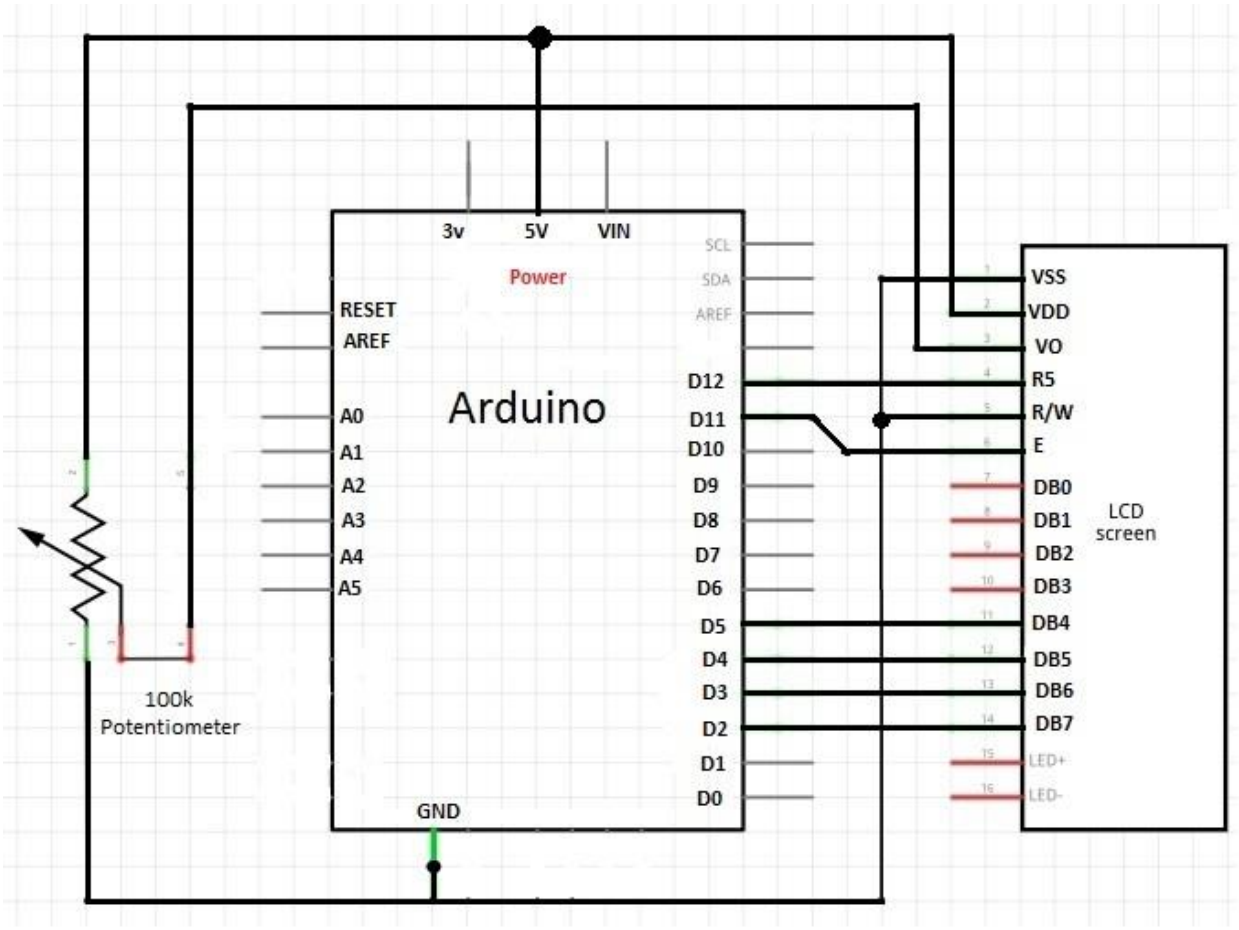
Liquid Crystal Lab



Hardware Required:

- Arduino Board
- LCD Screen (compatible with Hitachi HD44780 driver)
- 100k Potentiometer
- Breadboard
- Wires

Create the Following Code to produce "Hello World" and shows the time on the LCD

```
//include the library code:
#include <LiquidCrystal.h>
//initialize the library with the numbers of the interface pins
LiquidCrystal lcd (12,11,5,4,3,2);
void setup(){
//set up the lCDS number of columns and rows:
  lcd.begin (16,2);
//Print a message to the LCD:
   lcd.print("hello, world!");
  }
void loop()
{
//Set the cursor to column 0, line 1
  Lcd.setCursor(0,1);
//print the numbers of seconds since reset
Lcd.print(millis()/1000);
}
```

Make the following changes to the code:

1) Center the LCD Message using the lcd.setCursor command.

Using the same setup from the first part, create the following code which prints “Hello World!” and scrolls the text offscreen to the left and then to the right.

```
//include the library code
#include <LiquidCrystal.h>
//initialize the library with the numbers of the interface pins
LiquidCrystal lcd (12,11,5,4,3,2);
void setup(){
//set up the LCD’s number of columns and rows
  lcd.begin (16,2);
//Print a message to the LCD
  lcd.print("Hello, world!");
  delay(1000);
}
void loop()
{
//Scroll 13 positions(string length) to the left
  for (int positionCounter=0; positionCounter<13; positionCounter++)  {
    //scroll one position left:
    lcd.scrollDisplayLeft();
    //wait a bit:
    delay(150);
  }
  //scroll 29 positions (string length +display length) to the right to move It
//offscreen right
  for (int positionCounter=0; positionCounter<29; positionCounter++){
//scroll one position to the right
    lcd.scrollDisplayRight();
//wait a bit
    delay(150);
  }
// scroll 16 positions (display length + string length) to the left to move
//back to the center
   for (int positionCounter=0; positionCounter<16; positionCounter++){
//scroll one position to the left
   lcd.scrollDisplayLeft();
//wait a bit
   delay(150);
   }
//delay at the end of the full loop
   delay (1000);
}
```

Make the following changes to the code:

1) Change the message on the LCD to your favorite pet.