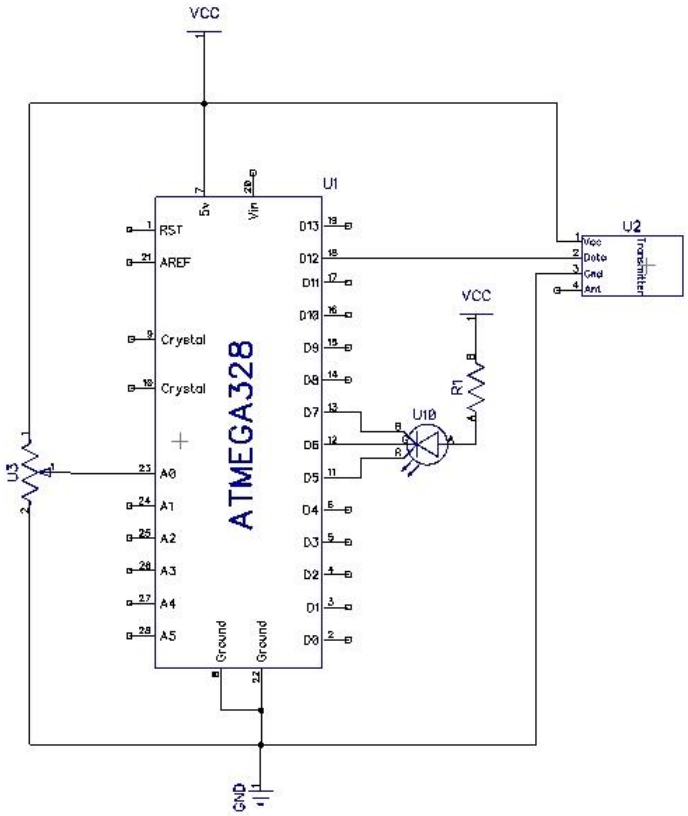
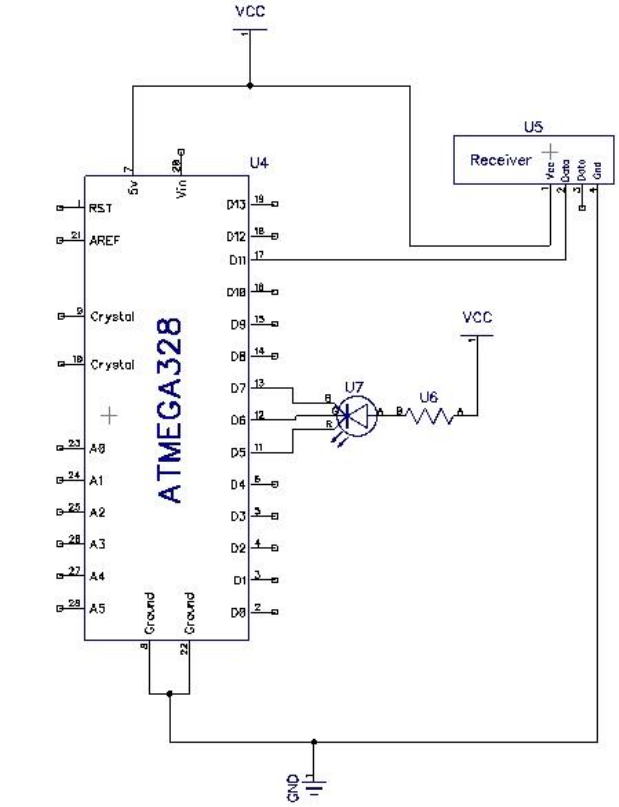
Introduction to Arduino

Transmitter/Receiver

Name: _____ **Mark /10**

Note: Marks will be taken off for incorrect answers or messy breadboarding





Transmitter Code

```
#include <VirtualWire.h>

void setup()
{
  Serial.begin(9600);  // Starts Serial Monitor for Debugging only
  Serial.println("setup");
  vw_setup(2000);          //Bits per sec
  vw_set_tx_pin(12);  // sets the pin to use
}

void loop()
{
  const char *msg = "a";
  const char *msg2 = "b";

  int potvalue = analogRead(A0);
  Serial.print("Pot Value: ");
  Serial.print(potvalue);

  if (potvalue > 500){
  vw_send((uint8_t *)msg, strlen(msg)); //sends the message
  vw_wait_tx(); // Wait until the whole message is gone
  Serial.println(" a is being sent");
  delay(100);
  }

  if (potvalue < 500){
  vw_send((uint8_t *)msg2, strlen(msg2)); //sends the message
  vw_wait_tx(); // Wait until the whole message is gone
  Serial.println(" b is being sent");
  delay(100)
 }
```

Receiver Code

```
#include <VirtualWire.h>
  uint8_t buf[VW_MAX_MESSAGE_LEN];
  uint8_t buflen = VW_MAX_MESSAGE_LEN;

void setup()
{
 pinMode(6, OUTPUT);
 pinMode(7, OUTPUT);

 Serial.begin(9600);        // Debugging only
 vw_setup(2000);             // Bits per sec
 vw_set_rx_pin(11); //Pin the the receiver is using
 vw_rx_start();       // Start the receiver PLL running
}

void loop()
{
vw_get_message(buf, &buflen); // Gets the message

if (buf[0] == 'a')

       { Serial.println ("a was received");
        digitalWrite(7, LOW);
        digitalWrite(6, HIGH);
       }

if (buf[0] == 'b')
      {
       Serial.println ("b was received");
       digitalWrite(6, LOW);
       digitalWrite(7, HIGH);
       }
}
```