

Lesson 9 Four Digital Segment Display

Introduction

In this lesson, you will learn how to use a 4-digit 7-segment display.

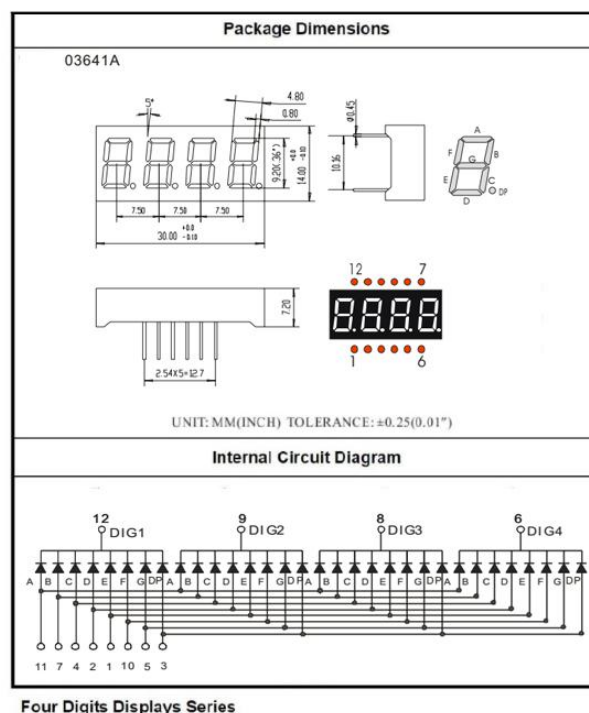
Hardware Required

- ✓ 1 * RexQualis UNO R3
- ✓ 1 * Breadboard
- ✓ 4 * 220ohm Resistors
- ✓ 1 * 74hc595 IC
- ✓ 1 * 4 Digit 7-Segment Display
- ✓ 23 * M-M Jumper Wires



Principle

Four Seven Segment Display



Code interpretation

```
int latch=9;  //74HC595  pin 9 STCP
```

```
int clock=10; //74HC595  pin 10 SHCP
```

```
int data=8;   //74HC595  pin 8 DS
```

```
//Refer Table 7-Segment Decoding
```

```
unsigned char table[]=
```

```
{0x3f,0x06,0x5b,0x4f,0x66,0x6d,0x7d,0x07,0x7f,0x6f,0x77,0x7c  
,0x39,0x5e,0x79,0x71,0x00};
```

```
//initialize the digital pin  as an outout
```

```
void setup() {
```

```
    pinMode(latch,OUTPUT);
```

```
    pinMode(clock,OUTPUT);
```

```
    pinMode(data,OUTPUT);
```

```
}
```

```
//Latch the data
```

```
void Display(unsigned char num)
```

```
{
```

```
    digitalWrite(latch,LOW);
```

```
    shiftOut(data,clock,MSBFIRST,table[num]);
```

```
    digitalWrite(latch,HIGH);
```

```
}
```

```
void loop() {
```

```
Display(1);  
  
delay(2000);//delay 2 sencond  
  
Display(2);  
  
delay(2000);//delay 2 sencond  
  
Display(3);  
  
delay(2000);//delay 2 sencond  
  
Display(4);  
  
delay(2000);//delay 2 sencond  
  
Display(5);  
  
delay(2000);//delay 2 sencond  
  
Display(6);  
  
delay(2000);//delay 2 sencond  
  
Display(7);  
  
delay(2000);//delay 2 sencond  
  
Display(8);  
  
delay(2000);//delay 2 sencond  
  
Display(9);  
  
delay(2000);//delay 2 sencond  
  
Display(10);  
  
delay(2000);//delay 2 sencond  
  
Display(11);  
  
delay(2000);//delay 2 sencond
```

```

Display(12);

delay(2000);//delay 2 sencond

Display(13);

delay(2000);//delay 2 sencond

Display(14);

delay(2000);//delay 2 sencond

Display(15);

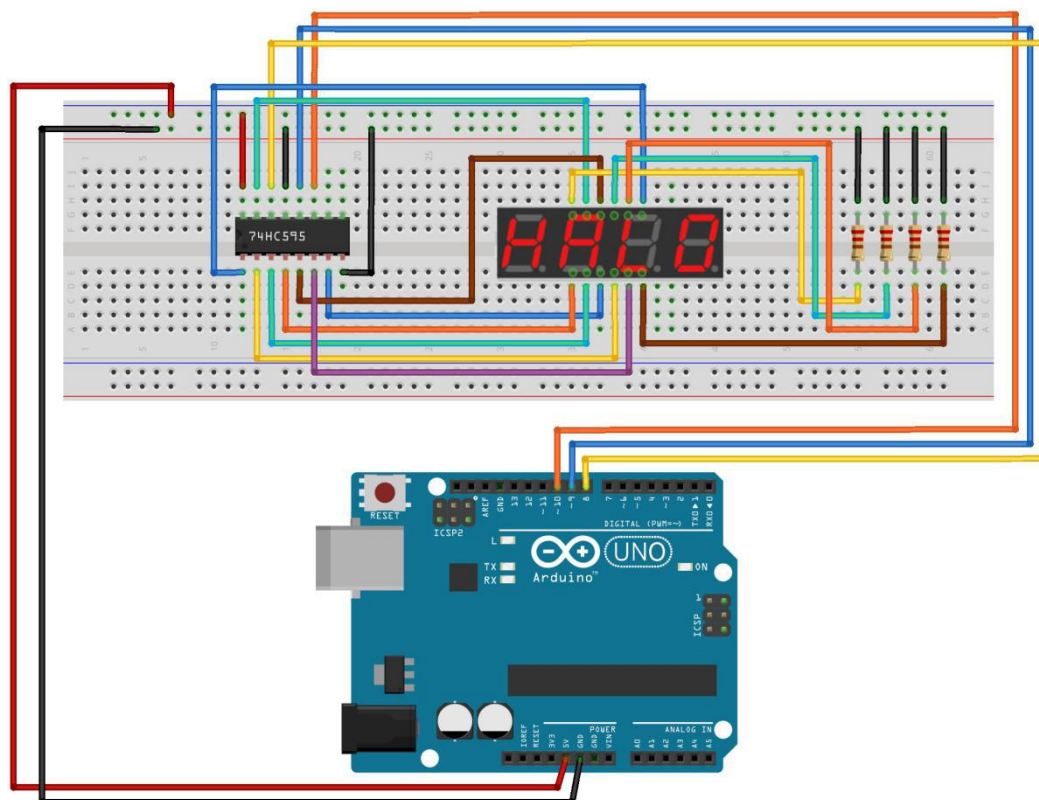
delay(2000);//delay 2 sencond

}

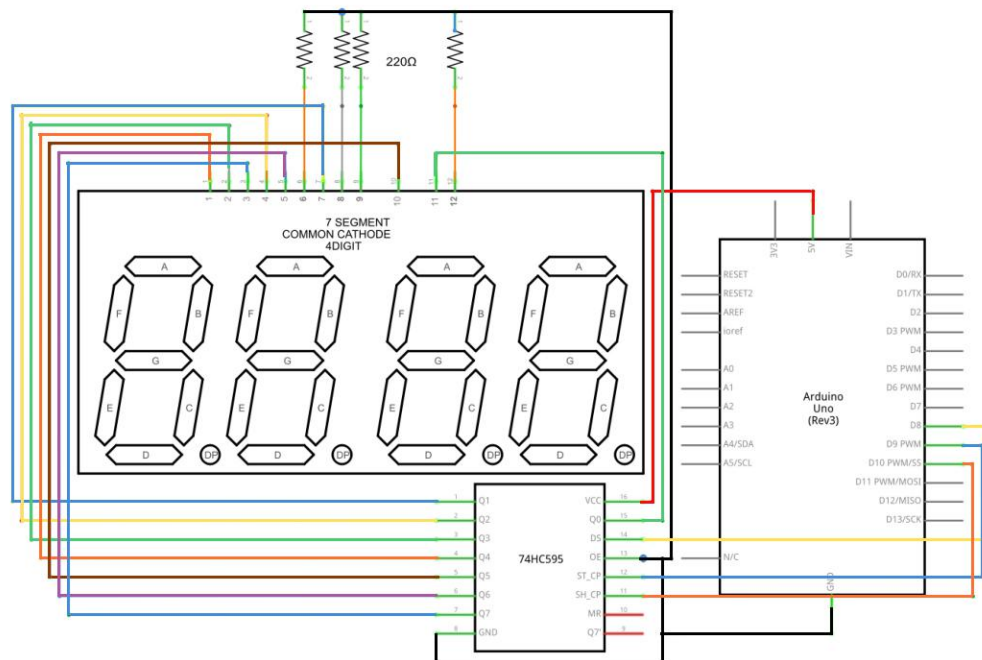
```

Experimental Procedures

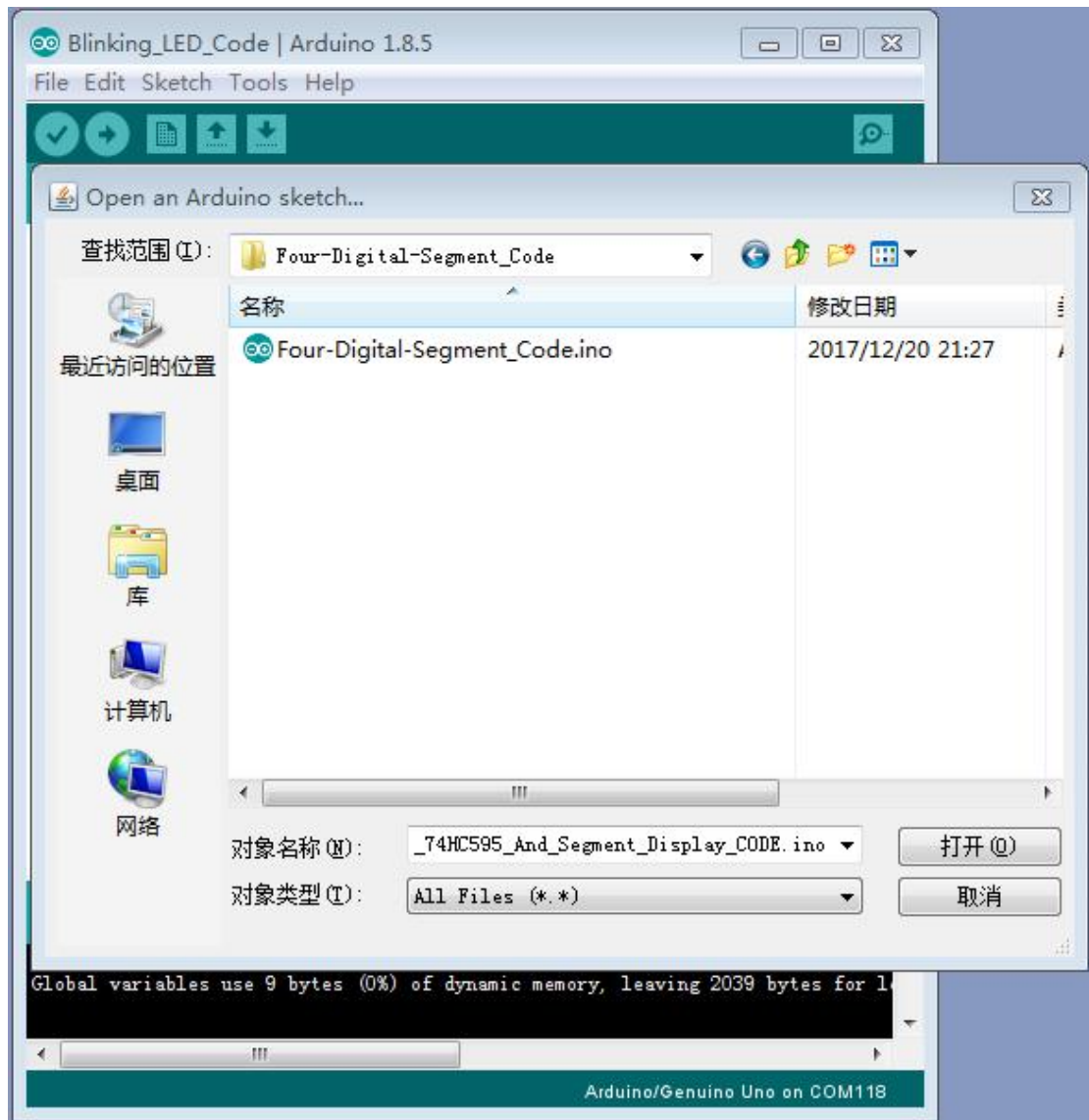
Step 1: Build the circuit



Schematic Diagram



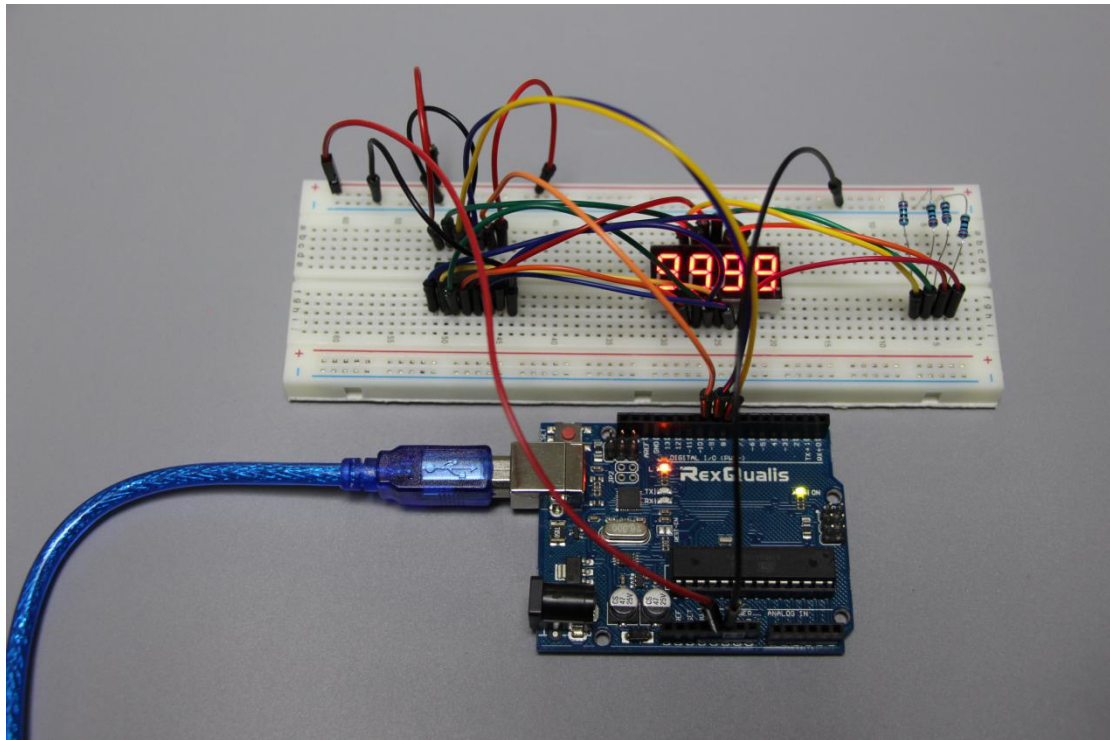
Step 2: Open the code: `Four-Digital-Segment_Code`



Step 3: Attach Arduino UNO R3 board to your computer via USB cable and check that the 'Board Type' and 'Serial Port' are set correctly.

Step 4: Upload the code to the RexQualis UNO R3 board.

Then, You can see the 4 Digital Seven Segment Display show the number from 1-F.



If it isn' t working, make sure you have assembled the circuit correctly, verified and uploaded the code to your board. For how to upload the code and install the library, check Lesson 0 Preface.