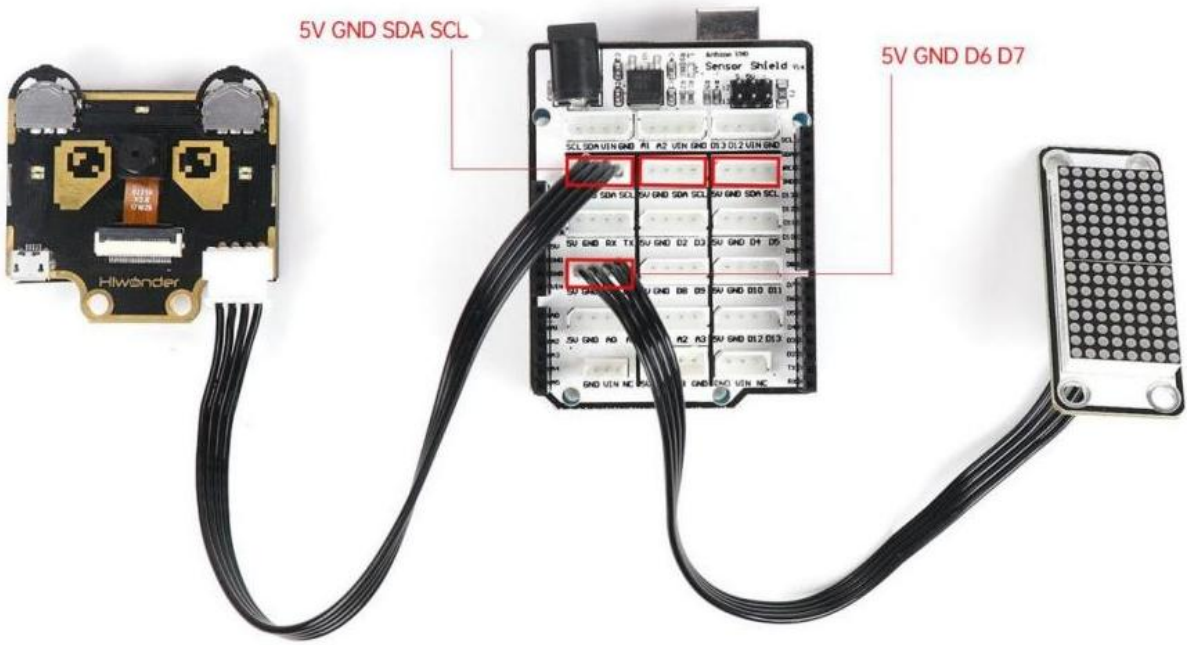
Lesson 2 Facial Recognition Integration with Arduino

1. Preparation

Connect WonderCam and Dot Matrix Display Module to Arduino Expansion Board using 4-Pin cable.

Dot Matrix Display Module connects to port (5V GND D6 D7).

WonderCam can be connected to any IIC port (5V GND SDA SCL).



2. Learning Objectives

① To know the connectivity of WonderCam and Dot Matrix Display Module on Arduino Expansion Board.

② To understand the program logic.

3. Programming Plan

In this lesson,we are using the Vision module Color Recognition function to integrate with Arduino to conduct Facial Recognition. The program will initialize the

Vision module follow by detecting face. When face is detected, it will proceed to identify Face Recognition and present the Face ID on Dot Matrix Display module.

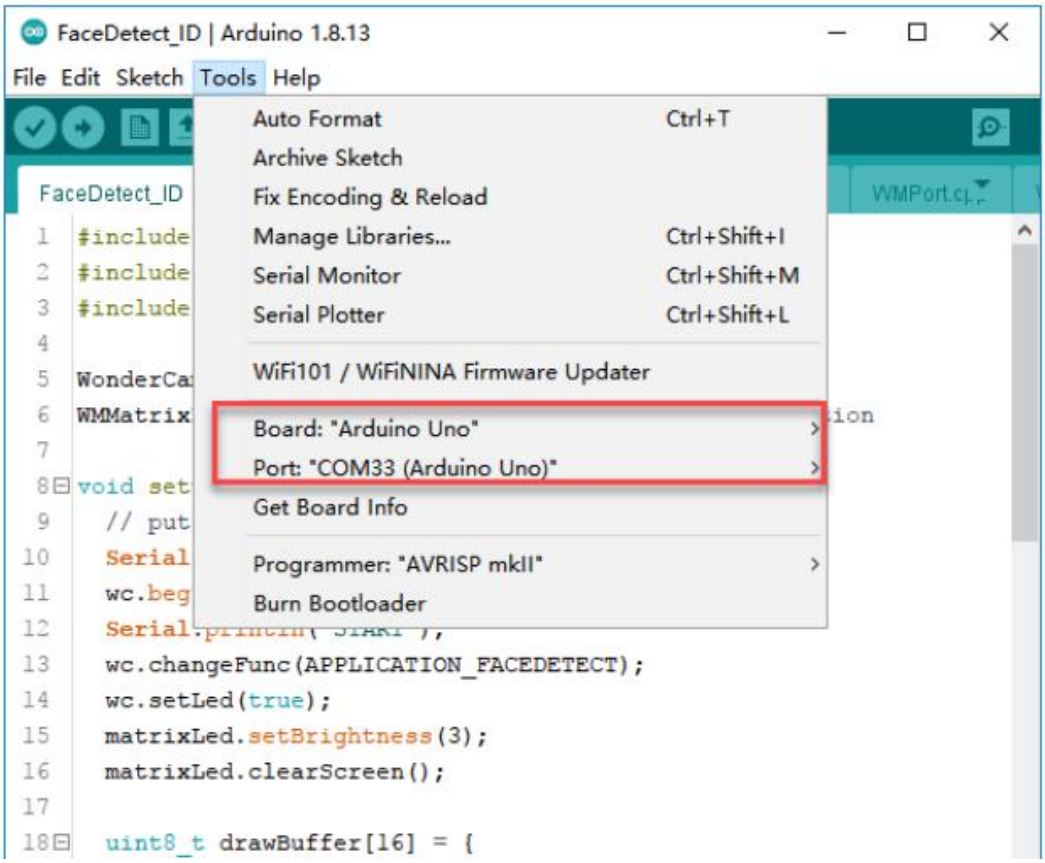
4. Compiling Program and Upload

This full program code can be found in folder “Facial Recognition Arduino Program” in “01_FaceDetect_ID”.

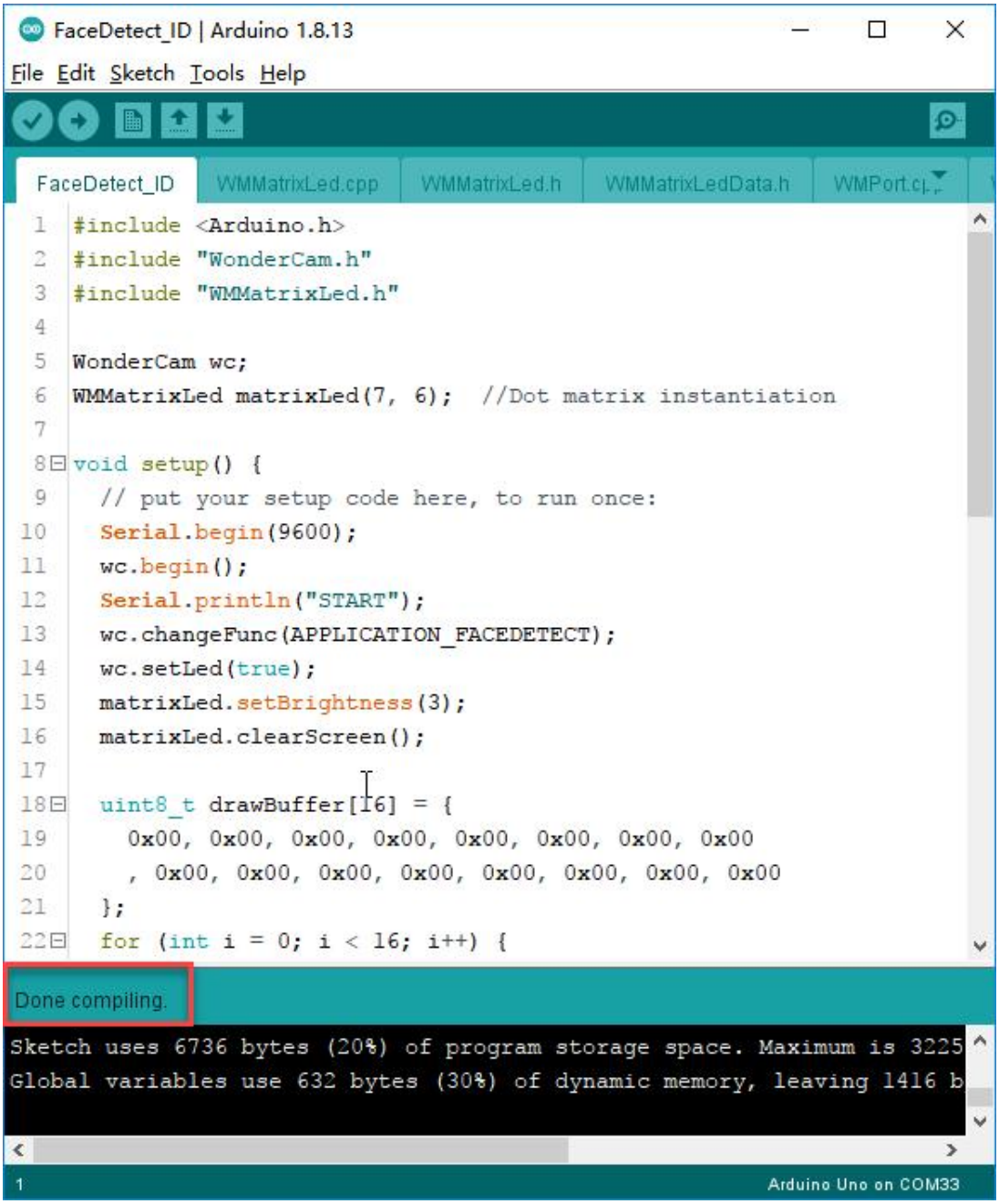
1) Connect Arduino UNO board to computer.

2) In folder “Facial Recognition Arduino Program” in “01_FaceDetect_ID”, double click ino program.

3) In Arduino IDE program, open Tools in menu and select corresponding Development Board and port. (Port number shown in this lesson may differs in individual computer environment).



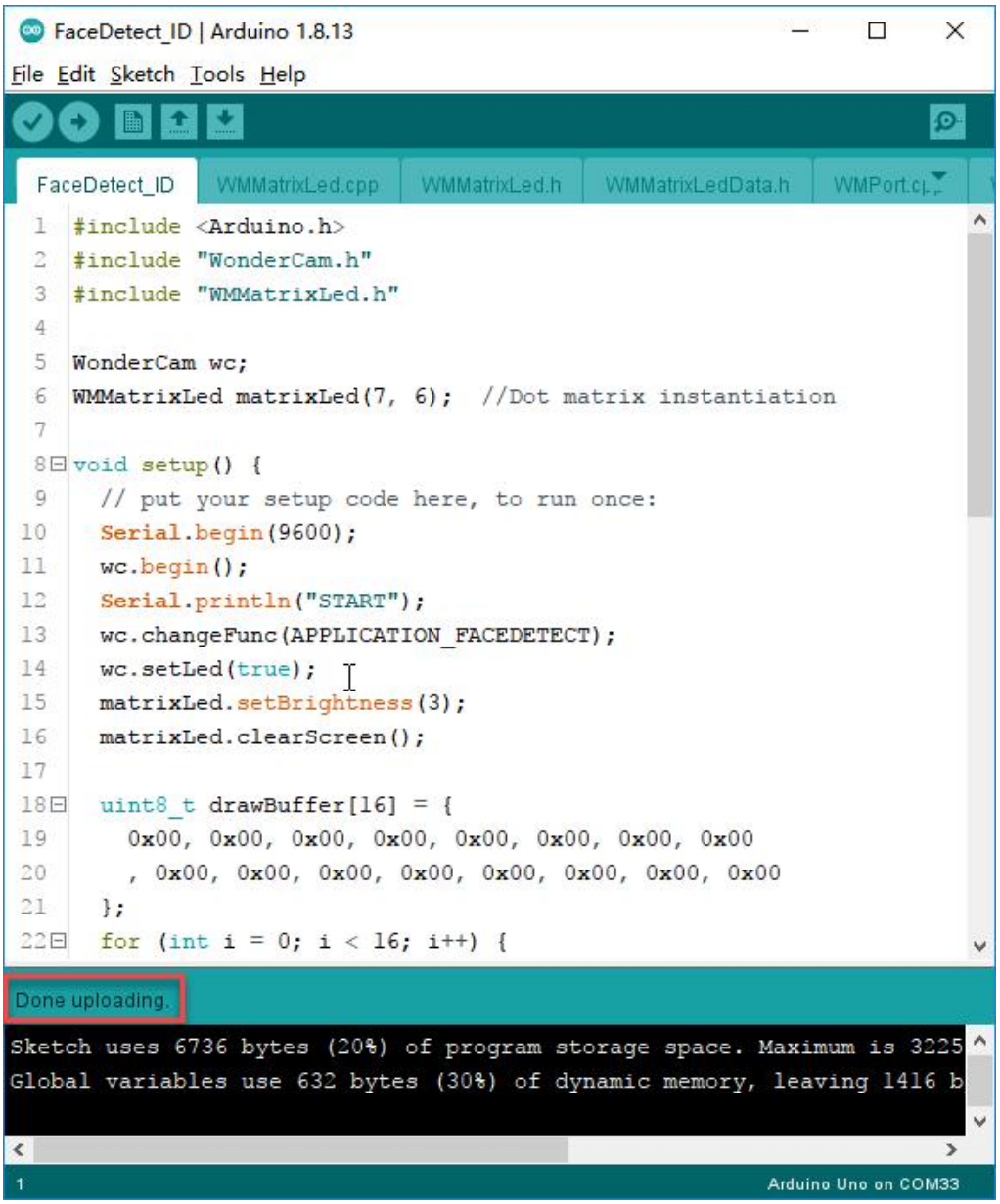
4) In Arduino IDE Program, click button on the menu and wait for compilation process to complete.



During Uploading process, do not unplug or move the USB Cable to prevent transmission failure.

5) Click  button to upload program to UNO Development Board. Wait for uploading process to complete.

6) During Uploading process, do not unplug or move the USB Cable to prevent transmission failure.



5. Results

* Please refer to Lesson 2 Facial Recognition on how to program Facial Recognition. Template of Face can be found in “Face Template” folder.

Once program had been uploaded, WonderCam will automatically switch to Facial Recognition interface

Start Facial Recognition learning process.When done, Dot Matrix Display module

will display ID number corresponding to the Face detected.

Concurrently, you can view real time log file in Arduino Monitor Serial Port interface.