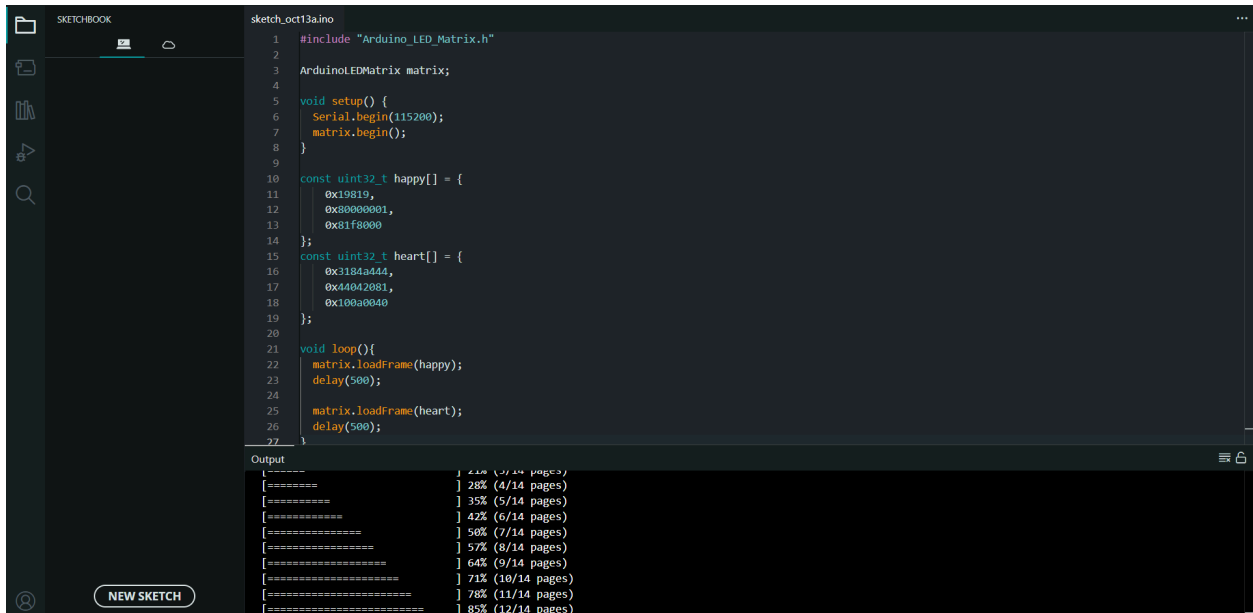


Using the Arduino UNO R4 WiFi LED Matrix

Testing It Out

Smiley + Heart



```
1  #include "Arduino_LED_Matrix.h"
2
3  ArduinoLEDMatrix matrix;
4
5  void setup() {
6      Serial.begin(115200);
7      matrix.begin();
8  }
9
10 const uint32_t happy[] = {
11     0x19819,
12     0x80000001,
13     0x81f8000
14 };
15 const uint32_t heart[] = {
16     0x3184a444,
17     0x44042081,
18     0x100a0040
19 };
20
21 void loop(){
22     matrix.loadFrame(happy);
23     delay(500);
24
25     matrix.loadFrame(heart);
26     delay(500);
27 }
```

Output

-----	44%	(2/14 pages)
[-----	28%	(4/14 pages)
[-----	35%	(5/14 pages)
[-----	42%	(6/14 pages)
[-----	50%	(7/14 pages)
[-----	57%	(8/14 pages)
[-----	64%	(9/14 pages)
[-----	71%	(10/14 pages)
[-----	78%	(11/14 pages)
[-----	85%	(12/14 pages)

NEW SKETCH

Wink

```
File Edit Sketch Tools Help
[Check] [Run] [Serial] Select Board [Zoom In] [Zoom Out]

sketch_oct13a.ino
1 #include "Arduino_LED_Matrix.h"
2
3 ArduinoLEDMatrix matrix;
4
5 void setup() {
6   Serial.begin(115200);
7   matrix.begin();
8 }
9
10 uint8_t frame[8][12] = {
11   { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 },
12   { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 },
13   { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 },
14   { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 },
15   { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 },
16   { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 },
17   { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 },
18   { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 }
19 };
20
21 void lefteye(){
22   //Left eye
23   frame[1][3] = 1;
24   frame[1][4] = 1;
25   frame[2][3] = 1;
26   frame[2][4] = 1;
27 }
28
29 void wink(){
30   //wink with the left eye
31   frame[1][3] = 0;
32   frame[1][4] = 0;
33   frame[2][3] = 0;
34   frame[2][4] = 0;
35 }
36
37 void righteye(){
38   //Right eye
```

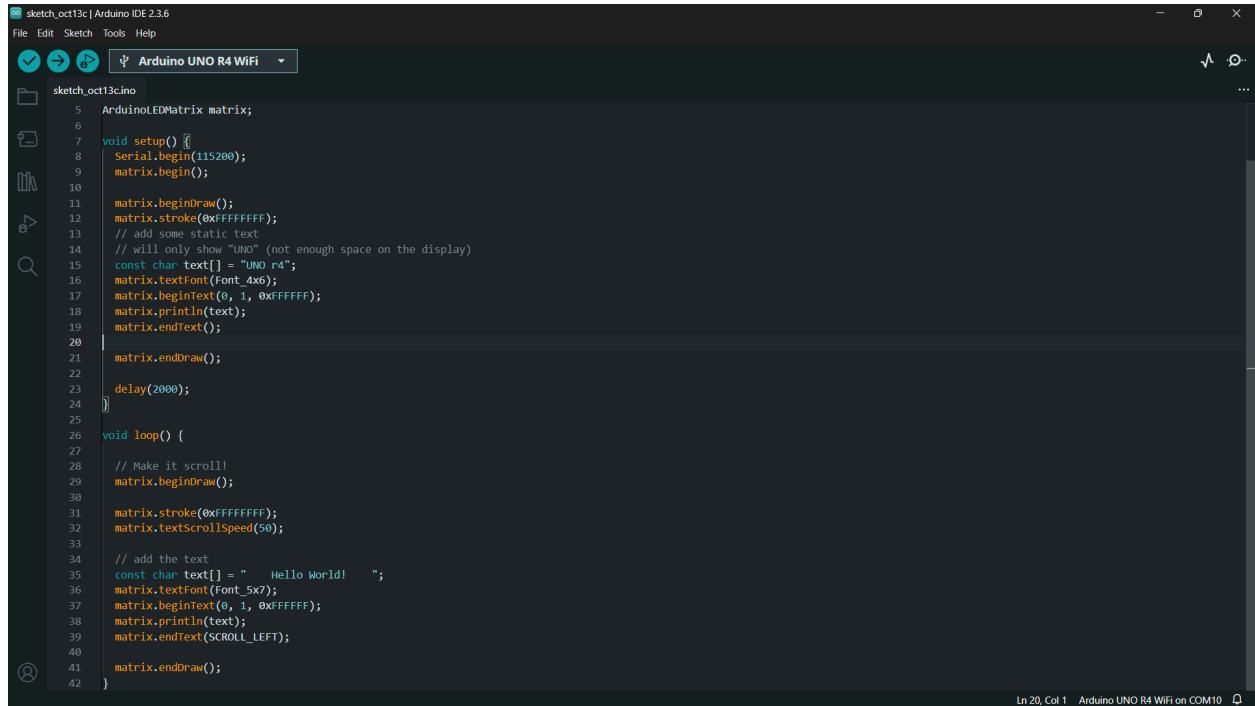
Ln 70, Col 2 × No board selected 1

```
sketch_oct13a | Arduino IDE 2.3.6
File Edit Sketch Tools Help
[Check] [Run] [Serial] Select Board [Zoom In] [Zoom Out]

sketch_oct13a.ino
33   frame[2][3] = 1;
34   frame[2][4] = 1;
35 }
36
37 void righteye(){
38   //Right eye
39   frame[1][8] = 1;
40   frame[1][9] = 1;
41   frame[2][8] = 1;
42   frame[2][9] = 1;
43 }
44
45 void mouth(){
46   //Mouth
47   frame[5][3] = 1;
48   frame[5][9] = 1;
49   frame[6][3] = 1;
50   frame[6][4] = 1;
51   frame[6][5] = 1;
52   frame[6][6] = 1;
53   frame[6][7] = 1;
54   frame[6][8] = 1;
55   frame[6][9] = 1;
56 }
57
58 void loop(){
59   lefteye();
60   righteye();
61   mouth();
62
63   matrix.renderBitmap(frame, 8, 12);
64
65   delay(1000);
66   wink();
67
68   matrix.renderBitmap(frame, 8, 12);
69   delay(1000);
70 }
```

Ln 33, Col 19 × No board selected 1

Scrolling Text

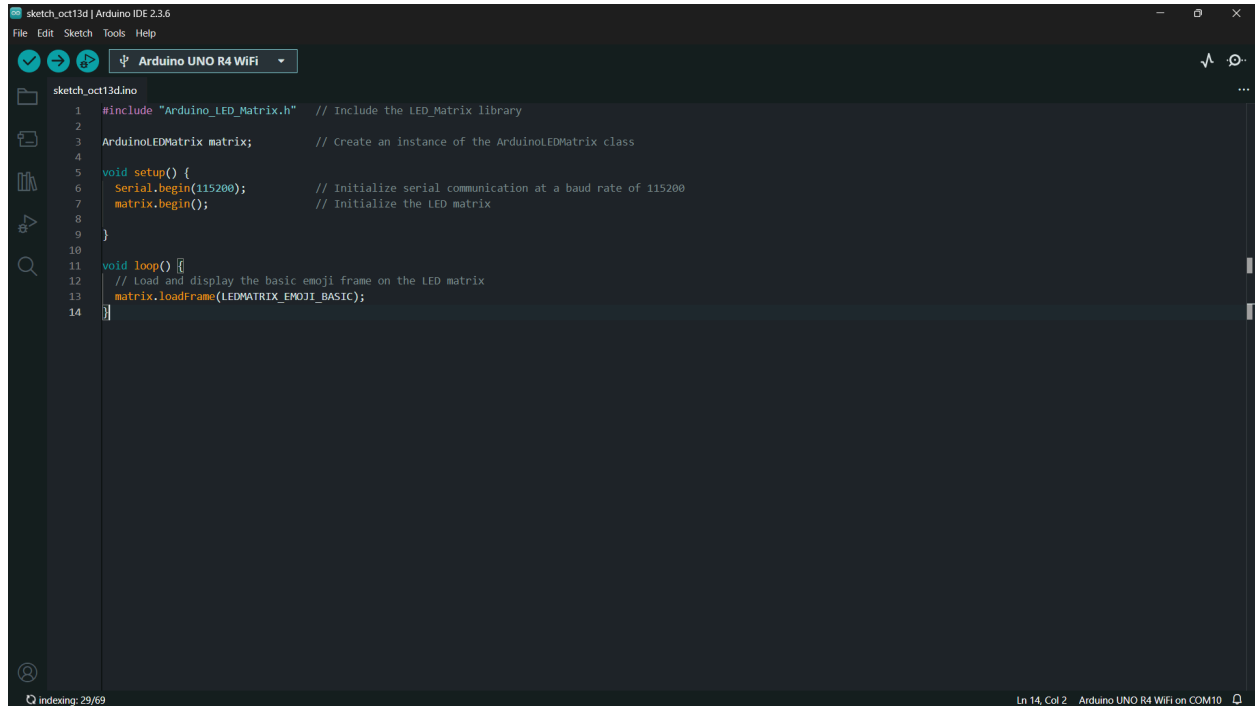


```
sketch_oct13c.ino
5  ArduinoLEDMatrix matrix;
6
7  void setup() {
8    Serial.begin(115200);
9    matrix.begin();
10
11    matrix.beginDraw();
12    matrix.stroke(0xFFFFFF);
13    // add some static text
14    // will only show "UNO" (not enough space on the display)
15    const char text[] = "UNO R4";
16    matrix.textFont(Font_4x6);
17    matrix.beginText(0, 1, 0xFFFF);
18    matrix.println(text);
19    matrix.endText();
20
21    matrix.endDraw();
22
23    delay(2000);
24
25
26  void loop() {
27    // Make it scroll!
28    matrix.beginDraw();
29
30    matrix.stroke(0xFFFFFF);
31    matrix.textScrollSpeed(50);
32
33    // add the text
34    const char text[] = " Hello World! ";
35    matrix.textFont(Font_5x7);
36    matrix.beginText(0, 1, 0xFFFF);
37    matrix.println(text);
38    matrix.endText(SCROLL_LEFT);
39
40    matrix.endDraw();
41  }
42 }
```

Ln 20, Col 1 - Arduino UNO R4 WiFi on COM10

Frame Gallery

Frames

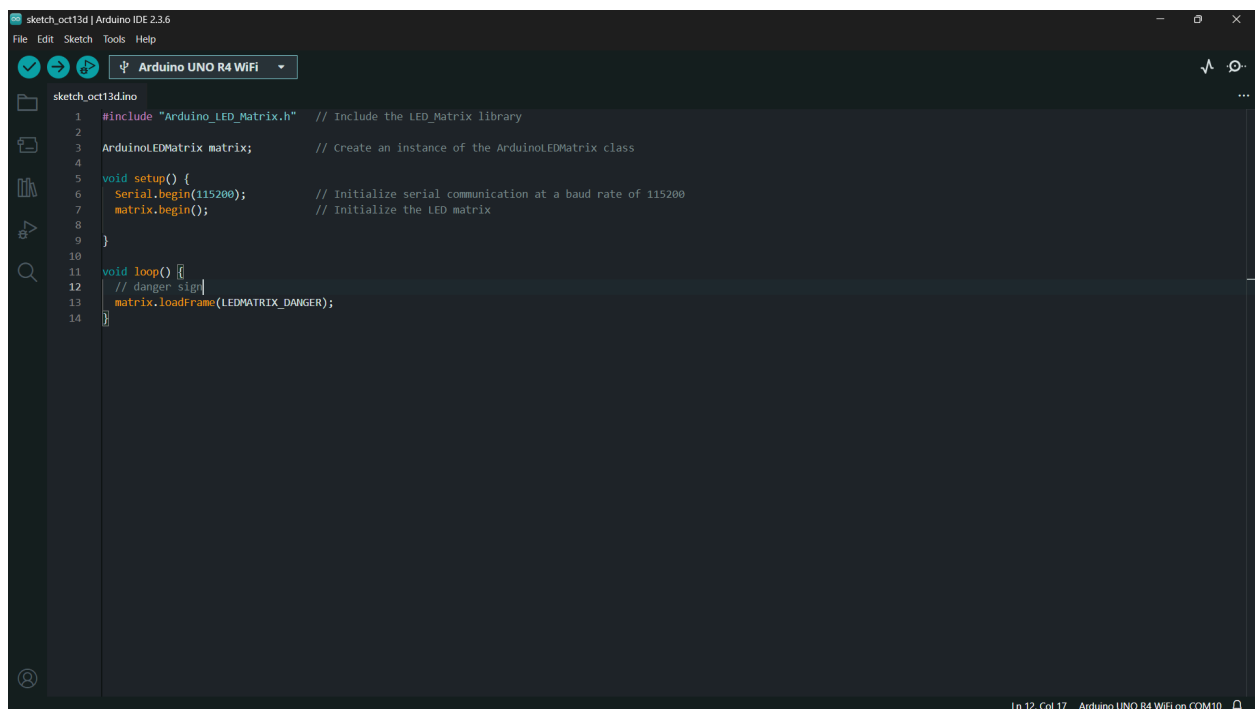


The screenshot shows the Arduino IDE interface with a sketch named 'sketch_oct13d.ino'. The code is as follows:

```
1 #include "Arduino_LED_Matrix.h" // Include the LED_Matrix library
2
3 ArduinoLEDMatrix matrix; // Create an instance of the ArduinoLEDMatrix class
4
5 void setup() {
6   Serial.begin(115200); // Initialize serial communication at a baud rate of 115200
7   matrix.begin(); // Initialize the LED matrix
8 }
9
10
11 void loop() {
12   // Load and display the basic emoji frame on the LED matrix
13   matrix.loadFrame(LEDMATRIX_EMOJI_BASIC);
14 }
```

The status bar at the bottom indicates 'Ln 14, Col 2' and 'Arduino UNO R4 WiFi on COM10'.

Frame 1: Danger

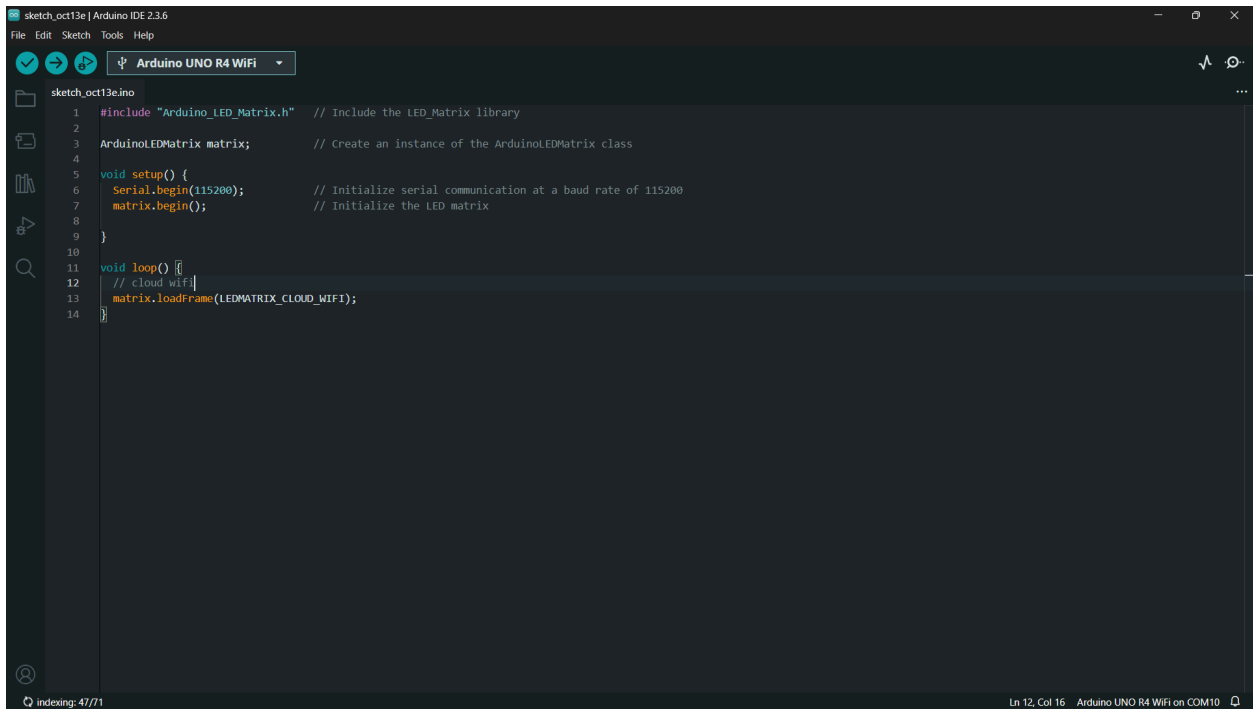


The screenshot shows the Arduino IDE interface with a sketch named 'sketch_oct13d.ino'. The code is as follows:

```
1 #include "Arduino_LED_Matrix.h" // Include the LED_Matrix library
2
3 ArduinoLEDMatrix matrix; // Create an instance of the ArduinoLEDMatrix class
4
5 void setup() {
6   Serial.begin(115200); // Initialize serial communication at a baud rate of 115200
7   matrix.begin(); // Initialize the LED matrix
8 }
9
10
11 void loop() {
12   // danger sign
13   matrix.loadFrame(LEDMATRIX_DANGER);
14 }
```

The status bar at the bottom indicates 'Ln 12, Col 17' and 'Arduino UNO R4 WiFi on COM10'.

Frame 2: Cloud Wifi

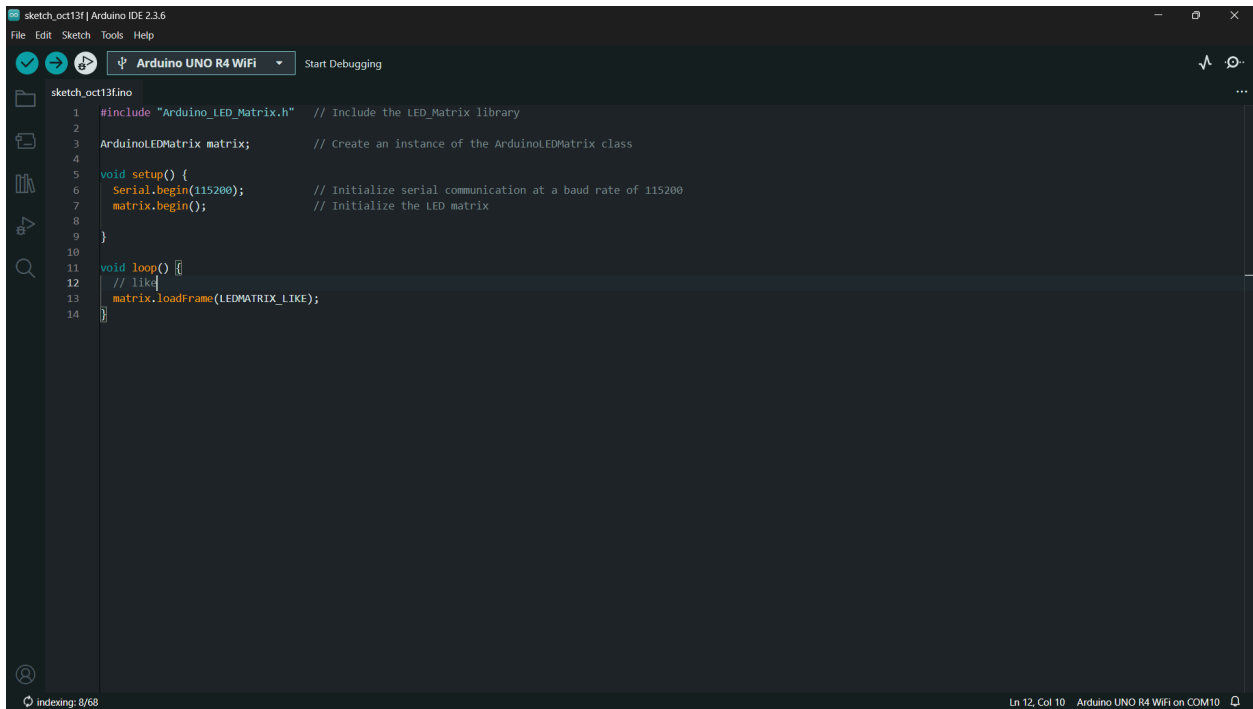


The screenshot shows the Arduino IDE 2.3.6 interface with the sketch 'sketch_oct13e.ino' open. The code is as follows:

```
1 #include "Arduino_LED_Matrix.h" // Include the LED_Matrix library
2
3 ArduinoLEDMatrix matrix;        // Create an instance of the ArduinoLEDMatrix class
4
5 void setup() {
6   Serial.begin(115200);          // Initialize serial communication at a baud rate of 115200
7   matrix.begin();                // Initialize the LED matrix
8 }
9
10
11 void loop() {
12   // cloud wifi
13   matrix.loadFrame(LEDMATRIX_CLOUD_WIFI);
14 }
```

The IDE status bar at the bottom indicates 'Ln 12, Col 16' and 'Arduino UNO R4 Wifi on COM10'.

Frame 3: Like



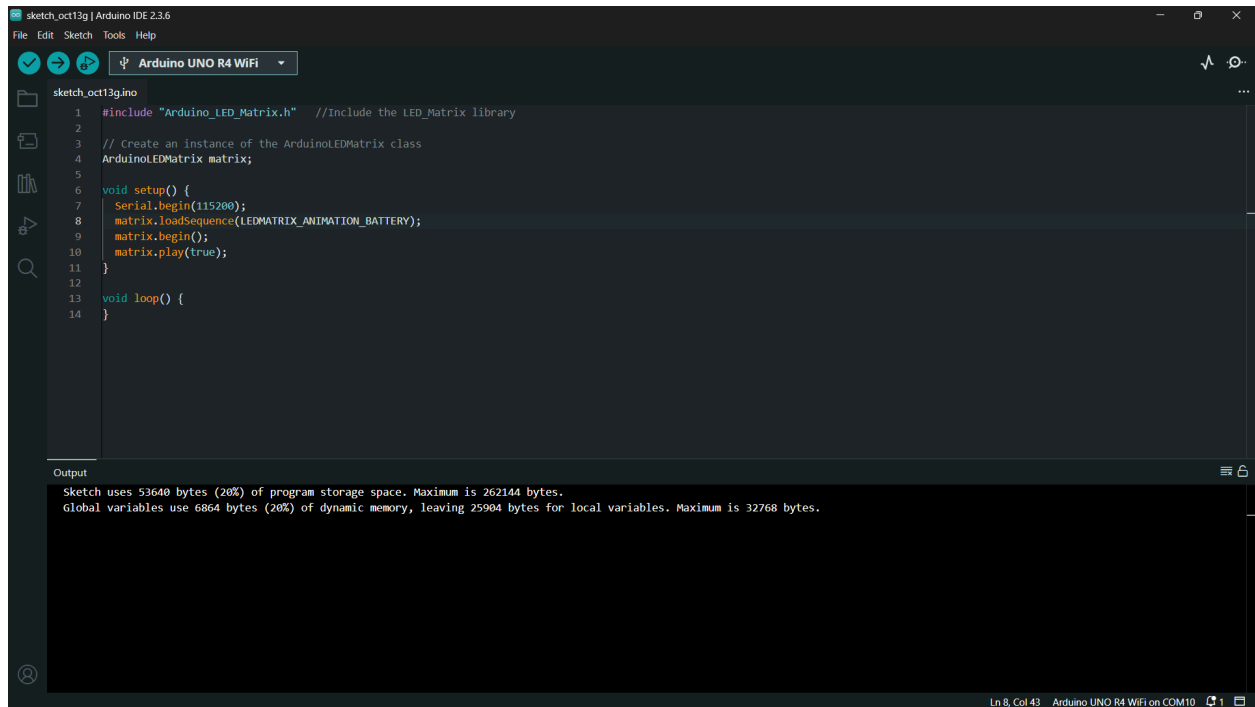
The screenshot shows the Arduino IDE 2.3.6 interface with the sketch 'sketch_oct13f.ino' open. The code is as follows:

```
1 #include "Arduino_LED_Matrix.h" // Include the LED_Matrix library
2
3 ArduinoLEDMatrix matrix;        // Create an instance of the ArduinoLEDMatrix class
4
5 void setup() {
6   Serial.begin(115200);          // Initialize serial communication at a baud rate of 115200
7   matrix.begin();                // Initialize the LED matrix
8 }
9
10
11 void loop() {
12   // like
13   matrix.loadFrame(LEDMATRIX_LIKE);
14 }
```

The IDE status bar at the bottom indicates 'Ln 12, Col 10' and 'Arduino UNO R4 Wifi on COM10'.

Animations

Animation 1: Battery



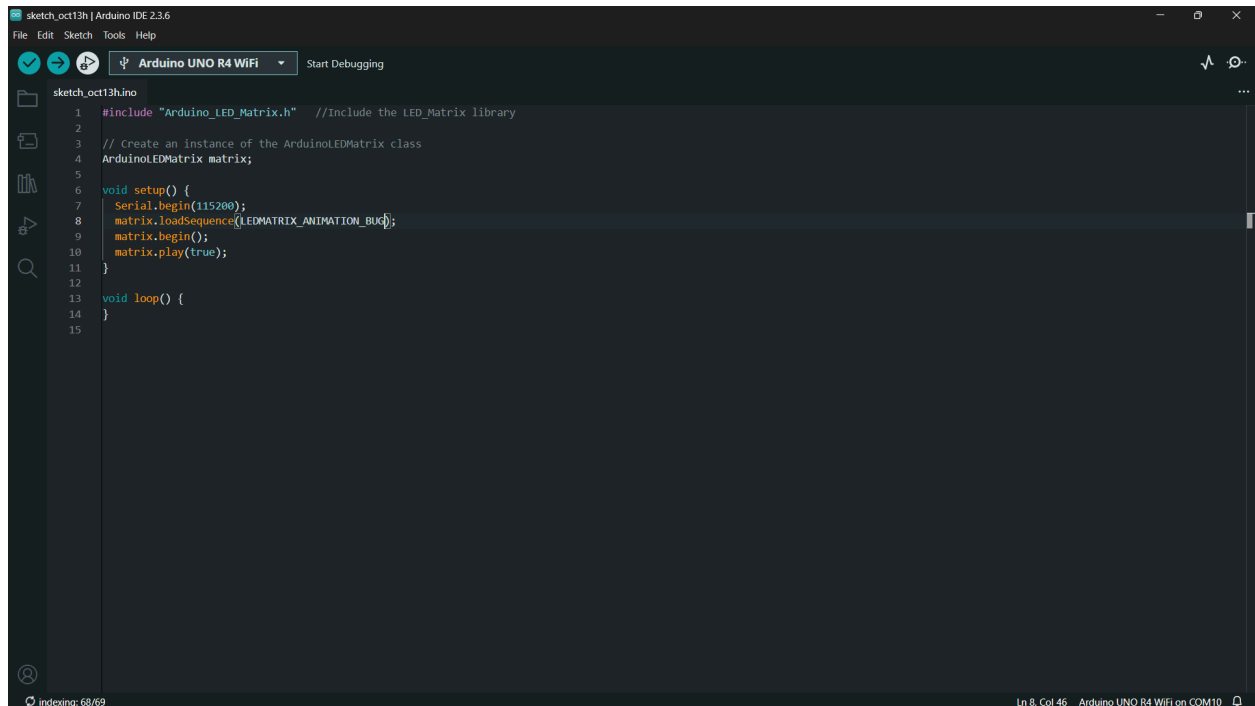
```
sketch_oct13g.ino
1 #include "Arduino_LED_Matrix.h" //Include the LED_Matrix library
2
3 // Create an instance of the ArduinoLEDMatrix class
4 ArduinoLEDMatrix matrix;
5
6 void setup() {
7   Serial.begin(115200);
8   matrix.loadSequence(LED_MATRIX_ANIMATION_BATTERY);
9   matrix.begin();
10  matrix.play(true);
11 }
12
13 void loop() {
14 }
```

Output

Sketch uses 53640 bytes (20%) of program storage space. Maximum is 262144 bytes.
Global variables use 6864 bytes (20%) of dynamic memory, leaving 25904 bytes for local variables. Maximum is 32768 bytes.

Ln 8, Col 43 Arduino UNO R4 WiFi on COM10

Animation 2: Bug

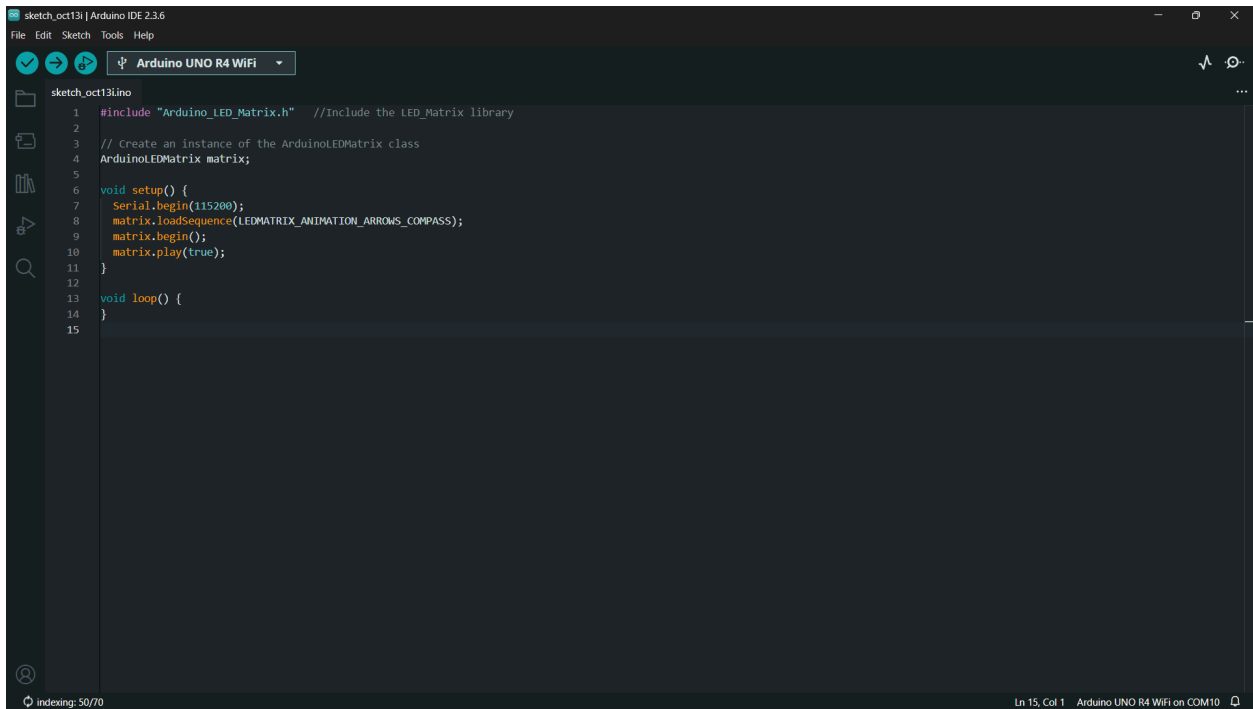


```
sketch_oct13h.ino
1 #include "Arduino_LED_Matrix.h" //Include the LED_Matrix library
2
3 // Create an instance of the ArduinoLEDMatrix class
4 ArduinoLEDMatrix matrix;
5
6 void setup() {
7   Serial.begin(115200);
8   matrix.loadSequence(LED_MATRIX_ANIMATION_BUG);
9   matrix.begin();
10  matrix.play(true);
11 }
12
13 void loop() {
14 }
15
```

Indexing: 68/69

Ln 8, Col 46 Arduino UNO R4 WiFi on COM10

Animation 3: Arrows Compass



The screenshot shows the Arduino IDE interface with a sketch named 'sketch_oct13.ino'. The code is written in C++ and includes the 'Arduino_LED_Matrix.h' library. It sets up a serial connection at 115200 baud and loads a sequence of LED patterns for an 'Arrows Compass' animation. The 'setup' function initializes the serial port and the LED matrix, while the 'loop' function is currently empty.

```
1 #include "Arduino_LED_Matrix.h" //Include the LED_Matrix library
2
3 // Create an instance of the ArduinoLEDMatrix class
4 ArduinoLEDMatrix matrix;
5
6 void setup() {
7   Serial.begin(115200);
8   matrix.loadSequence(LED_MATRIX_ANIMATION_ARROWS_COMPASS);
9   matrix.begin();
10  matrix.play(true);
11 }
12
13 void loop() {
14 }
15
```

The status bar at the bottom indicates 'Ln 15, Col 1' and 'Arduino UNO R4 WiFi on COM10'.