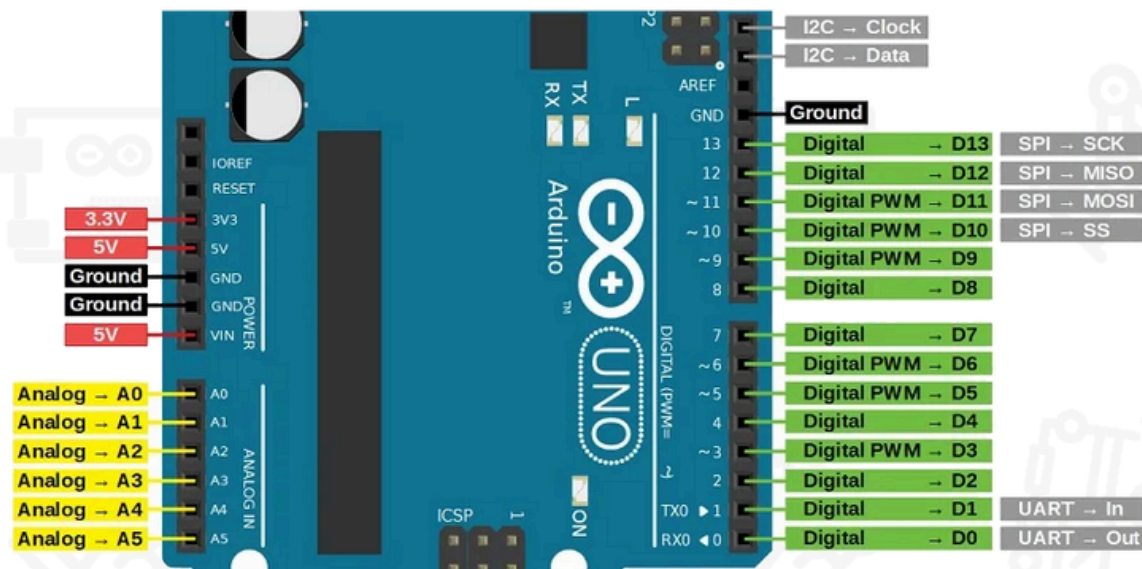


Arduinos

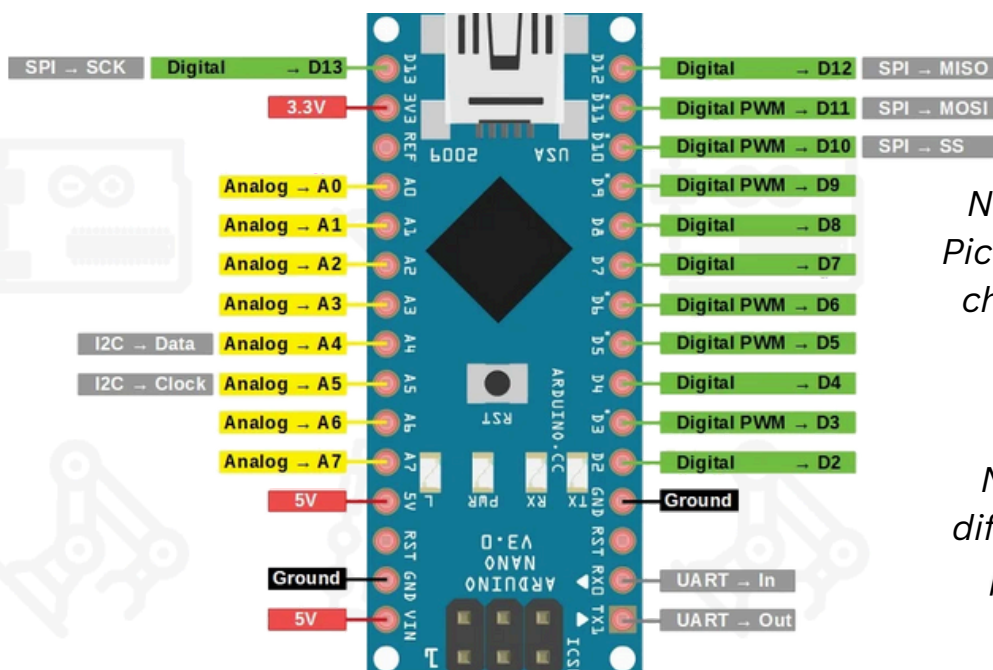
What is Arduino?

- Arduino is an open source prototyping platform with many different variations of microcontrollers available to build devices.
- Programmed using the Arduino IDE in C++
- Has a 16Mhz, 16-bit processor and 5V logic voltage.
- Two common variants, the Arduino UNO and Nano. Only difference being size and that the UNO has female pins.

Arduino UNO Pinout



Arduino Nano Pinout



Note: If you are following a Pi Pico worksheet you may need to change what wires connect to what pins

Note: SPI, I2C and UART are different serial communication protocols that need to use specific pins

Programming Arduinos:

- You will need to get the **Arduino IDE** from: arduino.cc/en/software
- You can either install a local IDE or use an online IDE with a local agent

IDE buttons and menus



- The way you write code for an **Arduino** is a bit different compared to a **Pi Pico**, instead of running your code once and having to implement loops yourself, **Arduino** code has a built-in **setup()** and **loop()** function.
- You can find many coding tutorials at docs.arduino.cc/programming/ or by googling your problem/goal

LED Blink Code Example

```
1 // specify your imports and global variables here:
2
3 pinNo = LED_BUILTIN
4
5 // the setup function runs once when you press reset or power the board
6 void setup() {
7   // initialize digital pin LED_BUILTIN as an output.
8   pinMode(pinNo, OUTPUT);
9 }
10
11 // the loop function runs over and over again forever after the setup function has ran
12 void loop() {
13   digitalWrite(pinNo, HIGH); // turn the LED on (HIGH is the voltage level)
14   delay(100);                // wait for a second
15   digitalWrite(pinNo, LOW);  // turn the LED off by making the voltage LOW
16   delay(100);                // wait for a second
17 }
18
```

Arduino Code
Docs

