

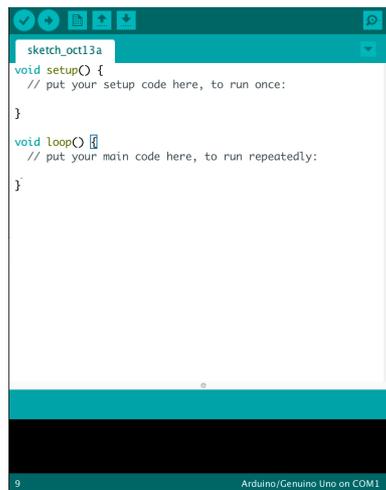
Arduino - Getting Started

All around us, in our everyday lives, there are thousands of small computer systems. Known as embedded systems, these computer systems control everything from our washing machines through to our televisions and Internet of Things devices. Arduinos, like the one in the kit we have given you, are a great way to learn how such embedded systems are created and programmed. So let's get creative...

Step 1: Download and install the relevant software for your computer from:

<https://www.arduino.cc/en/Main/Software>

Step 2: Once installed, open the application and you should be presented with the following screen, where you can write and edit code to run on your Arduino:



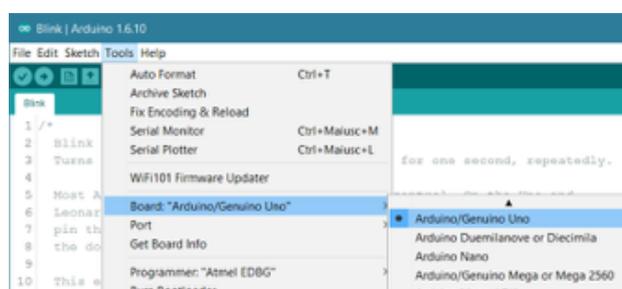
```
sketch_oct13a
void setup() {
  // put your setup code here, to run once:
}

void loop() {
  // put your main code here, to run repeatedly:
}
```

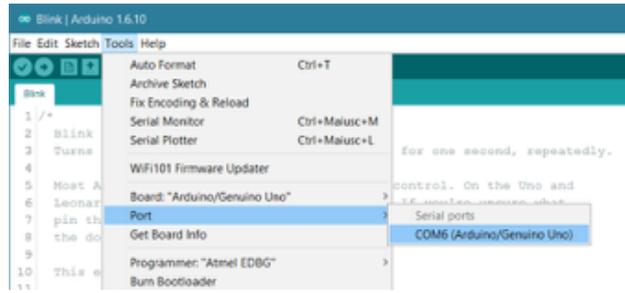
Step 3: Plug in your Arduino, by connecting one end of the USB cable to your computer and the other to the Arduino board.

Step 4: Open the LED blink example sketch by selecting: File > Examples > 01.Basics > Blink.

Step 5: Choose the board type "Arduino/Genuino Uno", which is the type of Arduino we have given to you, by selecting: Tools > Board: > Arduino/Genuino Uno.



Step 6: Choose the port that the board is connected to, which is usually Com Port 6, by selecting: Tools > Port > COM6.



Step 7: Finally, click the "Upload" button (the arrow) to upload the program to the Arduino:



Wait a few seconds - you should see the RX and TX LEDs on the Arduino board flashing. If the upload is successful, the message "Done uploading." will appear in the status bar.

A few seconds after the upload finishes, you should see the LED labelled L on the board blink. This LED is connected to Pin 13. When we write high to the pin, then the LED lights up. If it does, congratulations! You've got your first Arduino program up and running!

Step 8: Have a read of the code in the editor and try to understand how it works. Try changing the value of the delay from 1000 to 100 and upload your program again.

```
digitalWrite(13, HIGH);  
delay(100);  
digitalWrite(13, LOW);  
delay(100)
```

What is the effect?

Challenge: Can you program it so that the LED blinks for two long bursts followed by two short burst?

If you have problems during this process, please see the troubleshooting guide at:

<https://www.arduino.cc/en/Guide/Troubleshooting>

Find more activities at:

<http://www.swansea.ac.uk/compsci/undergraduate/openandvisitdays/>