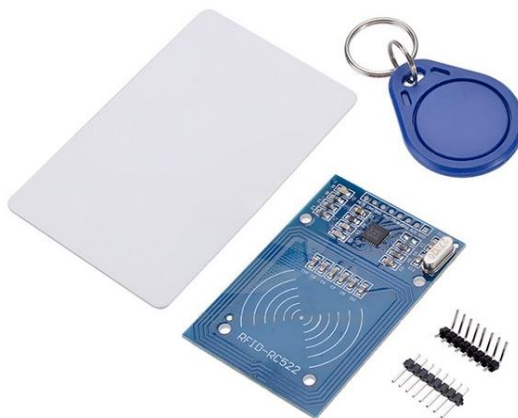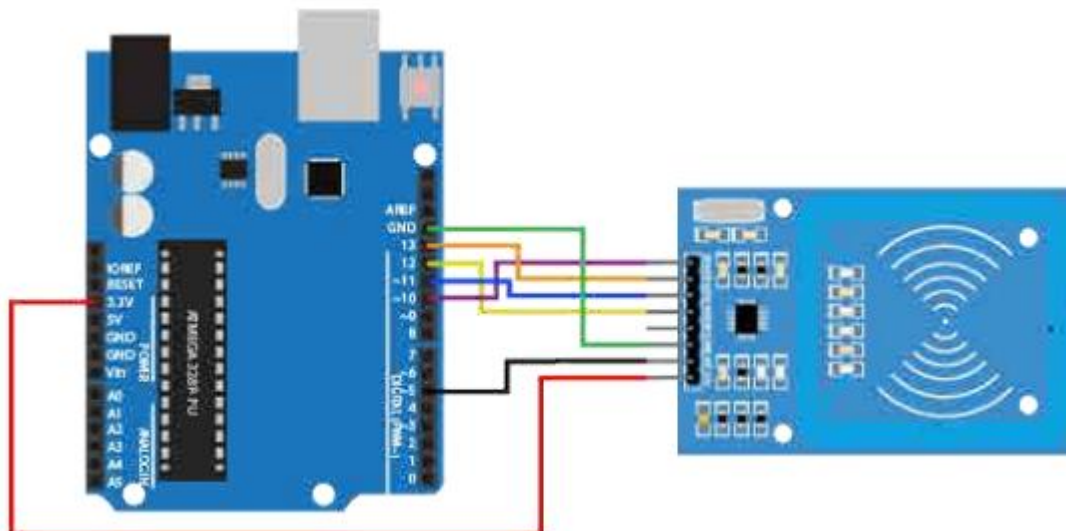# Application: Arduino RFID RC522 Card Reader Module

COMPONENT NEEDED:

- Arduino RFID RC522 Card Reader Module
- Arduino UNO
- USB Cable
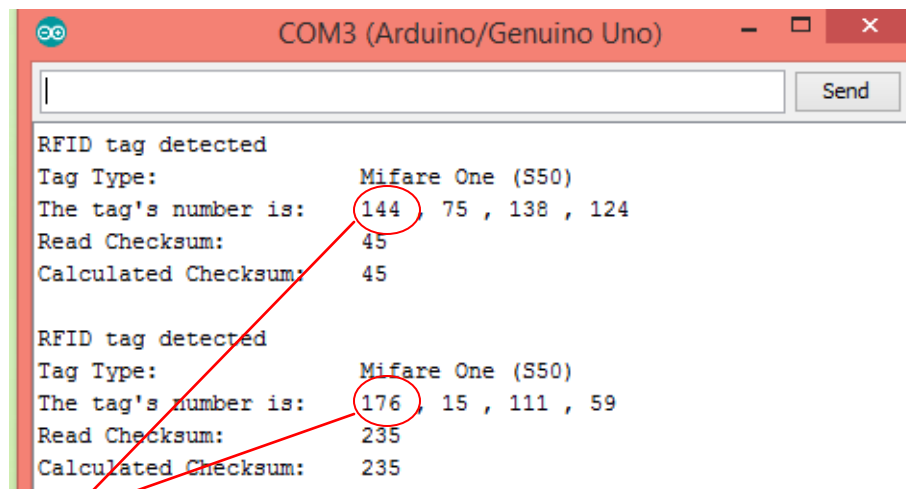- Jumper wire

CONNECTION:

RFID-RC522 Module	Arduino Uno
1 - SDA	Digital 10
2 - SCK	Digital 13
3 - MOSI	Digital 11
4 - MISO	Digital 12
5 - IRQ	--unconnected--
6 - GND	Gnd
7 - RST	Digital 5
8 - 3.3V	3.3v

1. Connect the circuit as shown in figure above.
2. Connect your Arduino UNO to Arduino IDE.
3. Open your Arduino IDE.
   Note: Download the AddicoreRFID library, and add zipped library into Arduino IDE.
4. Select the right board type and COM port.
5. Upload the sketch. You can get the sketch from *Application1_Sketch.*
6. Open the serial monitor, take one of the RFID cards or RFID Key Chain Tag that came in your RFID module, then hold it near the white graphic printed on your RFID-RC522 module and see the result.

RESULT:

```
COM3 (Arduino/Genuino Uno)                    –  □  ×
|                                              [ Send ]

RFID tag detected
Tag Type:              Mifare One (S50)
The tag's number is:   144 , 75 , 138 , 124
Read Checksum:         45
Calculated Checksum:   45

RFID tag detected
Tag Type:              Mifare One (S50)
The tag's number is:   176 , 15 , 111 , 59
Read Checksum:         235
Calculated Checksum:   235
```

Note: First byte of the scanned tag's ID

- The tag you scan will have a different ID. My RFID card's Id is 144 and my RFID Key Chain Tag's Id is 176.
- This Id is used to display whatever you want when you scan the card.

<u>HOW TO DISPLAY ON SERIAL MONITOR WHEN SCAN RFID CARD OR RFID KEY CHAIN TAG:</u>

- Close the Serial Monitor and find the following lines of code in *Application1_sketch*:

```
// Should really check all pairs, but for now we'll just use the first
if(str[0] == 144)                      //You can change this to the first byte of your tag by finding the card's ID through the Serial Monitor
{
    Serial.println("\nHello Isma!\n");
} else if(str[0] == 176) {             //You can change this to the first byte of your tag by finding the card's ID through the Serial Monitor
    Serial.println("\nHello Qeeya!\n");
}
Serial.println();
delay(1000);
```

- Change the number in the following line of code to the number you wrote down above, in my case it is **144** and **176**.
- You can change the text on the next full line of code to whatever you want to display when you scan the same RFID tag. I put mine to say "Hello Isma!" and "Hello Qeeya!"
- Upload your changed code to your Arduino, reopen the Serial Monitor, and then scan the same RFID tag as before.
- Now when you scan the tag, the Arduino will recognize the ID and will display the desired text.

```
COM3 (Arduino/Genuino Uno)                                    Send

RFID tag detected
Tag Type:             Mifare One (S50)
The tag's number is:  176 , 15 , 111 , 59
Read Checksum:        235
Calculated Checksum:  235

Hello Qeeya!


RFID tag detected
Tag Type:             Mifare One (S50)
The tag's number is:  144 , 75 , 138 , 124
Read Checksum:        45
Calculated Checksum:  45

Hello Isma!
```