

- Arrays-

a[3] [4]

	Column 0	Column 1	Column 2	Column 3
Row 0	a[0] [0]	a[0] [1]	a[0] [2]	a[0] [3]
Row 1	a[1] [0]	a[1] [1]	a[1] [2]	a[1] [3]
Row 2	a[2] [0]	a [2] [1]	a[2] [2]	a[2] [3]

Column subscript
Row subscript
Array name

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- All of the methods below are valid ways to create (declare) an array.

```
int myInts[6];
int myPins[] = {2, 4, 8, 3, 6};
int mySensVals[6] = {2, 4, -8, 3, 2};
char message[6] = "hello";
```

- To assign a value to an array:


```
mySensVals[0] = 10;
```
- To retrieve a value from an array:


```
x = mySensVals[4];
```
- Arrays and FOR Loops


```
for (byte i = 0; i < 5; i = i + 1) { Serial.println(myPins[i]);
```

 - 2D Arrays

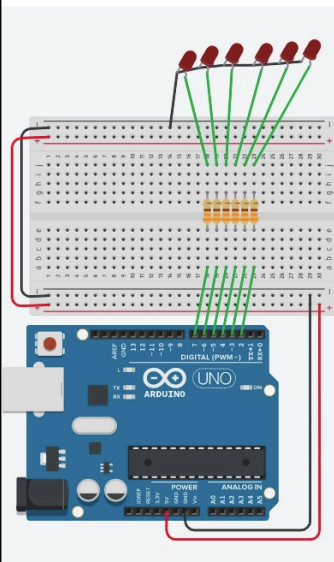

```
int A[ 2 ][ 2 ] = { { 1, 2 }, { 3, 4 } };
```

- <https://www.arduino.cc/en/Tutorial/KnightRider>
- https://www.tutorialspoint.com/arduino/arduino_multi_dimensional_arrays.htm

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Παράδειγμα με πίνακες



```

int timer = 300; // The higher the number, the slower the timing.

int ledPins_MATRIX[] = {
  2, 3, 4, 5, 6, 7}; // an array of pin numbers to which LEDs are attached
int pinCount = 6; // the number of pins (i.e. the length of the array)

void setup() {
  // the array elements are numbered from 0 to (pinCount - 1).
  // use a for loop to initialize each pin as an output:
  for (int i = 0; i < pinCount; i++) {
    pinMode(ledPins_MATRIX[i], OUTPUT);
  }
}

void loop() {
  // loop from the lowest pin to the highest:
  for (int i = 0; i < pinCount; i++) {
    // turn the pin on:
    digitalWrite(ledPins_MATRIX[i], HIGH);
    delay(timer);
    // turn the pin off:
    digitalWrite(ledPins_MATRIX[i], LOW);
  }

  // loop from the highest pin to the lowest:
  for (int i = pinCount - 1; i >= 0; i--) {
    // turn the pin on:
    digitalWrite(ledPins_MATRIX[i], HIGH);
    delay(timer);
    // turn the pin off:
    digitalWrite(ledPins_MATRIX[i], LOW);
  }
}

```

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