

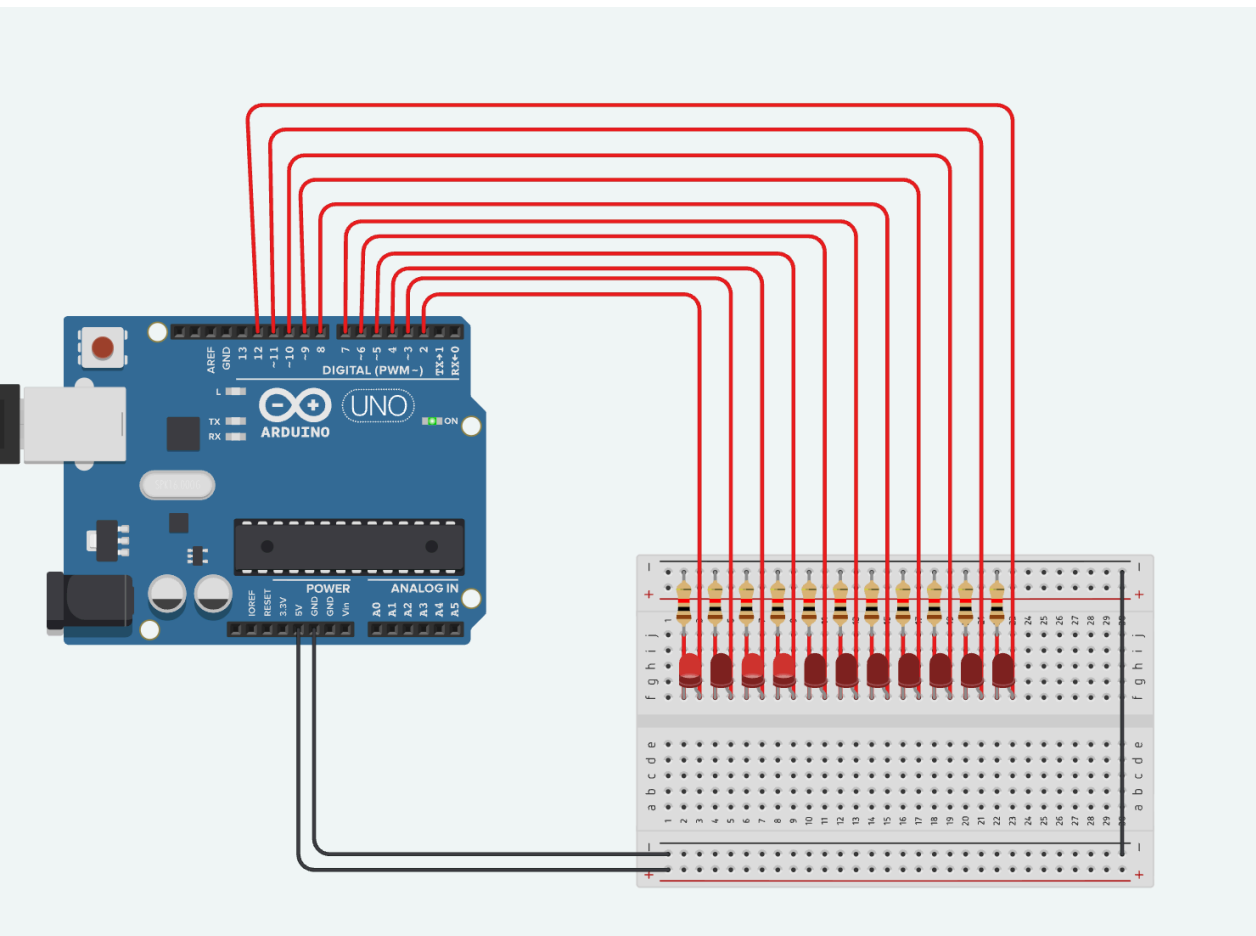
Text



```
1 // C++ code
2 //
3
4 int led1 = 2;
5 int led2 = 3;
6 int led3 = 4;
7 int led4 = 5;
8 int led5 = 6;
9 int led6 = 7;
10 int led7 = 8;
11 int led8 = 9;
12 int led9 = 10;
13 int led10 = 11;
14 int led11 = 12;
15
16 void turnON(int bin){
17     int i = 10;
18     int arr[11] = {led1,led2,led3,led4,led5,led6,led7,led8,led9,led10,led11};
19     int size_arr = sizeof(arr)/sizeof(arr[0]);
20
21     for(int j = 0; j < size_arr; j++){
22         if(bin > 0){
23             if(bin%i == 1){
24                 digitalWrite(arr[j], HIGH);
25                 Serial.println("On");
26             }else if (bin%i == 0){
27                 digitalWrite(arr[j], LOW);
28                 Serial.println("OFF");
29             }
30             bin/=i;
31
32         }
33     }
```

```
34 }
35
36 int dc_bn(int n){
37     long binaryNumber = 0;
38     int remainder, i = 1;
39
40     while (n != 0) {
41         remainder = n % 2;
42         n /= 2;
43         binaryNumber += remainder * i;
44         i *= 10;
45     }
46
47     return binaryNumber;
48 }
49
50 void setup()
51 {
52     pinMode(led1, OUTPUT);
53     pinMode(led2, OUTPUT);
54     pinMode(led3, OUTPUT);
55     pinMode(led4, OUTPUT);
56     pinMode(led5, OUTPUT);
57     pinMode(led6, OUTPUT);
58     pinMode(led7, OUTPUT);
59     pinMode(led8, OUTPUT);
60     pinMode(led9, OUTPUT);
61     pinMode(led10, OUTPUT);
62     pinMode(led11, OUTPUT);
63     Serial.begin(9600);
64
65     int decimal = 30;
66
67     int bin = dc_bn(decimal);
```

```
67     int bin = dc_bn(decimal);
68     Serial.println(bin);
69     turnON(bin);
70
71 }
72
73
74 void loop()
75 {
76
77 }
```



1 (Arduino Uno R3)

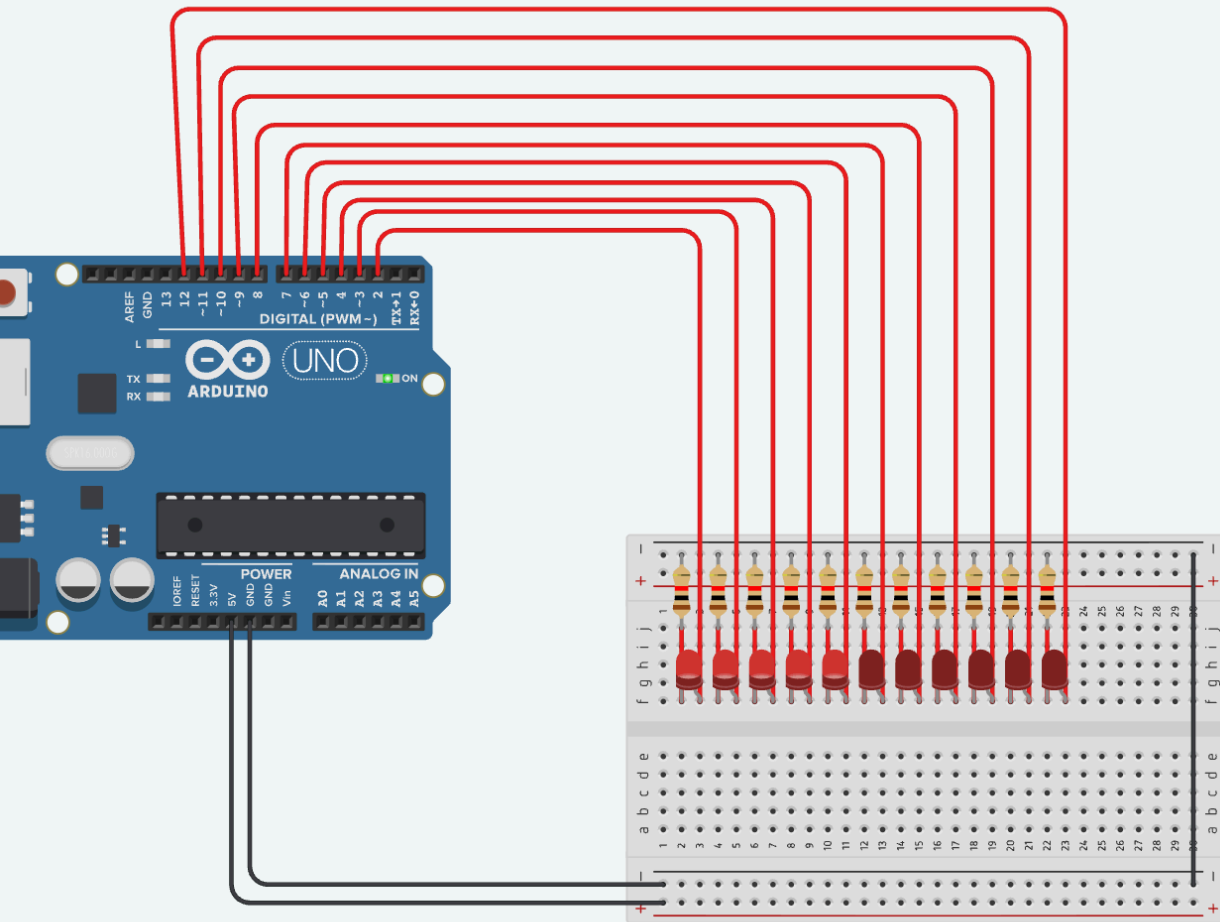
```
45     }
46
47     return binaryNumber;
48 }
49
50 void setup()
51 {
52     pinMode(led1, OUTPUT);
53     pinMode(led2, OUTPUT);
54     pinMode(led3, OUTPUT);
55     pinMode(led4, OUTPUT);
56     pinMode(led5, OUTPUT);
57     pinMode(led6, OUTPUT);
58     pinMode(led7, OUTPUT);
59     pinMode(led8, OUTPUT);
60     pinMode(led9, OUTPUT);
61     pinMode(led10, OUTPUT);
62     pinMode(led11, OUTPUT);
63     Serial.begin(9600);
64
65     int decimal = 13;
66
67     int bin = decToBin(decimal);
```

How the debugger works

1. Add breakpoints by clicking on the line numbers.
2. Hover over the variables while paused to see their value.
3. Use the buttons above to resume simulation or step one line at a time.

Serial Monitor

```
On
1101
On
OFF
On
On
```



```
57 pinMode(led5, OUTPUT);
58 pinMode(led6, OUTPUT);
59 pinMode(led7, OUTPUT);
60 pinMode(led8, OUTPUT);
61 pinMode(led9, OUTPUT);
62 pinMode(led10, OUTPUT);
63 pinMode(led11, OUTPUT);
64 Serial.begin(9600);
65
66 int decimal = 31;
67
68 int bin = dc_bn(decimal);
69
70 Serial.println(bin);
71 turnON(bin);
72
73 }
74
75
76 void loop()
77 {
78
79 }
```

 Serial Monitor

```
11111
0n
0n
0n
0n
0n
```