

Arduino Cheatsheet

Overview of unique features

- Microcontroller platform
- Simplified C++ programming language
- Integrated development environment (IDE)
- Built-in functions for interacting with hardware
- Wide range of compatible sensors and modules
- Real-time processing capabilities

Variables

```
// Declare a variable
int x = 42;

// Declare a constant
const int y = 10;

// Declare an array
int myArray[3] = {1, 2, 3};

// Declare a string
String myString = "hello";
```

Functions

```
// Declare a function
int add(int x, int y) {
    return x + y;
}

// Call a function
int result = add(3, 4);
```

Loops

```
// Define a for loop
for (int i = 0; i < 10; i++) {
    // do something
}

// Define a while loop
while (condition) {
    // do something
}
```

Conditionals

```
// Define an if-else statement
int max(int x, int y) {
    if (x > y) {
        return x;
    } else {
        return y;
    }
}
```

Interacting with hardware

```
// Set up a digital pin
int ledPin = 13;
void setup() {
    pinMode(ledPin, OUTPUT);
}

// Turn on and off the LED
void loop() {
    digitalWrite(ledPin, HIGH);
    delay(1000);
    digitalWrite(ledPin, LOW);
    delay(1000);
}
```

Resources

- [Arduino documentation](#)
- [Arduino programming language tutorial](#)
- [Arduino forum](#) for community support and troubleshooting.