Welcome!

And thank you for purchasing our **AZ-Delivery ATTiny85 - Digispark Rev.3**! On the following pages, we will take you through the first steps of the installation process to the programming of your own script.
We wish you a lot of fun!

The Digispark from the Digistump Company is probably the smallest and most compact Arduino that is currently available on the market. The board's measurements are as follows: 17,5mm x 19mm (without USB port) (27mmx19mm with USB). It has a USB plug directly on the board and can be plugged into a USB port without the necessity of an additional cable. The integrated ATTiny85 is powered directly from the USB port. In addition, the Digispark has 6 programmable GPIO port that can be set up using the well-known Arduino programming environment. A memory size of 6kB is available for their own programs. In addition to the 3 supplementary pins on the board, which can be used for an external power supply, the ATTiny85 supports full SPI and i2c interfaces.
The „Arduino", which is as big as a 1-Euro coin, has great potential and brings a lot of to the table. Now we will start with the setup and the programming.

Digispark ATTiny85 circuit diagram:

https://s3.amazonaws.com/digispark/DigisparkSchematicFinal.pdf

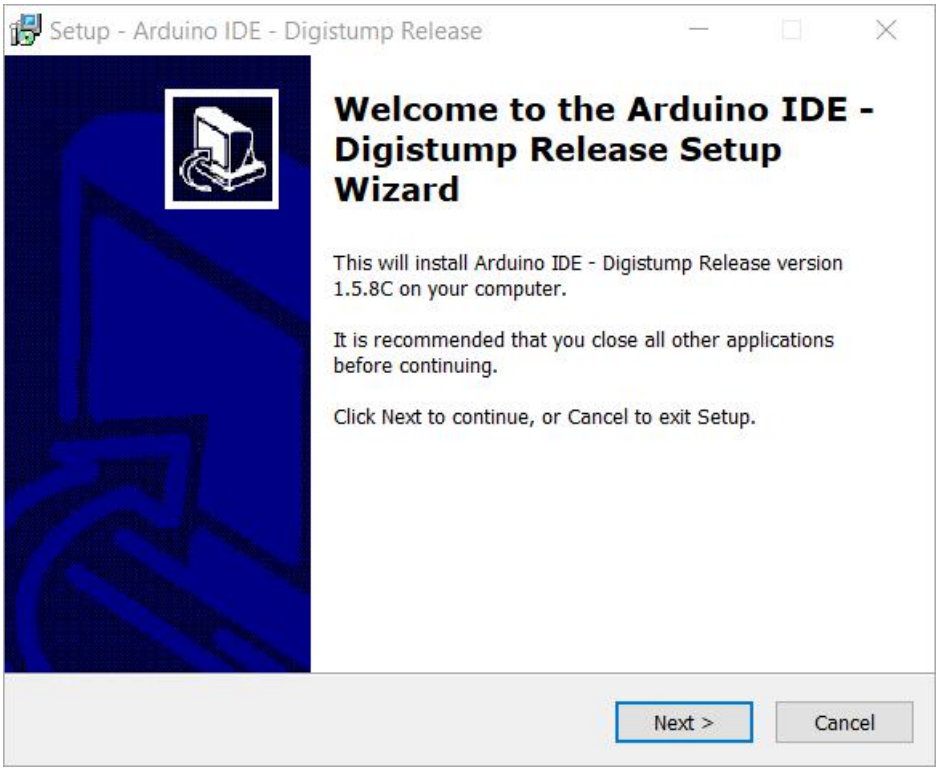
Driver and Arduino software:

https://github.com/digistump/DigistumpArduino/releases/download/v1.5.8C/DigistumpArduinoInstall1.5.8C.exe

The Arduino software from Digistump contains everything that is needed for the Digispark.

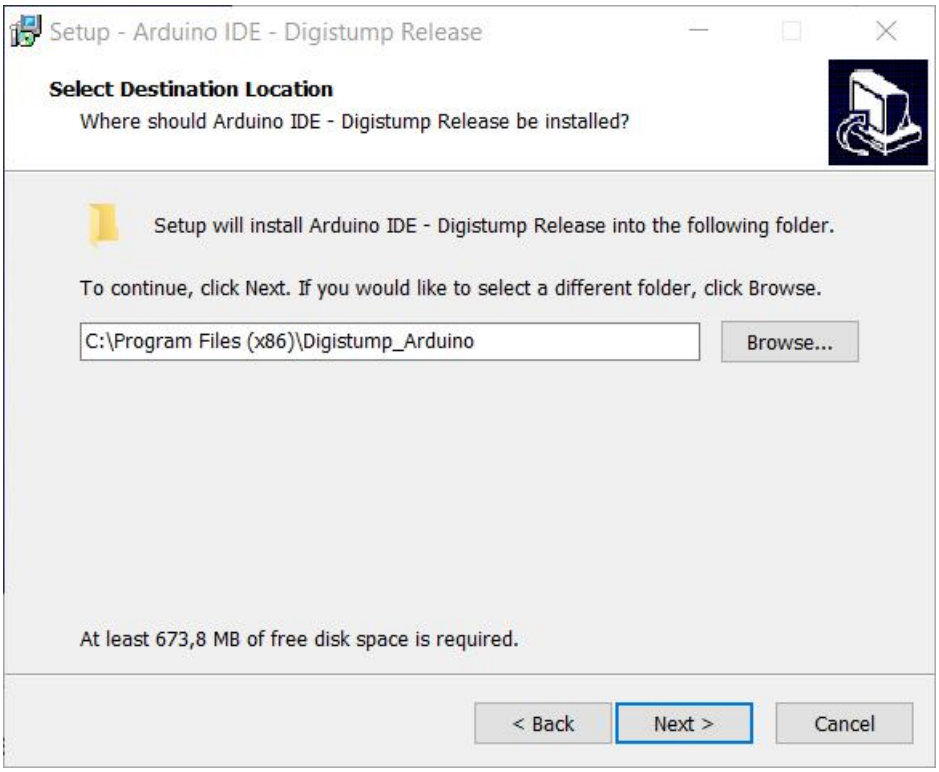
Installation of the software:

After downloading and starting the installation process, the following screen will appear:

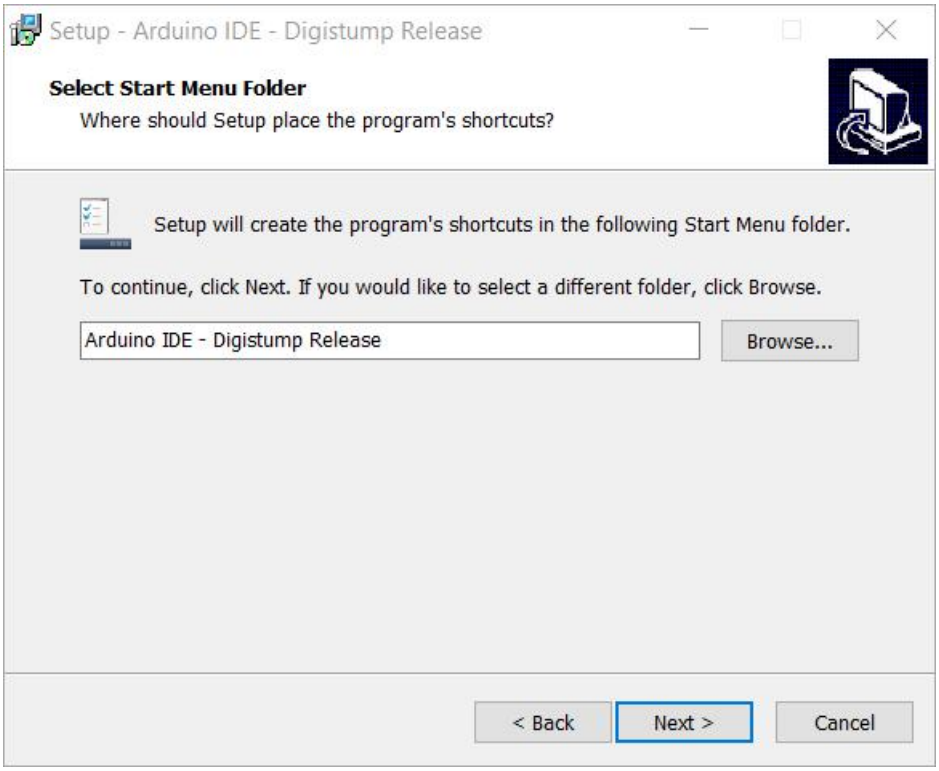


Simply click on „**Next >**“.

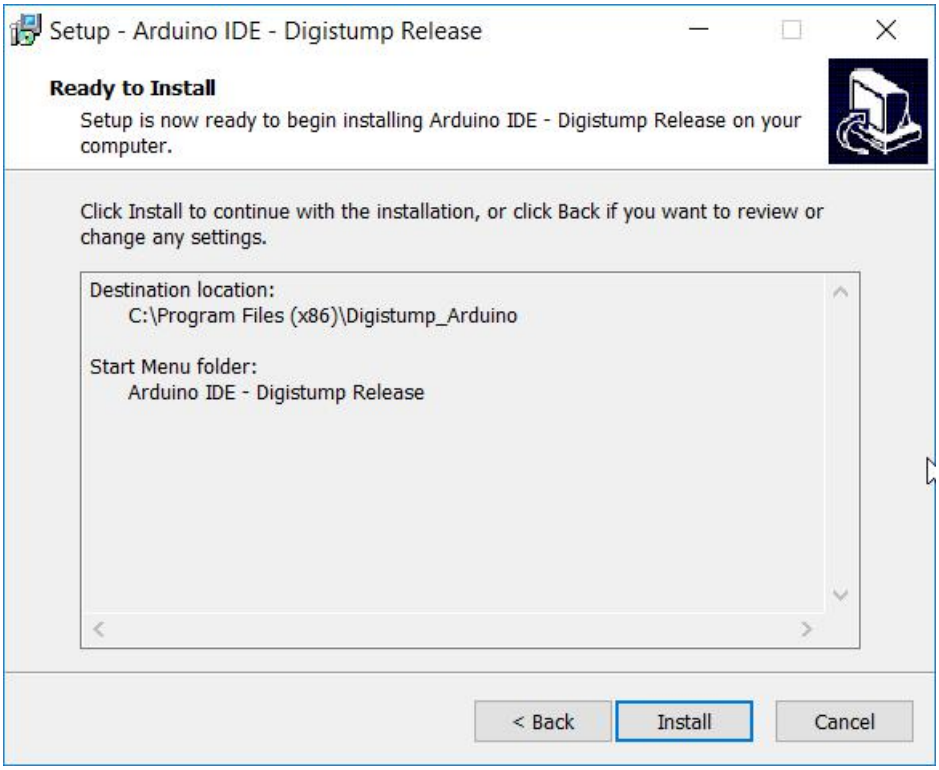
The next window that appears, gives you the opportunity to change the storage or destination location of the software. You can accept the already provided storage location, and continue by clicking on **Next**:



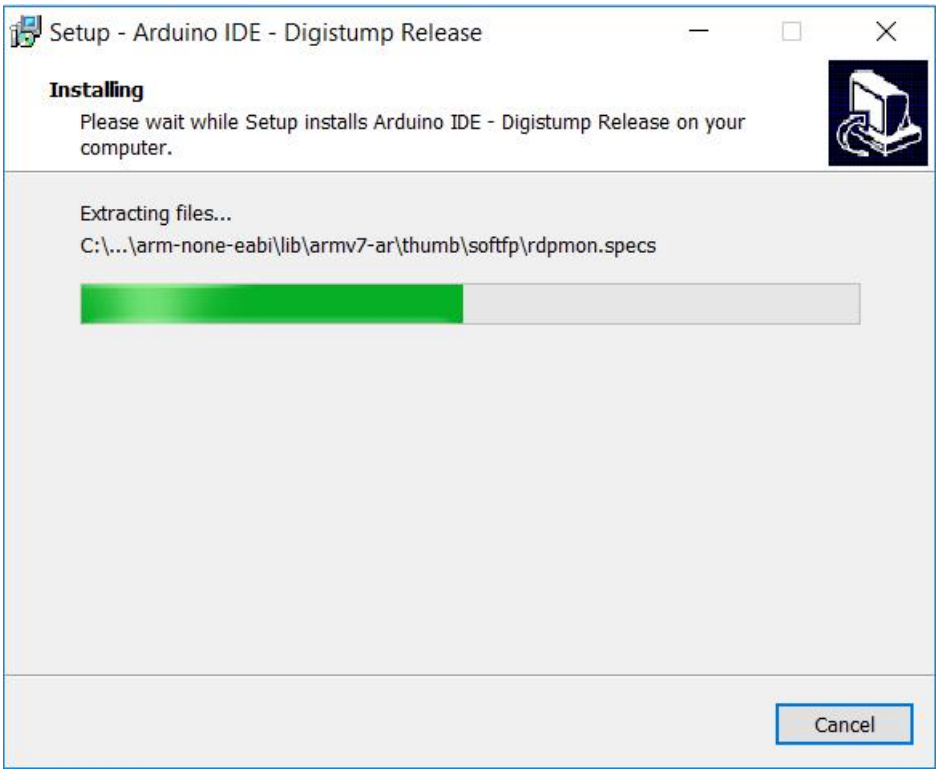
The window for the selection of the Start Menu is similar to the previous one:



If desired, a desktop icon can be created in the next window. And lastly, click on **Install**.

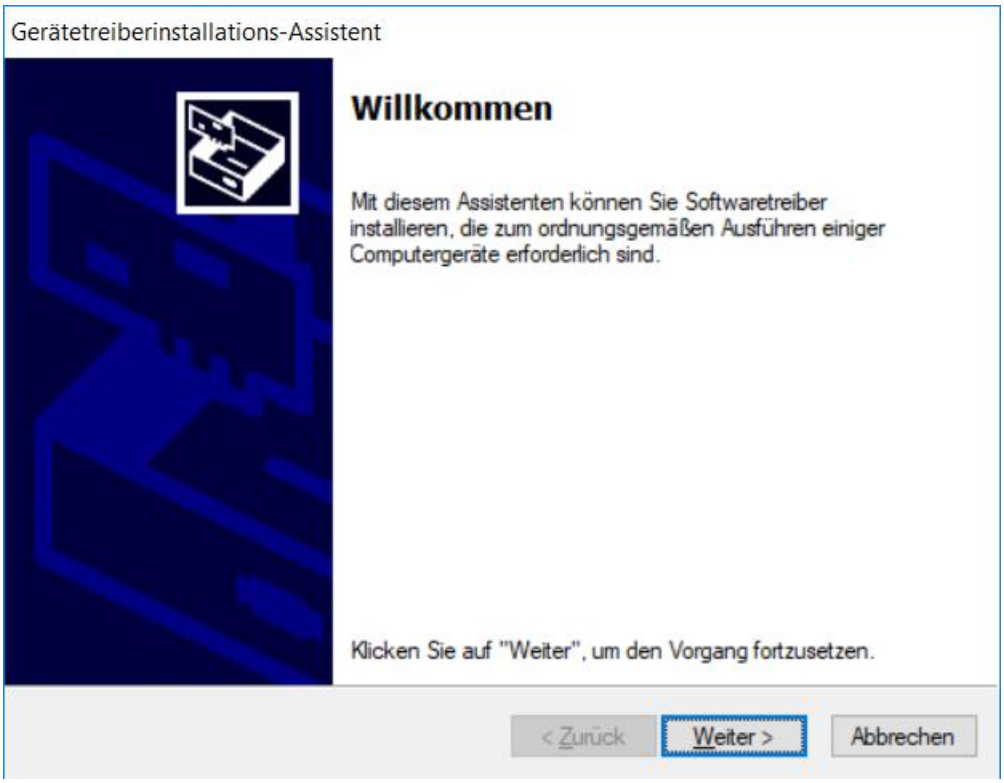


The installation process will take a moment…

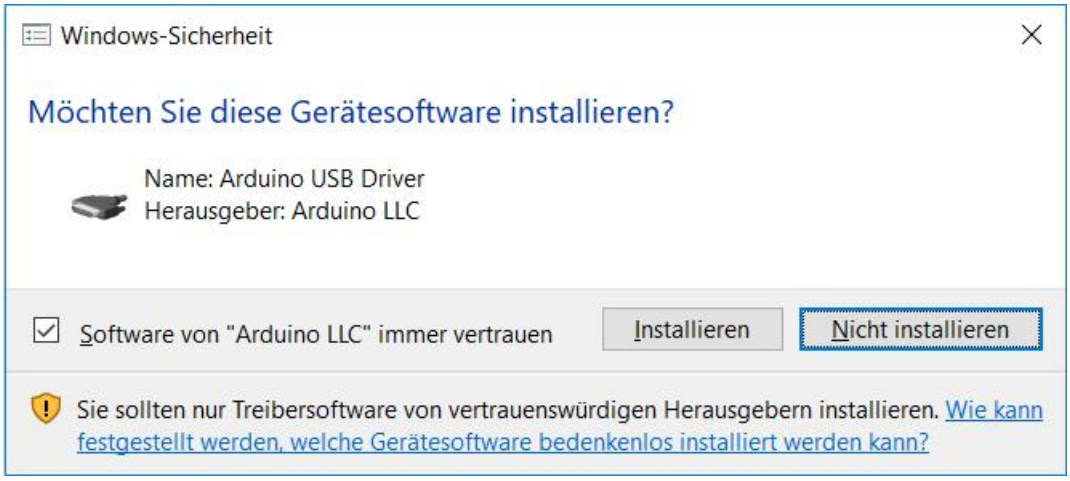


Afterwards, the Device Driver Installation Wizard will then register.

Here, and on the following windows that appear, confirm with **Next**:

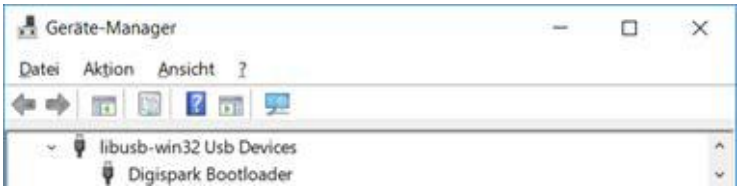


If you have to confirm the Device Driver Installation, then please do this by clicking on **Install**:

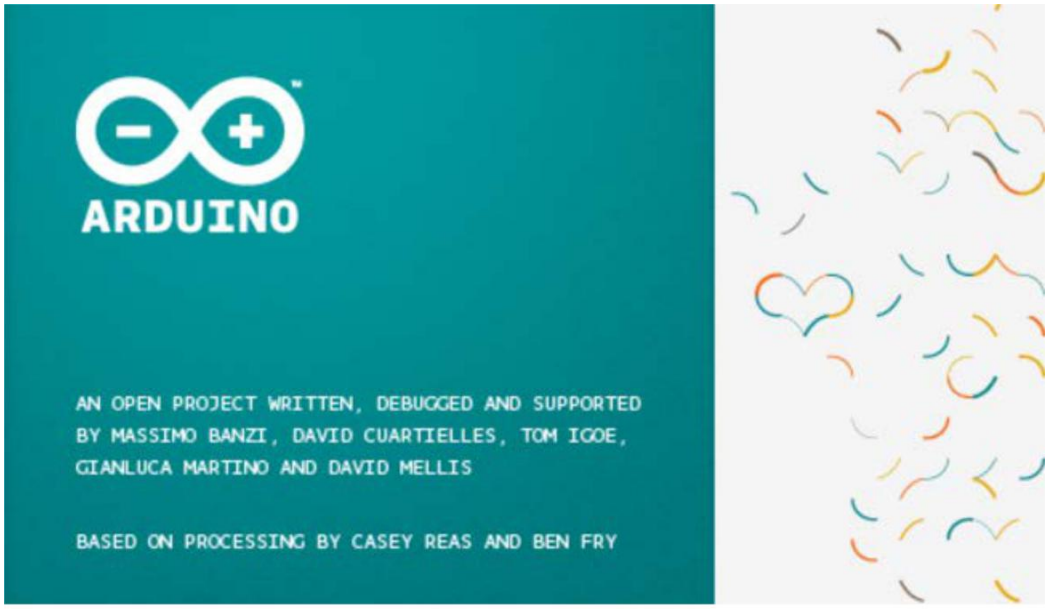


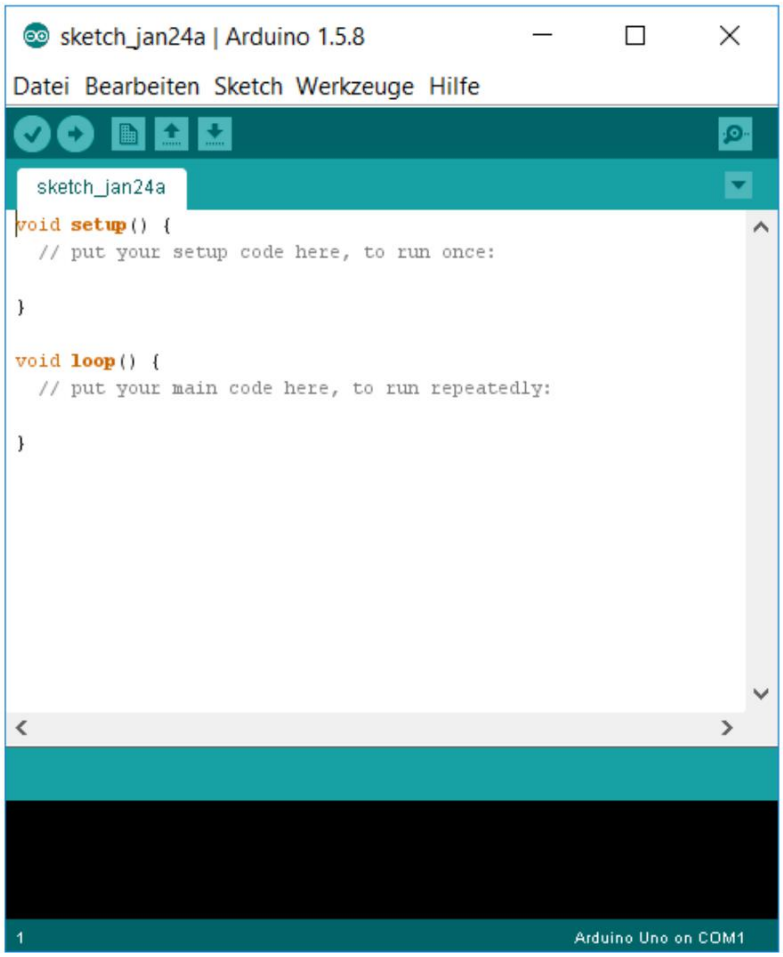
Lastly, complete the driver installation by clicking on **Finish**.

Now if you connect the Digispark to the computer and monitor the driver installation in the device manager, it will appear as a Digispark bootloader.



Normally, the Arduino software starts automatically after the installation process had been completed.





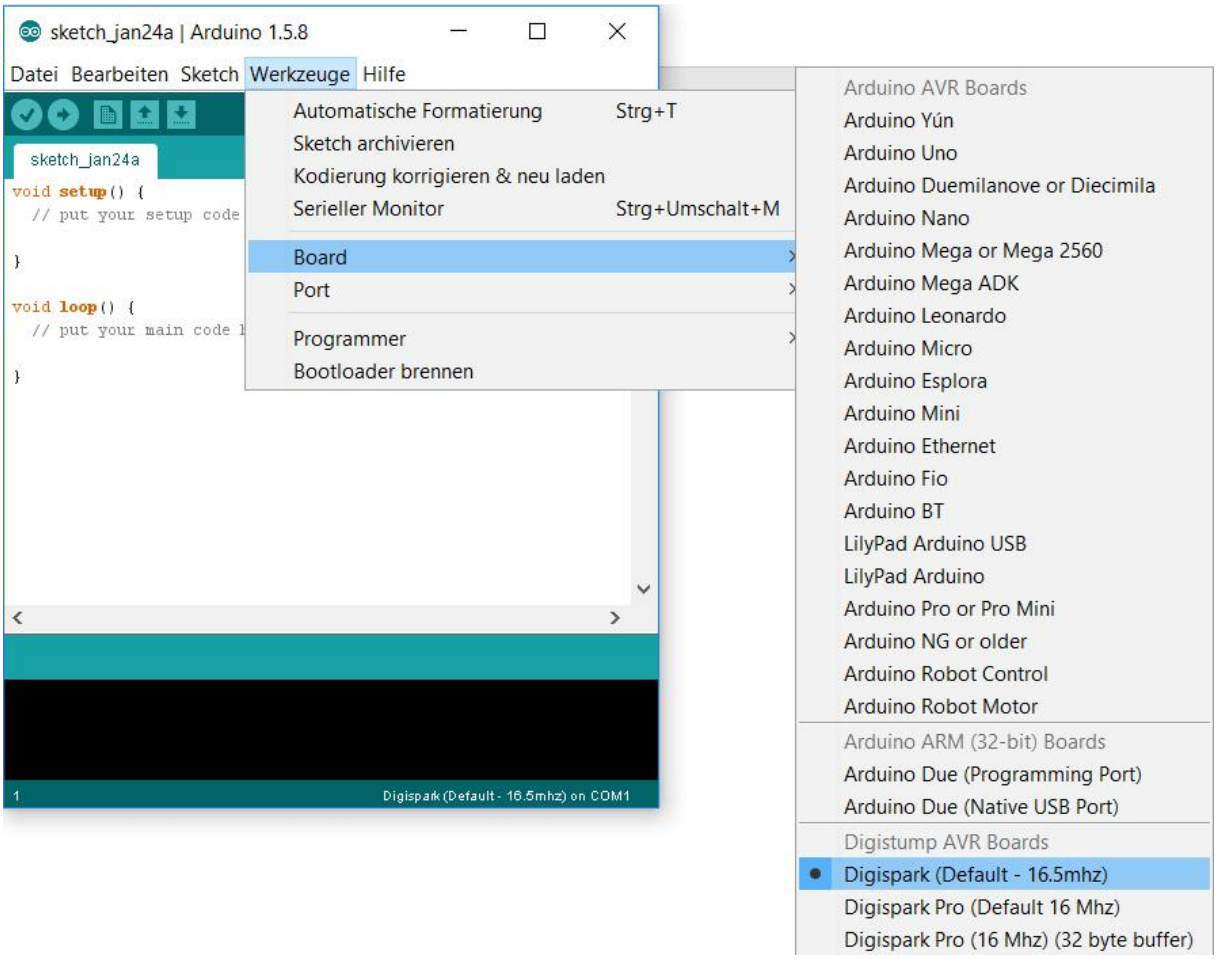
The installation is successfully completed, and now we can commence the programming process.

Getting started with the Arduino programming software

Before we can program the Digispark, we first have to define it as a target device in the software.

In order to do that, we choose the following:

Tools > Board > Digispark (Default – 16.5mhz)



After selecting the target device, we will write the first code lines. Firstly, we leave the LED to blink:

```
void setup() {

  pinMode(1, OUTPUT);        // Pin 1 (onBoard LED) als Ausgang definieren
}

void loop() {                //Schleife
  digitalWrite(1, HIGH);     // Ausgang auf HIGH schalten
  delay(50);                 // eine 50ms warten
  digitalWrite(1, LOW);      // Ausgang auf LOW schalten
  delay(50);                 // eine 100ms warten
}
```

After having written the code, we click on  and verify our program:

When everything is correct, and our program is free from errors

```
Der Sketch verwendet 650 Bytes (10%) des Programmspeicherplatzes. Das Maximum sind 6.012 Bytes.
Globale Variablen verwenden 9 Bytes des dynamischen Speichers.
```

We can upload it on the Digispark. To do that we click on  .

We will receive a message, reminding us to plug in the Digispark: "*Please plug in the device*".

```
Please contact the application's support team for more information.
> Please plug in the device ...
> Press CTRL+C to terminate the program.
```

Since the device is already plugged in, we would have to disconnect it from the computer and then plug it in again. Only then, and after a short period of time, will the device be again in programming mode.

Now we start again the upload of the program, by clicking on  and if the software had successfully assigned the program, the following message should appear:

```
Der Sketch verwendet 650 Bytes (10%) des Programmspeicherplatzes. Das Maximum sind 6.012 Bytes.
Globale Variablen verwenden 9 Bytes des dynamischen Speichers.
Running Digispark Uploader...
Plug in device now... (will timeout in 60 seconds)
> Please plug in the device ...
> Press CTRL+C to terminate the program.
> Device is found!
connecting: 16% complete
connecting: 22% complete
connecting: 28% complete
connecting: 33% complete
> Device has firmware version 1.6
> Available space for user applications: 6012 bytes
> Suggested sleep time between sending pages: 8ms
> Whole page count: 94  page size: 64
> Erase function sleep duration: 752ms
parsing: 50% complete
> Erasing the memory ...
erasing: 55% complete
erasing: 60% complete
erasing: 65% complete
>> Eep! Connection to device lost during erase! Not to worry
>> This happens on some computers - reconnecting...
>> Reconnected! Continuing upload sequence...
> Starting to upload ...
writing: 70% complete
writing: 75% complete
writing: 80% complete
> Starting the user app ...
running: 100% complete
>> Micronucleus done. Thank you!
```

Now we can program the P0 connection with **pinMode(0, OUTPUT);**. From 0 – 5 (pinMode(6, OUTPUT);) we have a total of 6 Pins available. These can be individually programmed as a digital input, i2c, SPI or also as an analogue input. Have fun experimenting.

You did it, you can now program your Digispark!

Now it is time to learn and put your own projects into practice.

And for more hardware, our online store is always at your disposal:

https://az-delivery.de

Enjoy!

Imprint

https://az-delivery.de/pages/about-us