ARDUINO IDE FAMILIARIZATION AND INTRODUCTION TO EMBEDDED C

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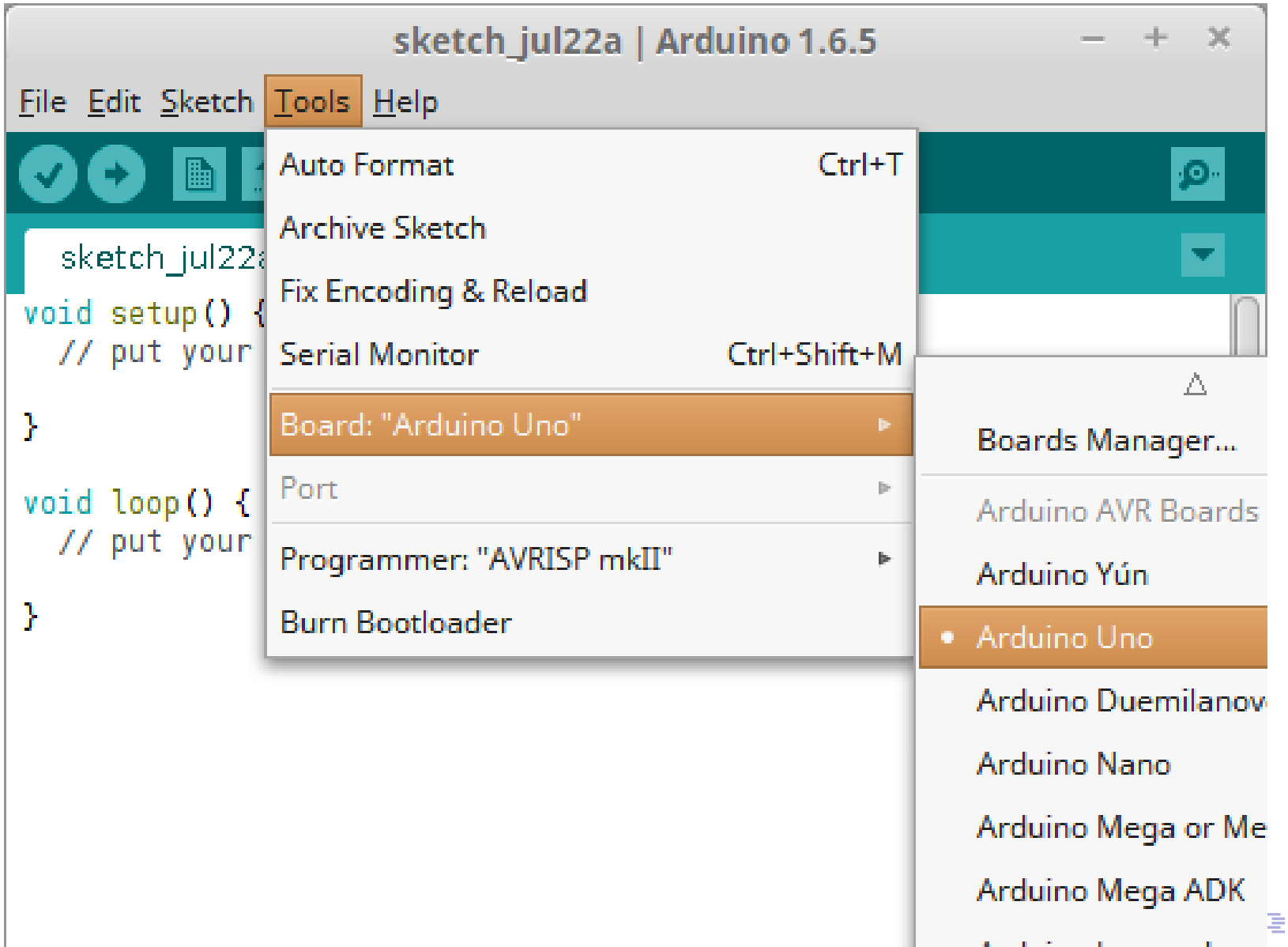
Installing Arduino IDE in Windows

- Extract the arduino installation file from the support CD to the desktop

- Double click on arduino.exe to open the Arduino IDE

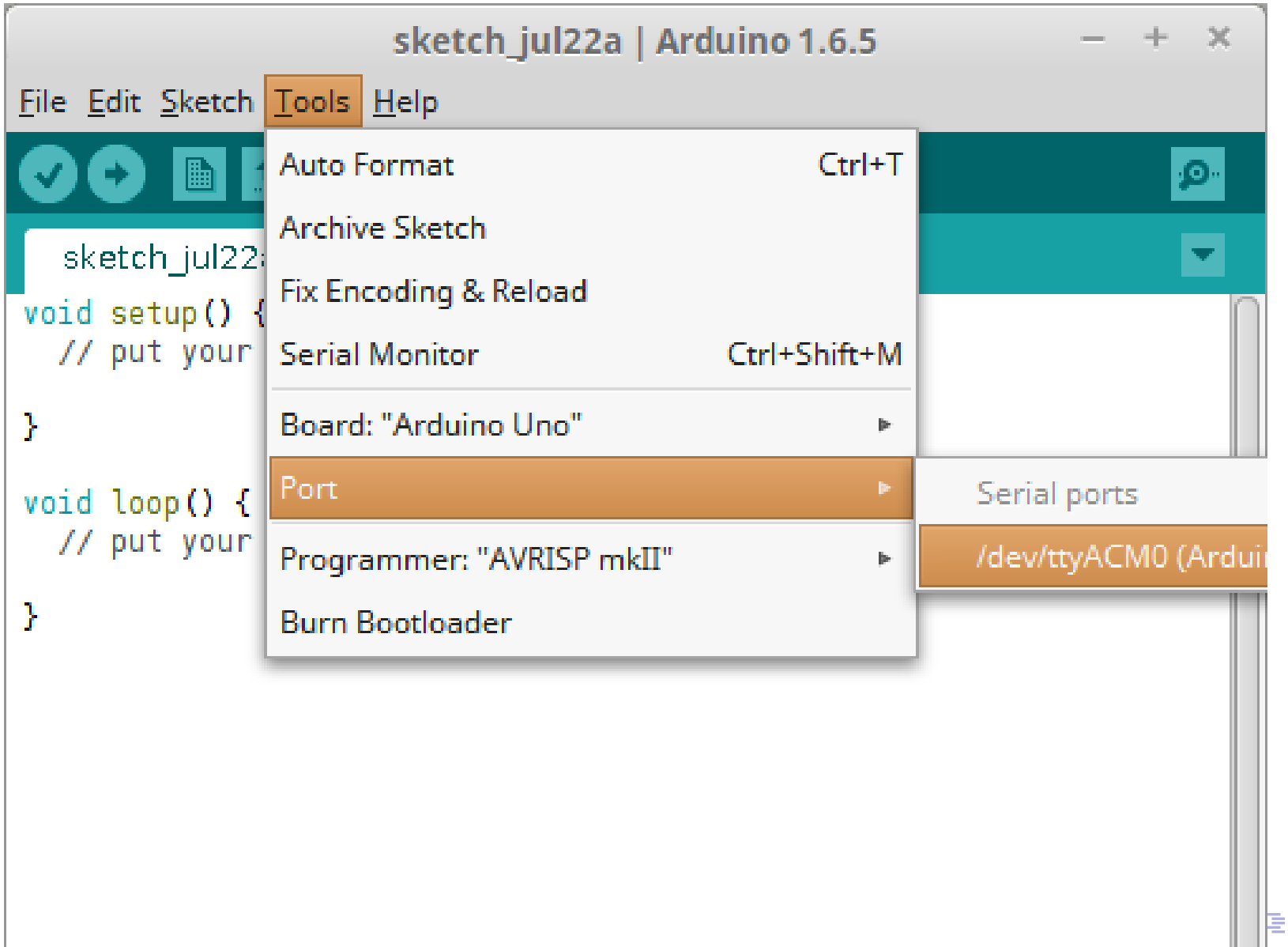
Choosing the right Board

- Tools → Board → Arduino UNO



Choosing the Serial Port

- Tools → Port → COMxx



Embedded C

- Language extension of C, used in embedded systems.
- Simpler to understand, learn and use.
- Machine Independent.
- Can be used in any microprocessor/microcontroller.
- Uses simple commands to control the device, so occupies less memory.
- C; can also be called as mid-level program, since it is closest to assembly language.
- Efficient, reduced overhead and development time.

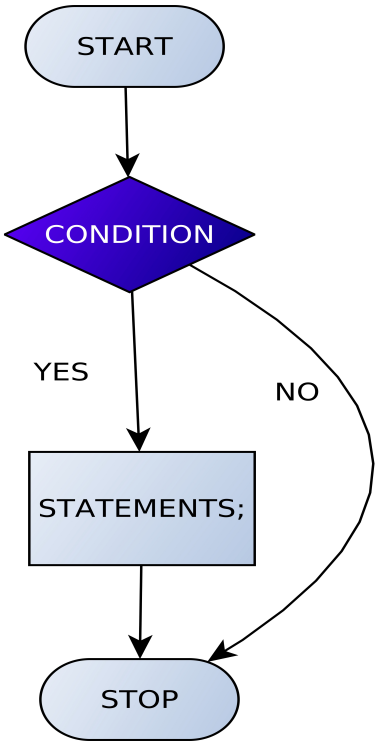
Data Types

- char -8 bits
- int -16 bits
- long -32 bits
- float- 32 bits
- double- 64 bits
- long double- 80 bits

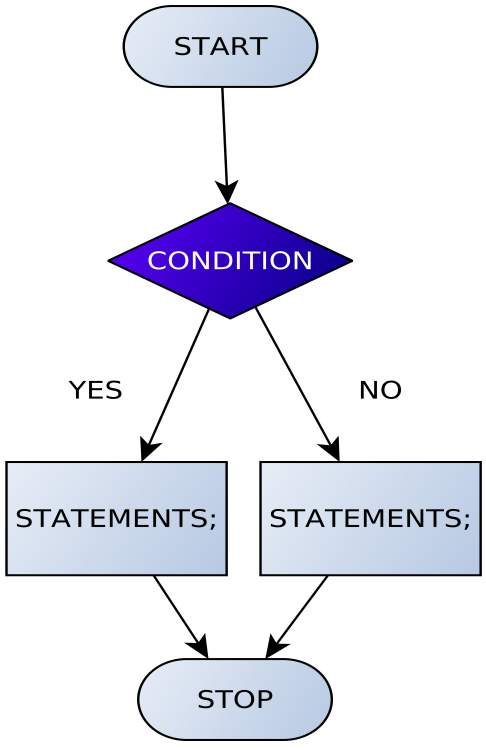
Arduino Coding Framework

Branching

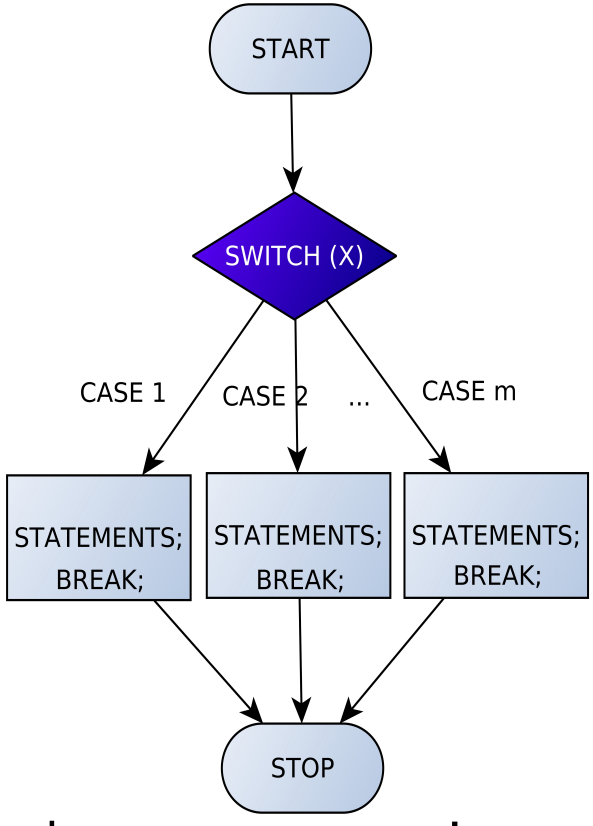
if



if else



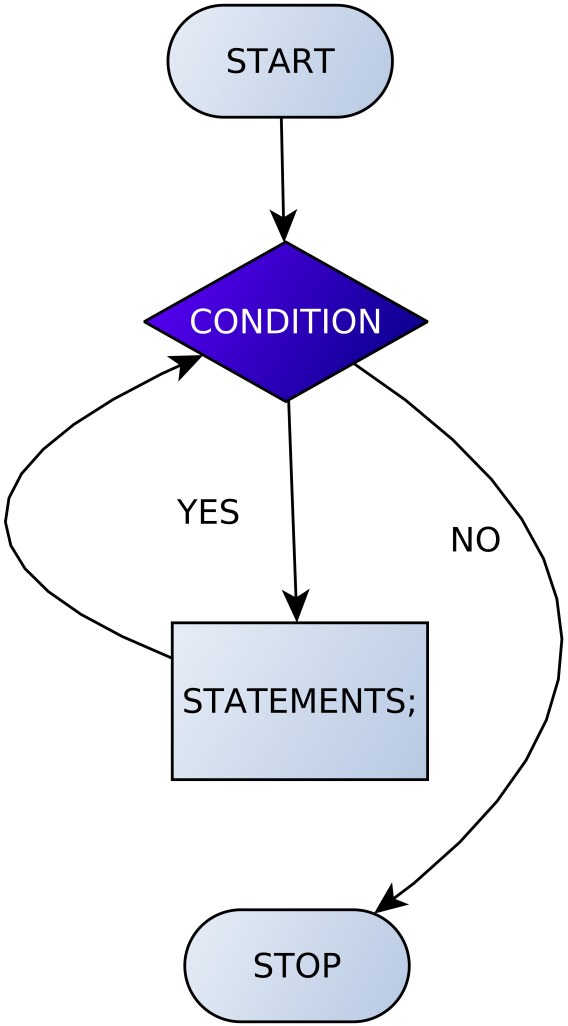
switch case



Task: Write a program to turn on fan when the temperature is greater than or equal to 35°C.

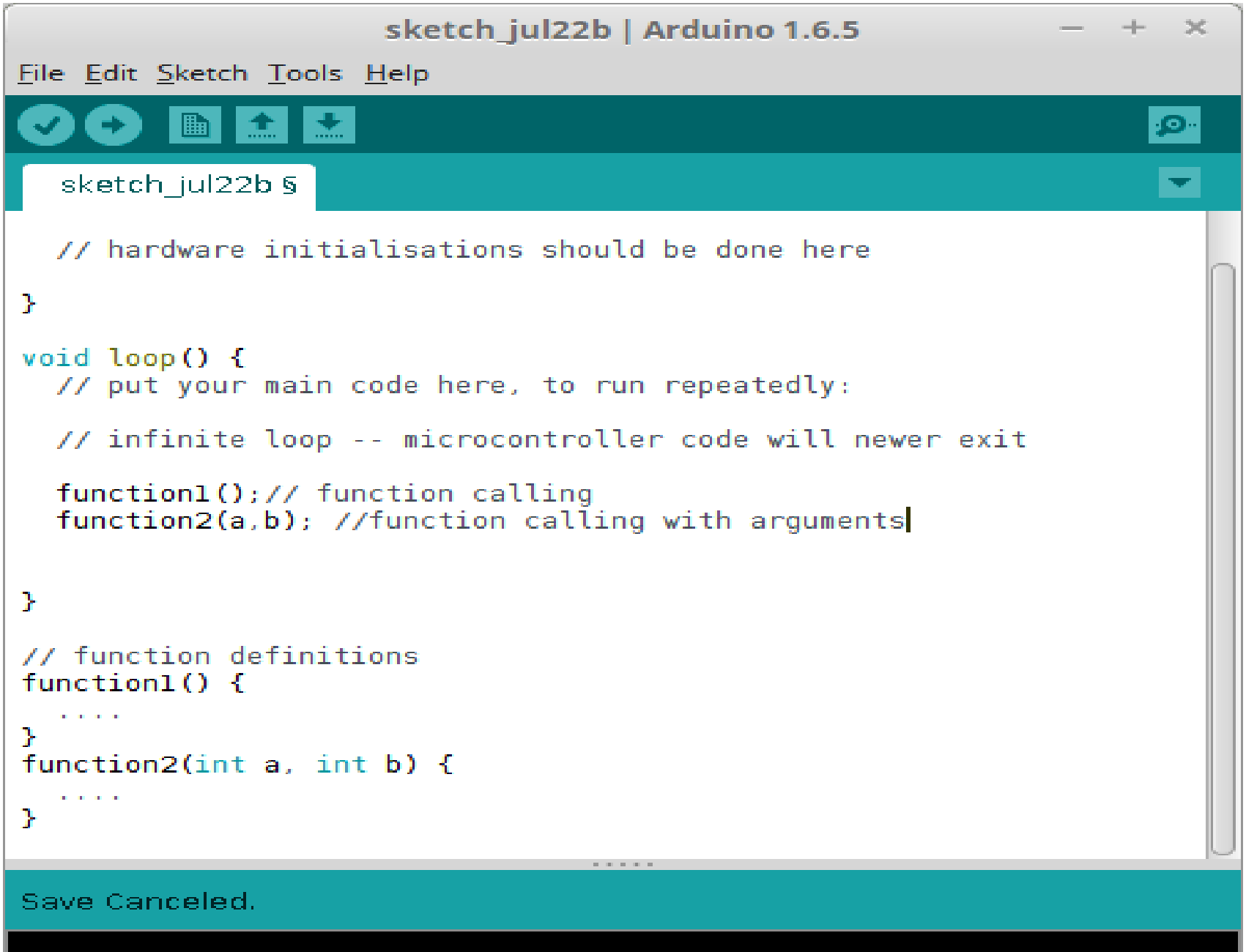
Looping

- for
- while
- do while



Task: Write a program to blink an LED for 1 second using 1 millisecond delay.

Function Calling



Tomorrow's Session

- Arduino hardware Familiarization
- Arduino Based Design Session

SEE YOU TOMORROW