Experimenting with Reed switch with Arduino Due

Author:- Alok Kumar Mishra
(akmishra_99@yahoo.com)

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in this experiment we will use Arduino Due and Arduino IDE and a Reed switch , for theory and introduction to reed switch Please visit

https://www.sparkfun.com/datasheets/Components/Buttons/AN104.pdf

we are using following reed switch (Reed Switch - Insulated https://www.sparkfun.com/products/10601)

FIGURE 1 REED SWITCH

reed switch closes when magnet is brought near it.

Here is information about Arduino Due (any other Arduino can be used in place of Due)

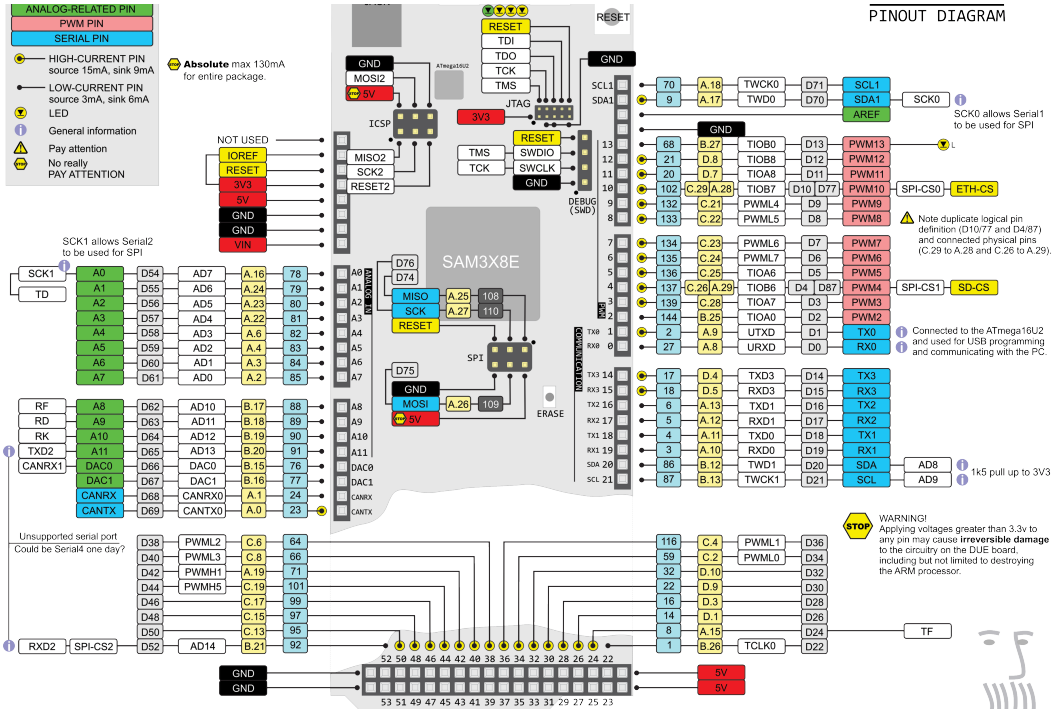

Figure 2 :- Arduino Due Pinout Diagram

we are going to connect Pin 10 of Arduino Due to one end of Reed switch and other end of Reed switch to ground Pin of Arduino Due.

here is schematic of setup.

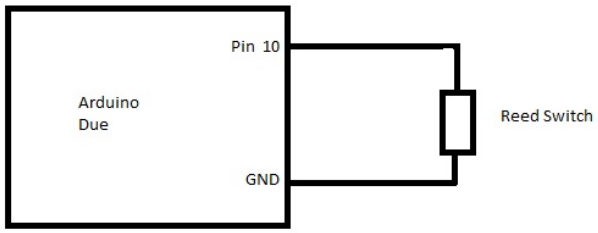

Figure 3:- Arduino Due and Reed switch connections

here is sketch (credit goes to sparkfun.com , I have modified pin number from original sketch)

```
/******************************************************************************
Reed_Switch_Example.ino
Example sketch for SparkFun's Reed Switch
  (https://www.sparkfun.com/products/8642)
Jim Lindblom @ SparkFun Electronics
May 3, 2016

The reed switch is a two-terminal, magnetically-actuated, normally-open switch.
Connect one end of the switch to ground, and the other to Arduino's D10 pin.

The D10 pin's internal pull-up resistor is used to bias the pin high. When the
switch closes, the pin should go low.

Development environment specifics:
Arduino 1.6.7
modified by Alok Kumar Mishra
******************************************************************************/
const int REED_PIN = 10; // Pin connected to reed switch
const int LED_PIN = 13; // LED pin - active-high

void setup()
{
  Serial.begin(115200);
  // Since the other end of the reed switch is connected to ground, we need
  // to pull-up the reed switch pin internally.
  pinMode(REED_PIN, INPUT_PULLUP);
```

```
  pinMode(LED_PIN, OUTPUT);
  Serial.println("Started");
}

void loop()
{
  int proximity = digitalRead(REED_PIN); // Read the state of the switch
  if (proximity == LOW) // If the pin reads low, the switch is closed.
  {
    Serial.println("Switch closed");
    digitalWrite(LED_PIN, HIGH); // Turn the LED on
  }
  else
  {
    digitalWrite(LED_PIN, LOW); // Turn the LED off
  }
}
```

we are using Arduino Due's internal pullup resistor by executing line

pinMode(REED_PIN, INPUT_PULLUP);

connect circuit and then download sketch on Arduino Due and bring a magnet close to reed switch and you'll see output in serial monitor as shown in Figure -3

when we bring magnet close to reed switch LED on pin 13 will be lit up and a message on serial monitor will be printed

here is output of running sketch on Arduino Due (Serial monitor)

Figure 4 output of sketch running on Arduino Due on Serial monitor