDC
- Electrical Life: >50,000 Cycles
- Contact Resistance: 1 Ω
- Solder Temperature: 250˚C 3 Seconds
- Ambient Temperature: 0˚C~100˚C

MATERIAL

- Canister: Copper Gold Plated
- Electrode: Copper Gold Plated
- Rolling Ball: Stainless Steel Gold Plated
- Insulated Piece: Nylon 46(94V-0)

data sheet can be found here:
http://www.sparkfun.com/datasheets/Sensors/Ball-Rolling%20Switch%20AT.pdf