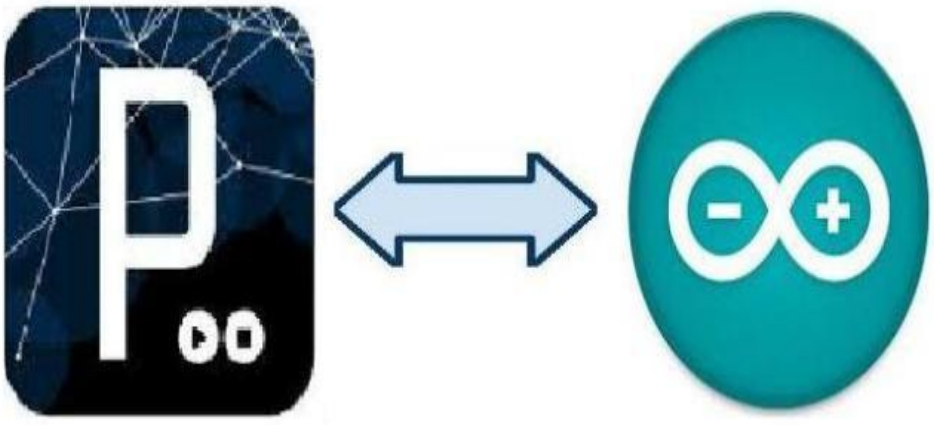
TENET TECHNETRONICS

2016

Arduino interface with Processing (Serial Communication)



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Intoduction:

Arduino:

Arduino is Open Source platform and it has a IDE(Integrated Development environment). Generally, anyone access in easily and then all of them available in internet. Arduino is one of the way of to easily know about microcontroller. The speciality of the microcontroller is no need study about the any language, just know about some keywords. This is a main purpose of all the peoples to like it. Arduino details (schematic, layout) available in internet. We make a hobbiest circuit, consumer electronics, robotics.

Processing:

Processing is an Open Source Computer Programming Language and Intergrated Development Environment built for electronic arts, new media art and visual design communities. Processing is a flexible software sketchbook and a language for learning how to code within the context of the visual arts. Its interactive programs with 2D, 3D of PDF output.

OpenGL integration for accelerated 2D and 3D. And also a Cross Platform (GNU/Linux, Mac OS X and Windows). Over 100 libraries extend the core software.

STEPS

Step 1: Open the Arduino IDE

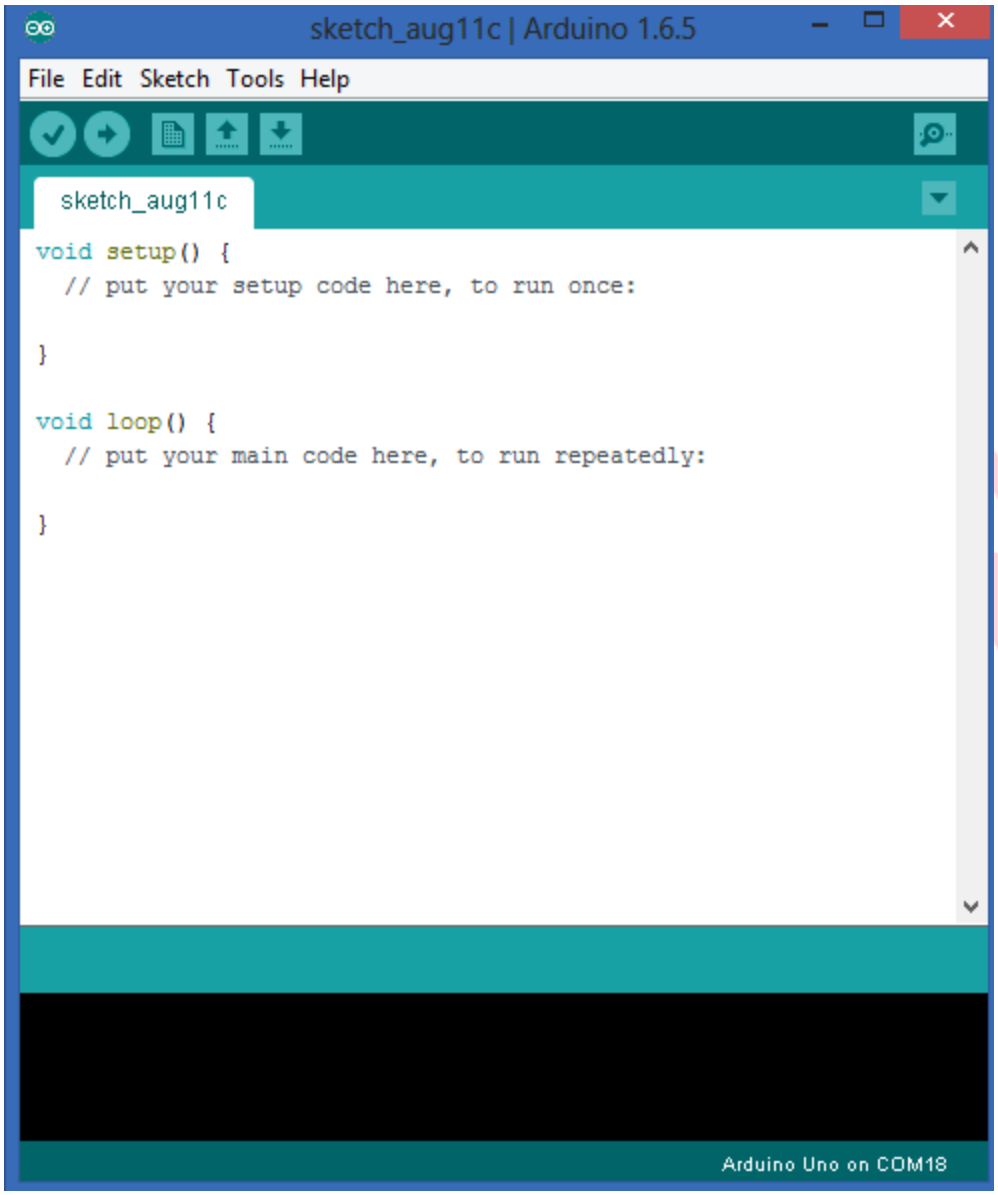

Figure 1

Step 2: To write the code in the IDE.

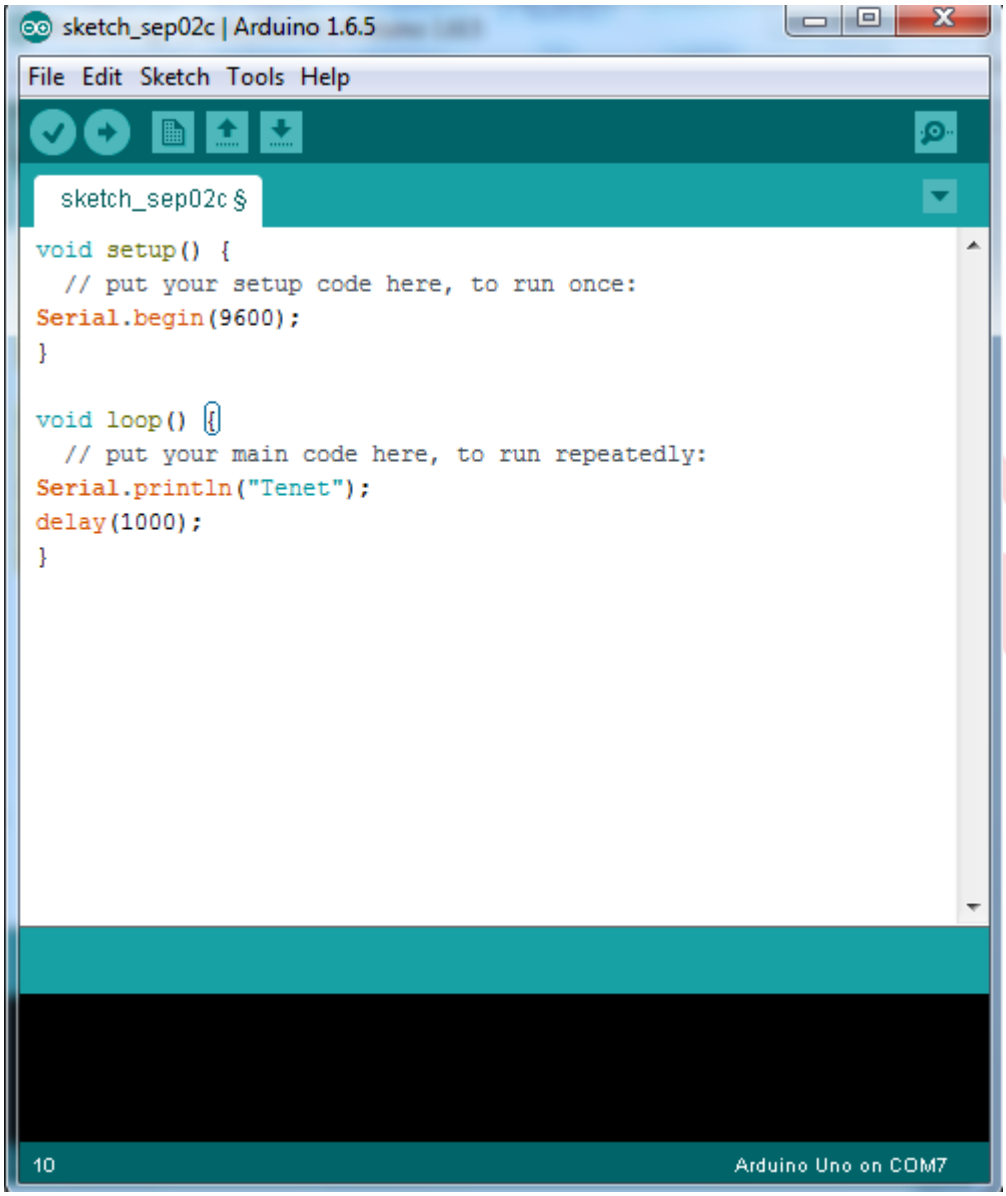

Figure 2

CODE:

```
void setup()
    {
       Serial.begin(9600);
    }


void loop()
    {
       Serial.println("Tenet");
       delay(1000);
    }
```

Step 3: Save the file. **File-> Save as**

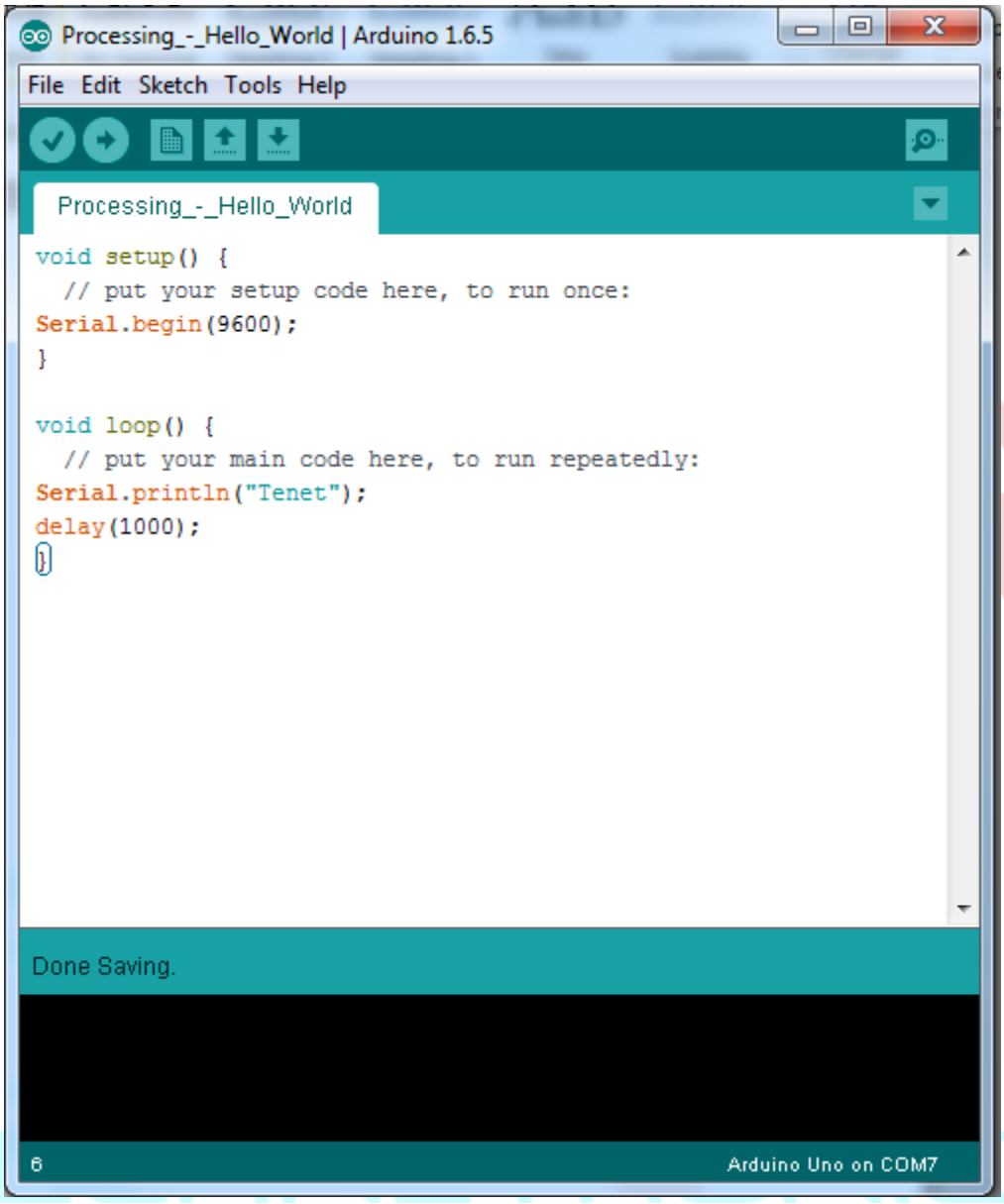

Figure 3

Step 4: Verify the coding using **verify icon.**

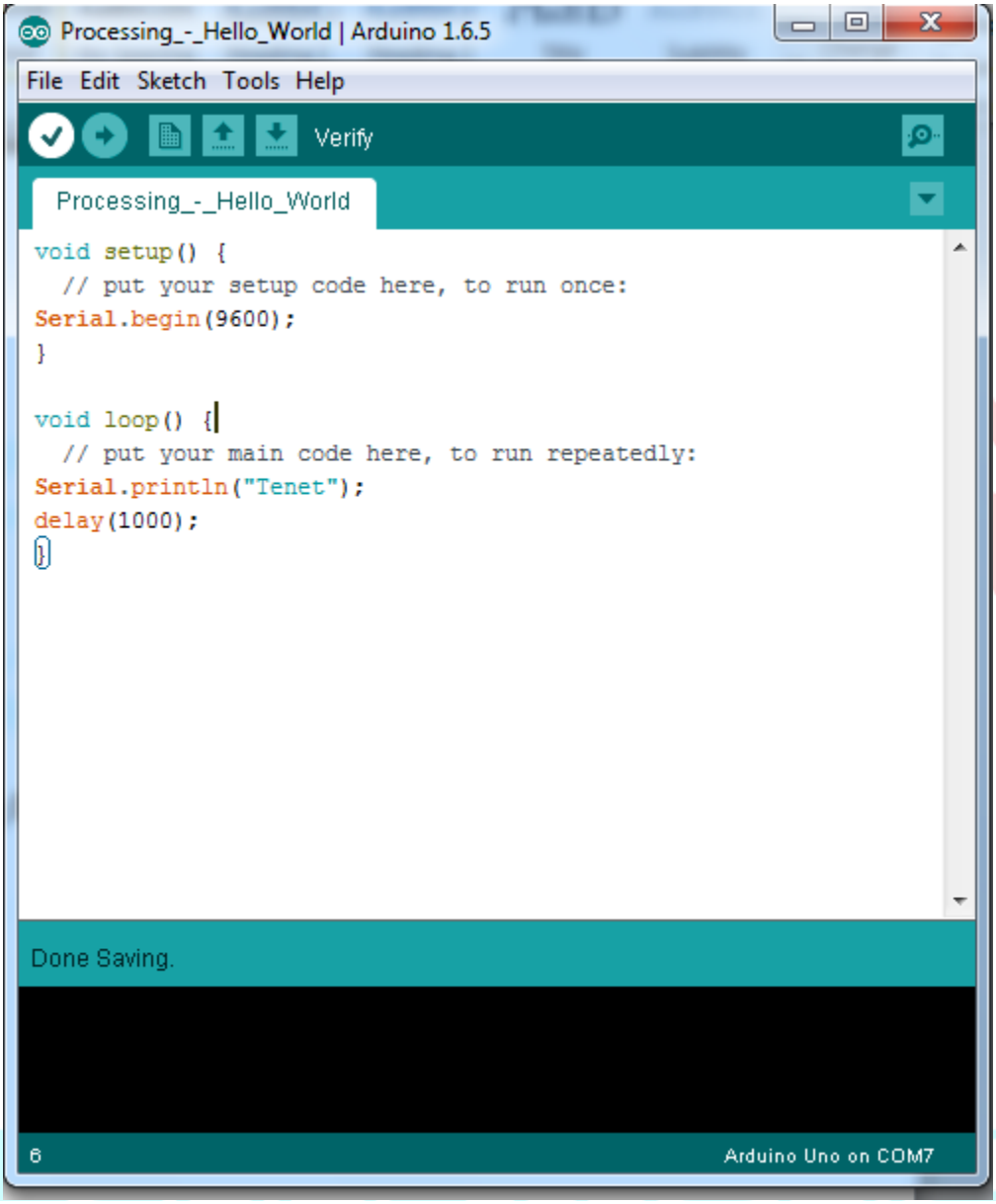

Figure 4

Step 5: To show the message **Compiling Done**.

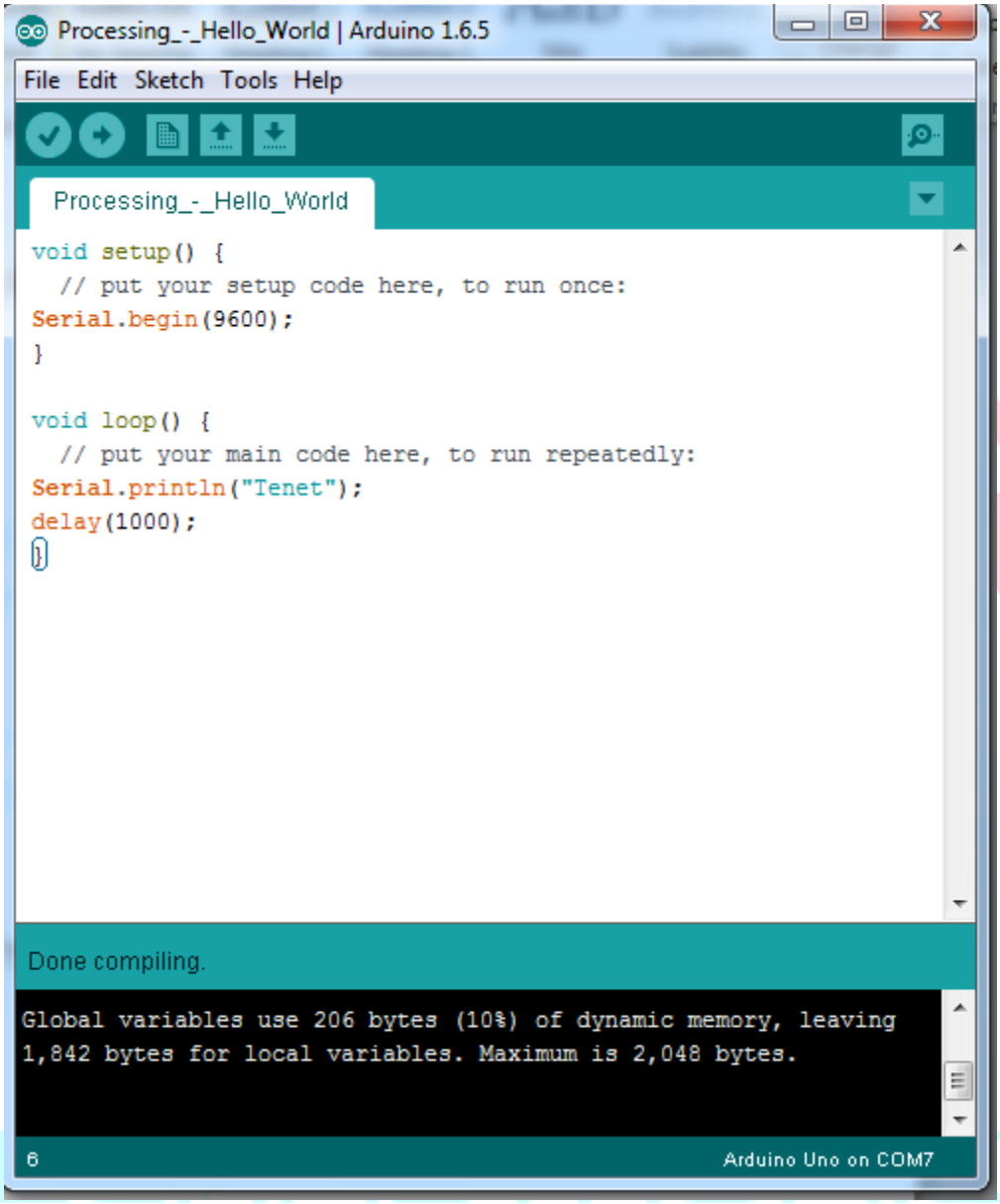

Figure 5

Step 6: To select the board (which board you have using)

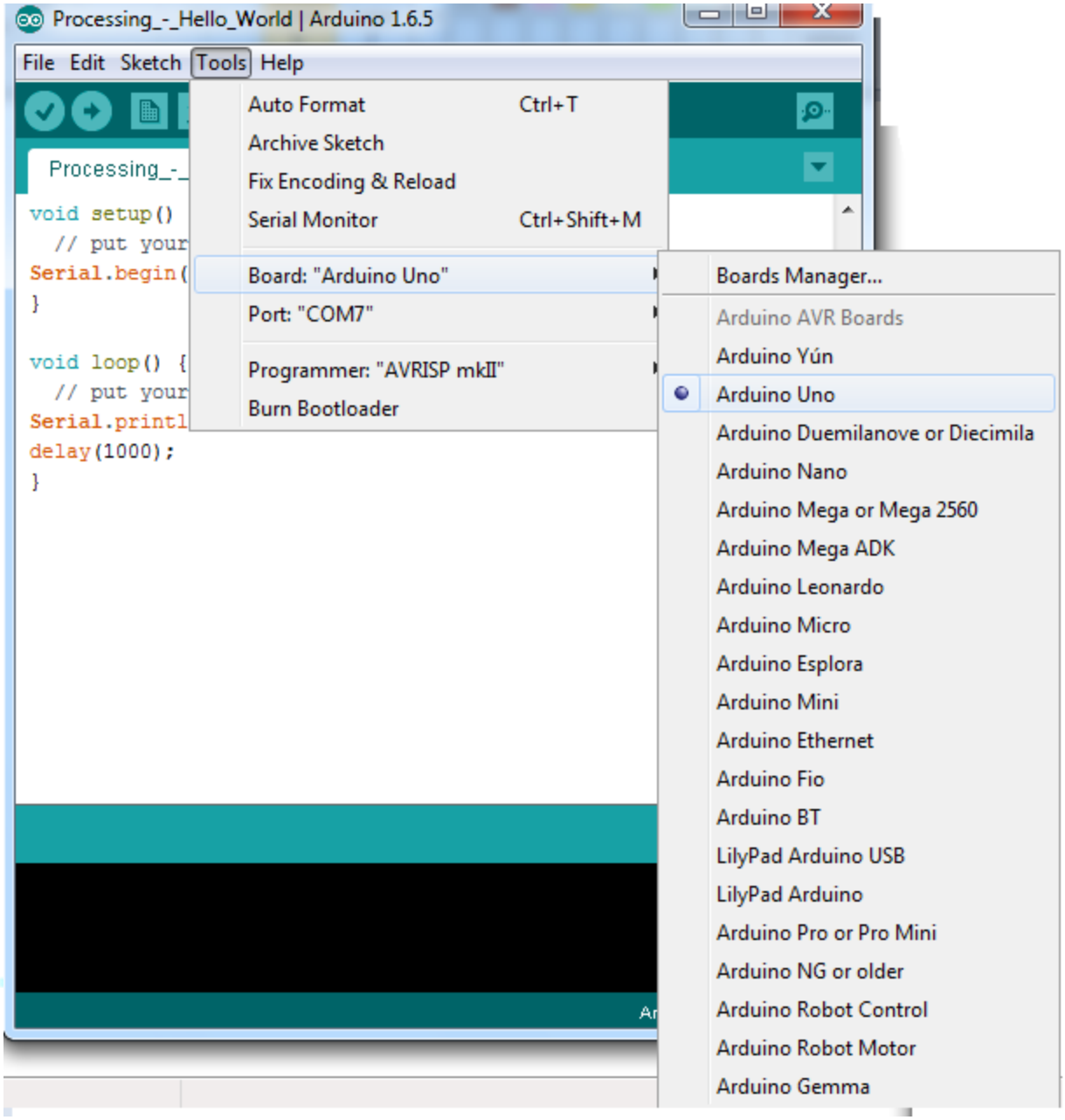

Figure 6

Step 7: To select the port also:

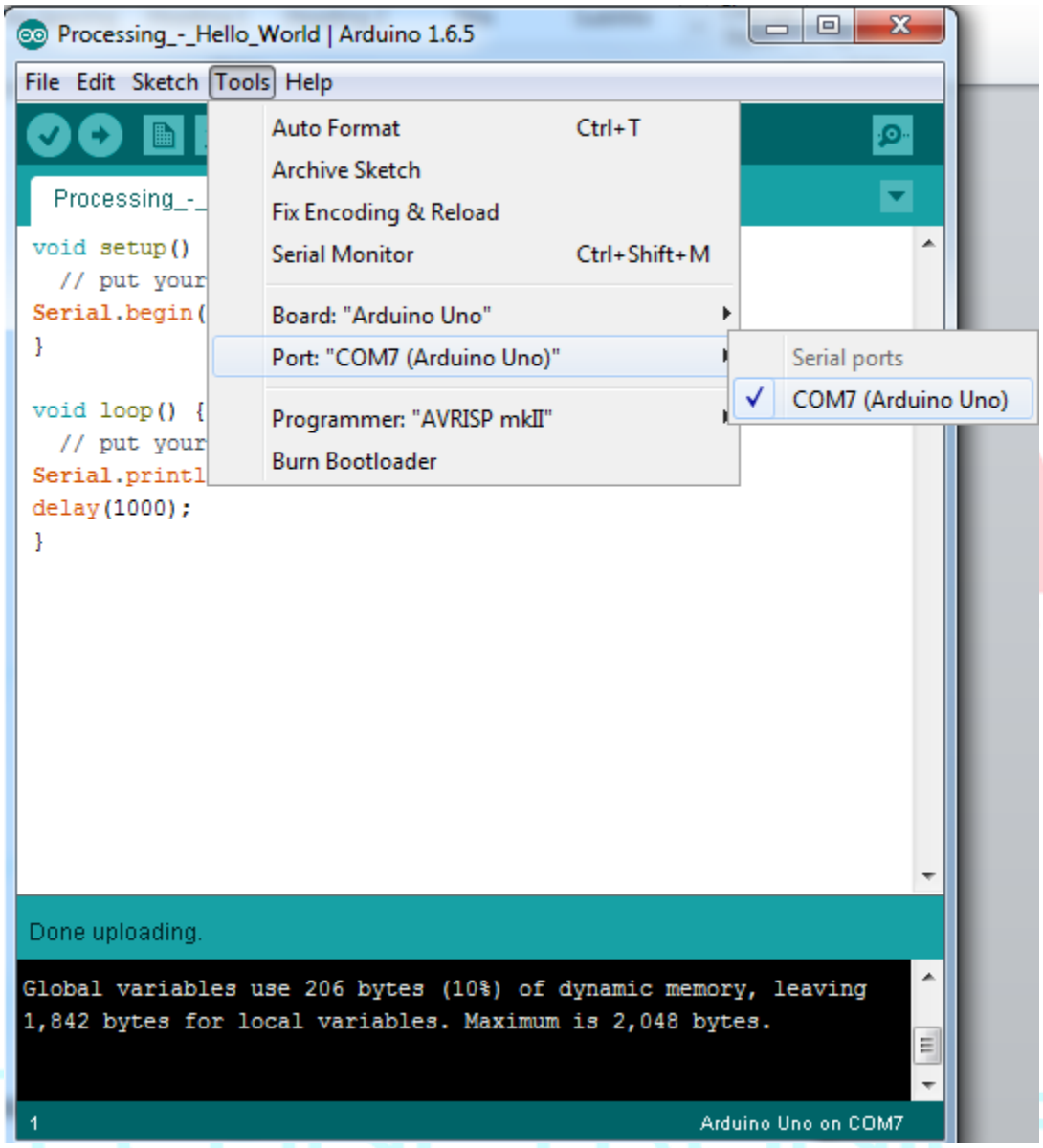

Figure 7

Step 8: Upload (dump) the program into the microcontroller. Using **Upload Icon**

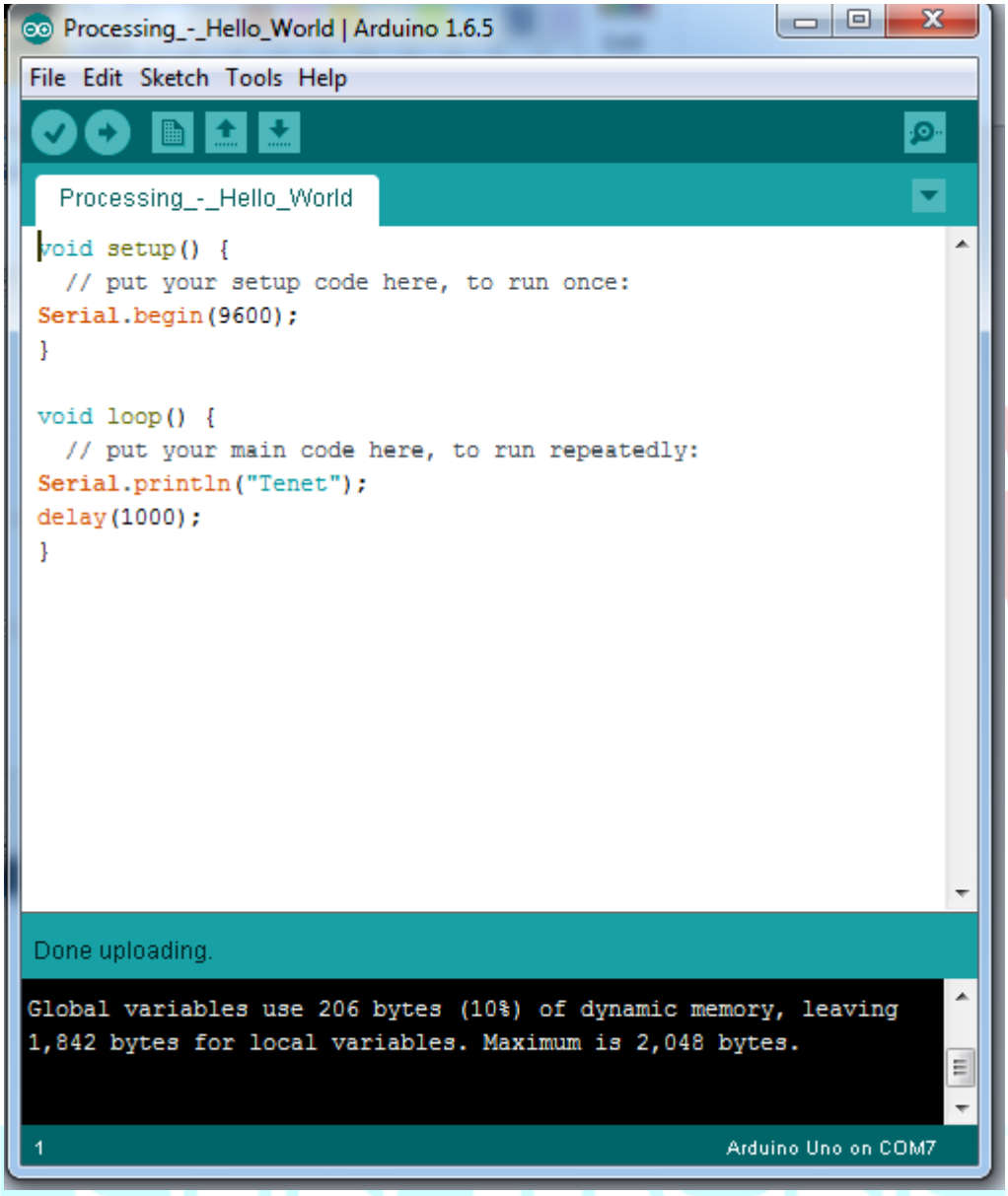

Figure 8

Step 9: Program will uploaded.

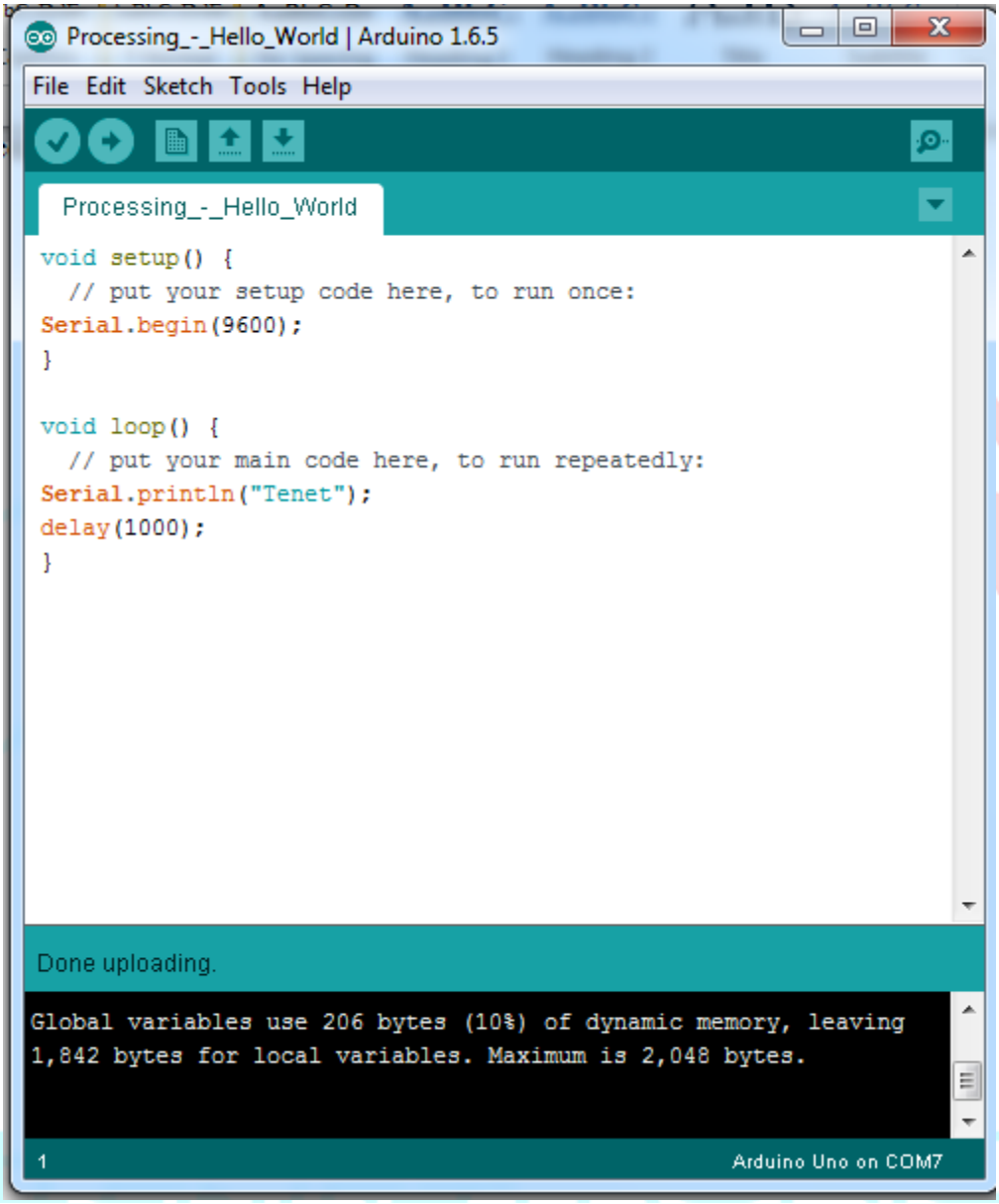

Figure 9

STEPS

Step 1: Open the IDE.

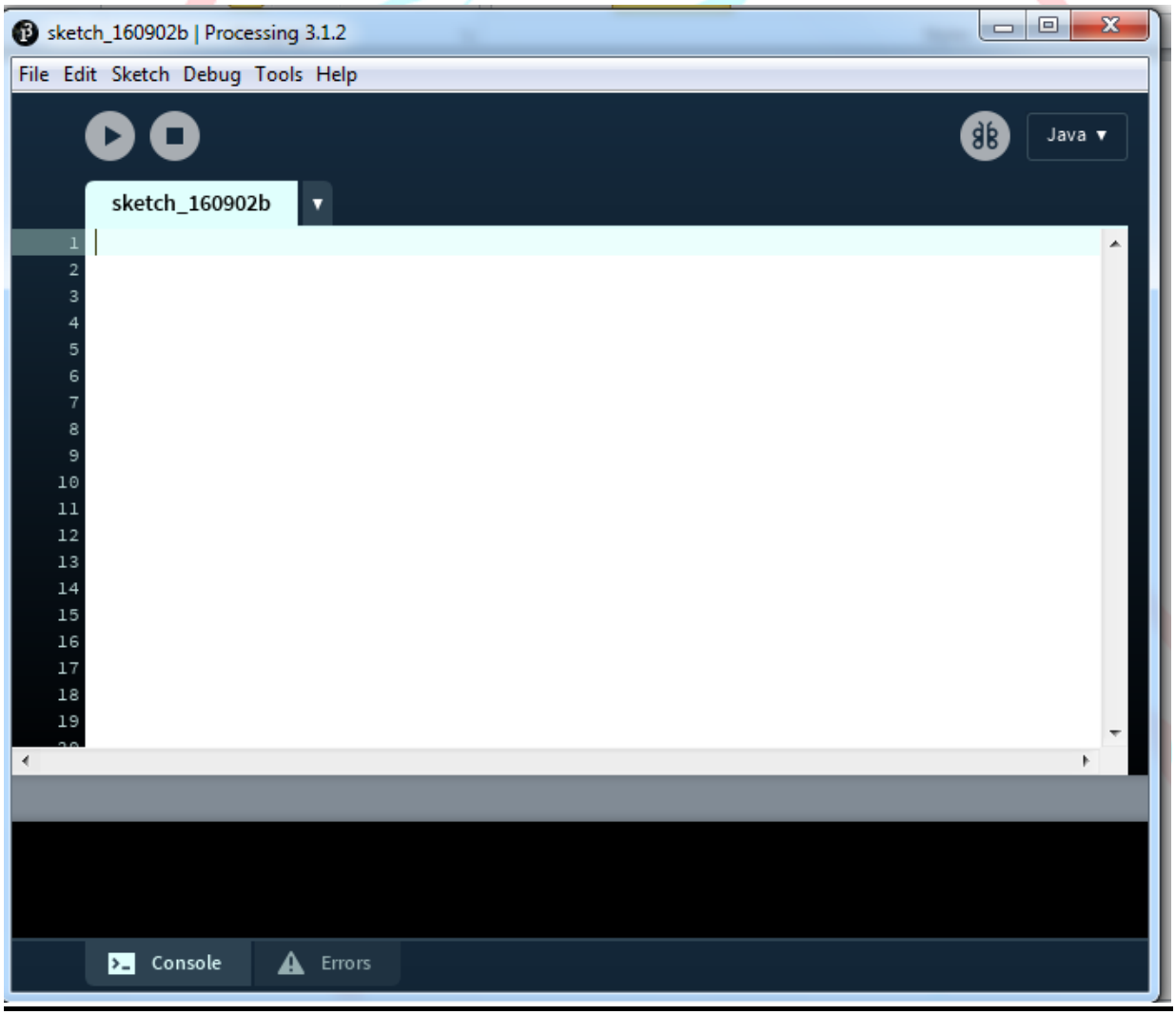

Figure 10

Step 2: Import the library

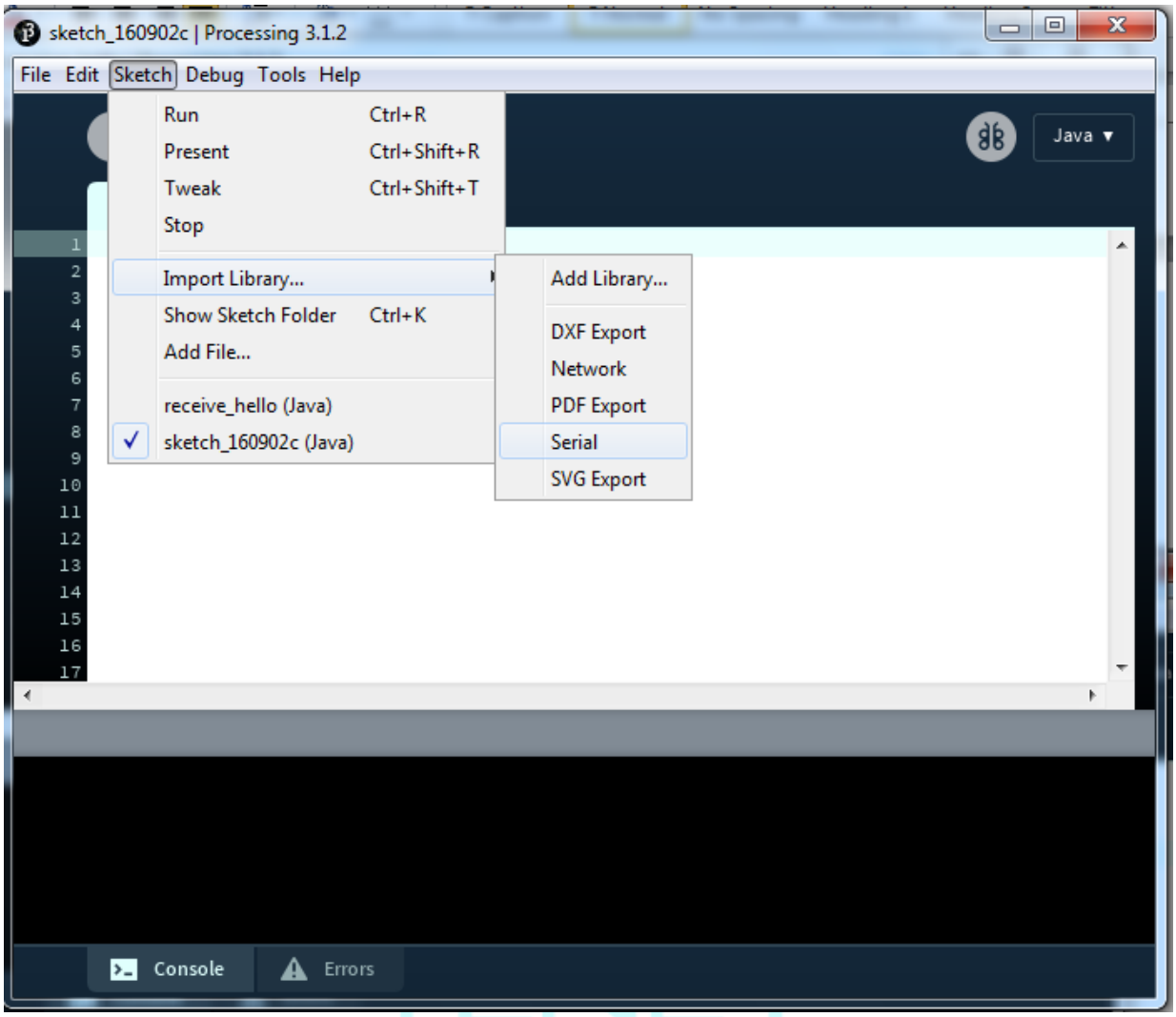

Figure 11

Step 3: To write the code in the IDE

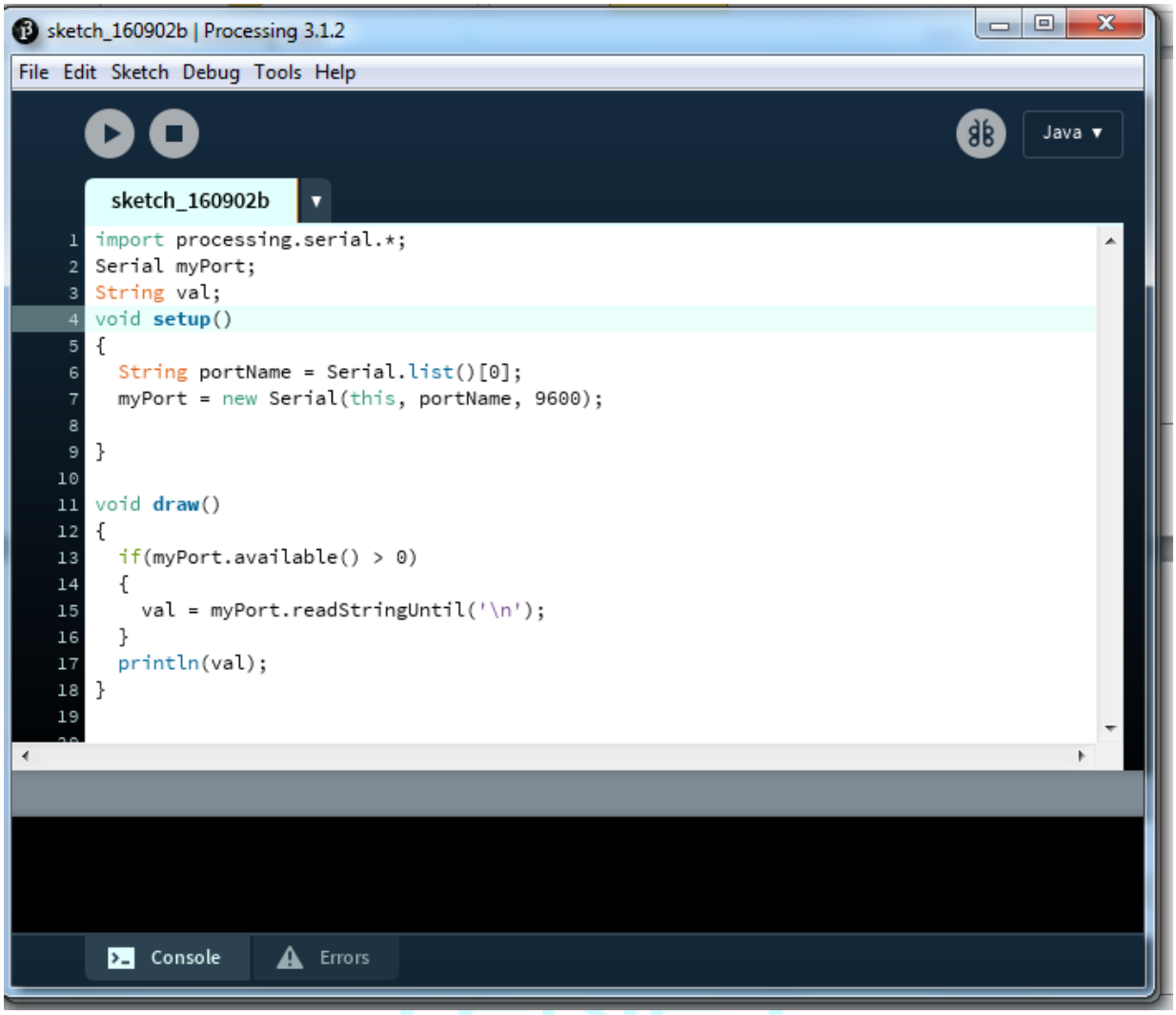

Figure 12

Code:

```
import processing.serial.*;
      Serial myPort;
      String val;
void setup()
    {
       String portName = Serial.list()[0];
        myPort = new Serial(this, portName, 9600);
     }
void draw()
    {
        if(myPort.available() > 0)
            {
              val = myPort.readStringUntil('\n');
            }
       println(val);
    }
```

Step 4: Save the file. **File -> save as**

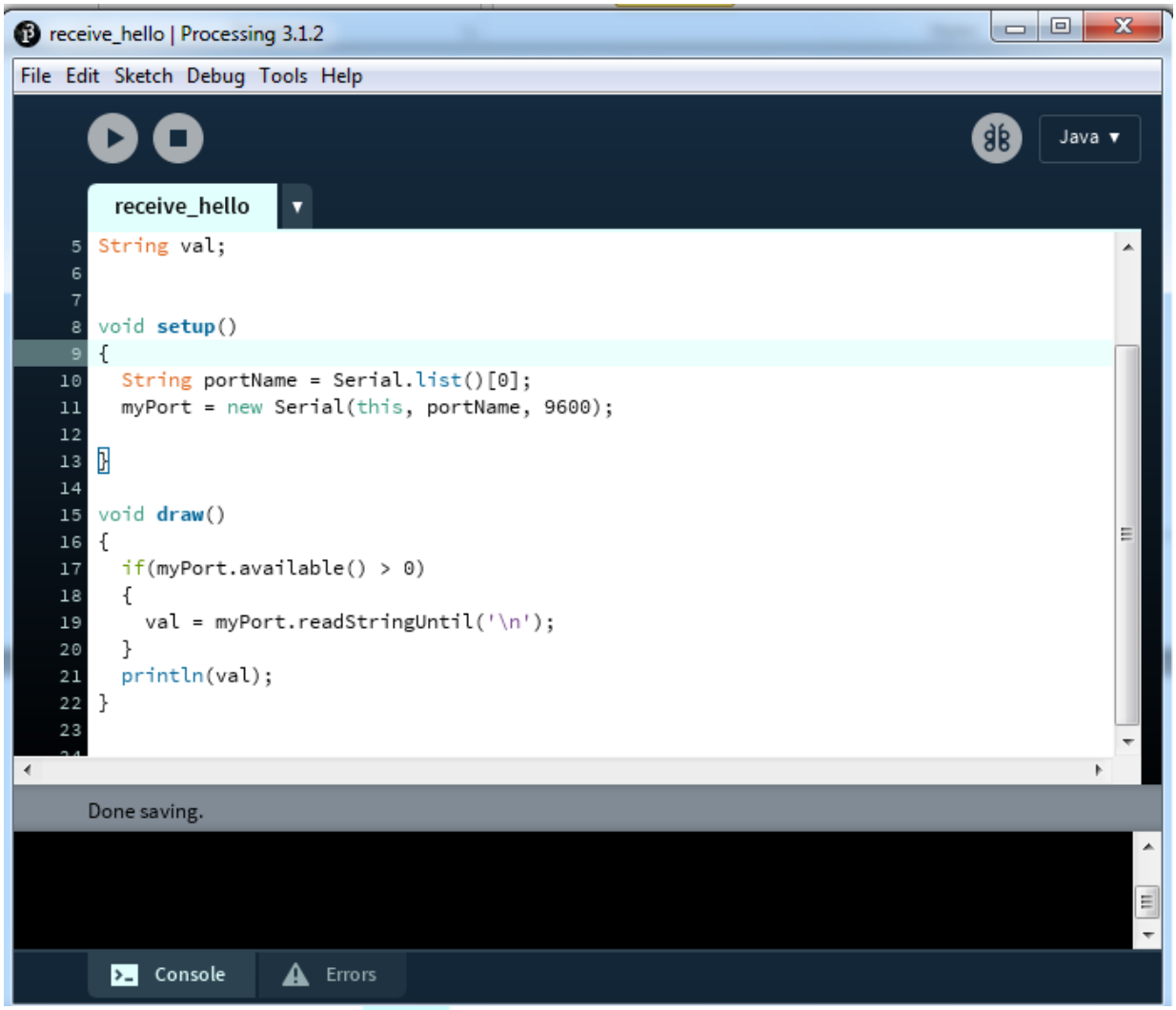

Figure 13

Step 5: Click the **RUN icon.**

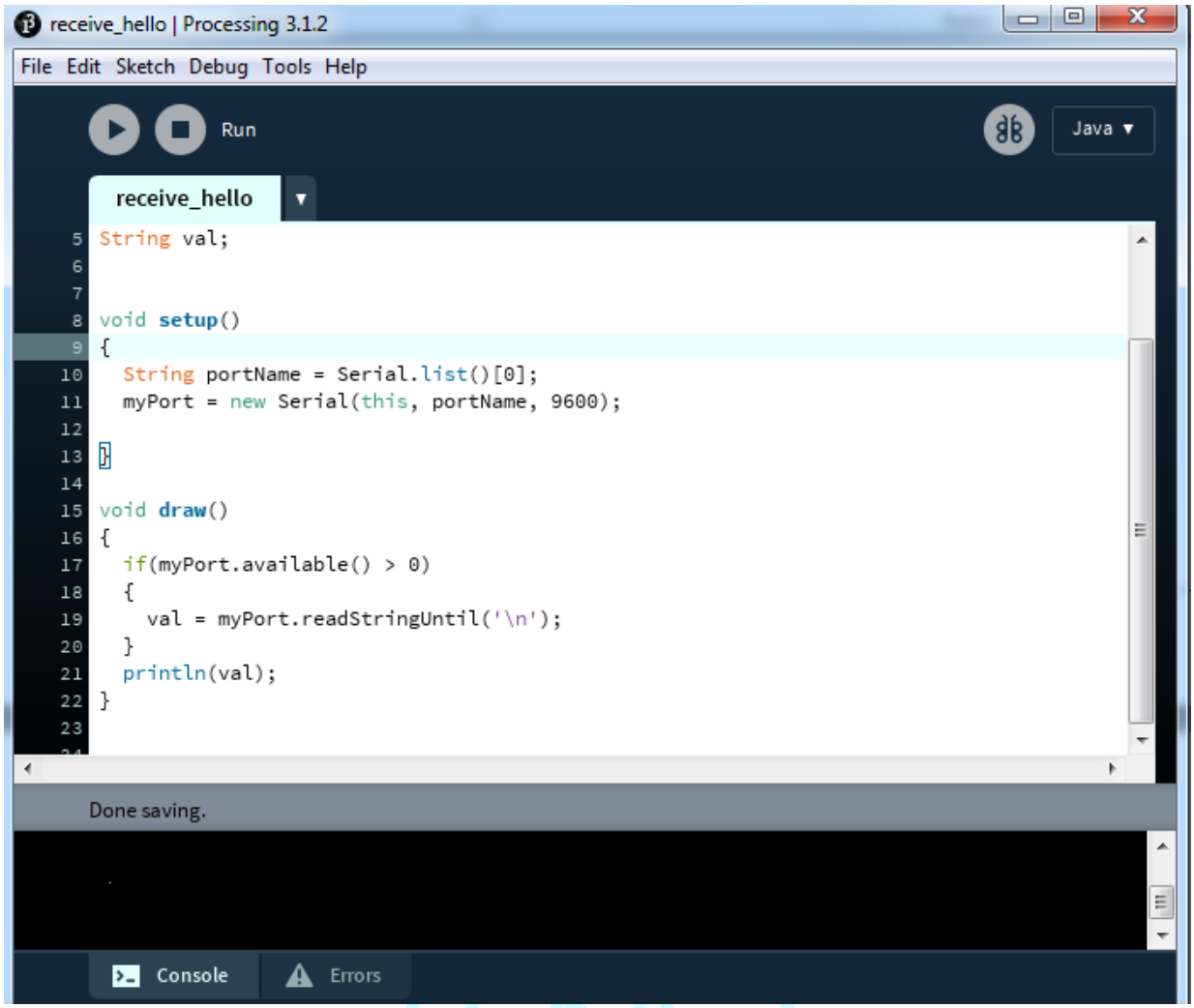

Figure 14

OUTPUT:

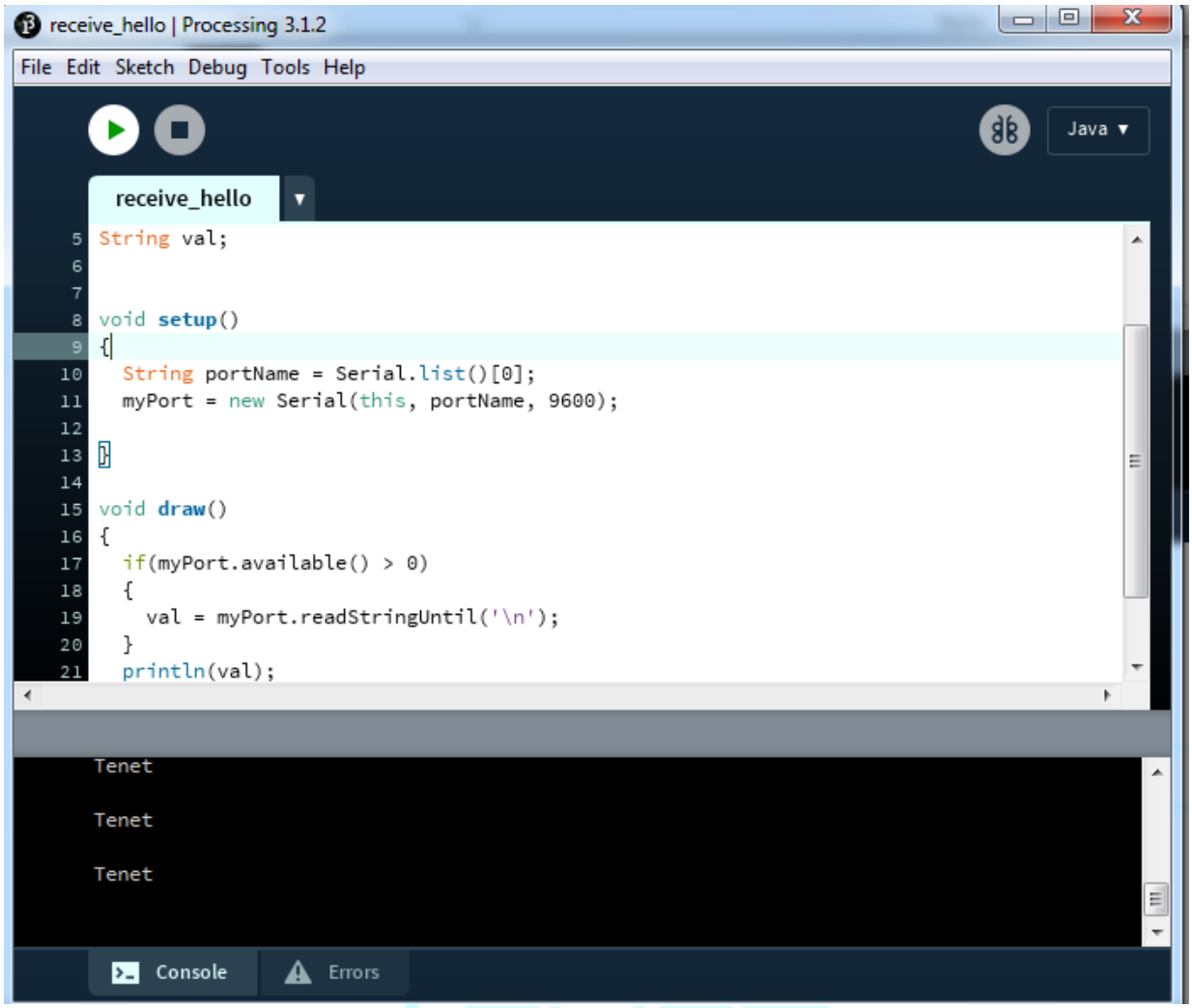

Figure 15

Step 6: Click the **Stop icon.**

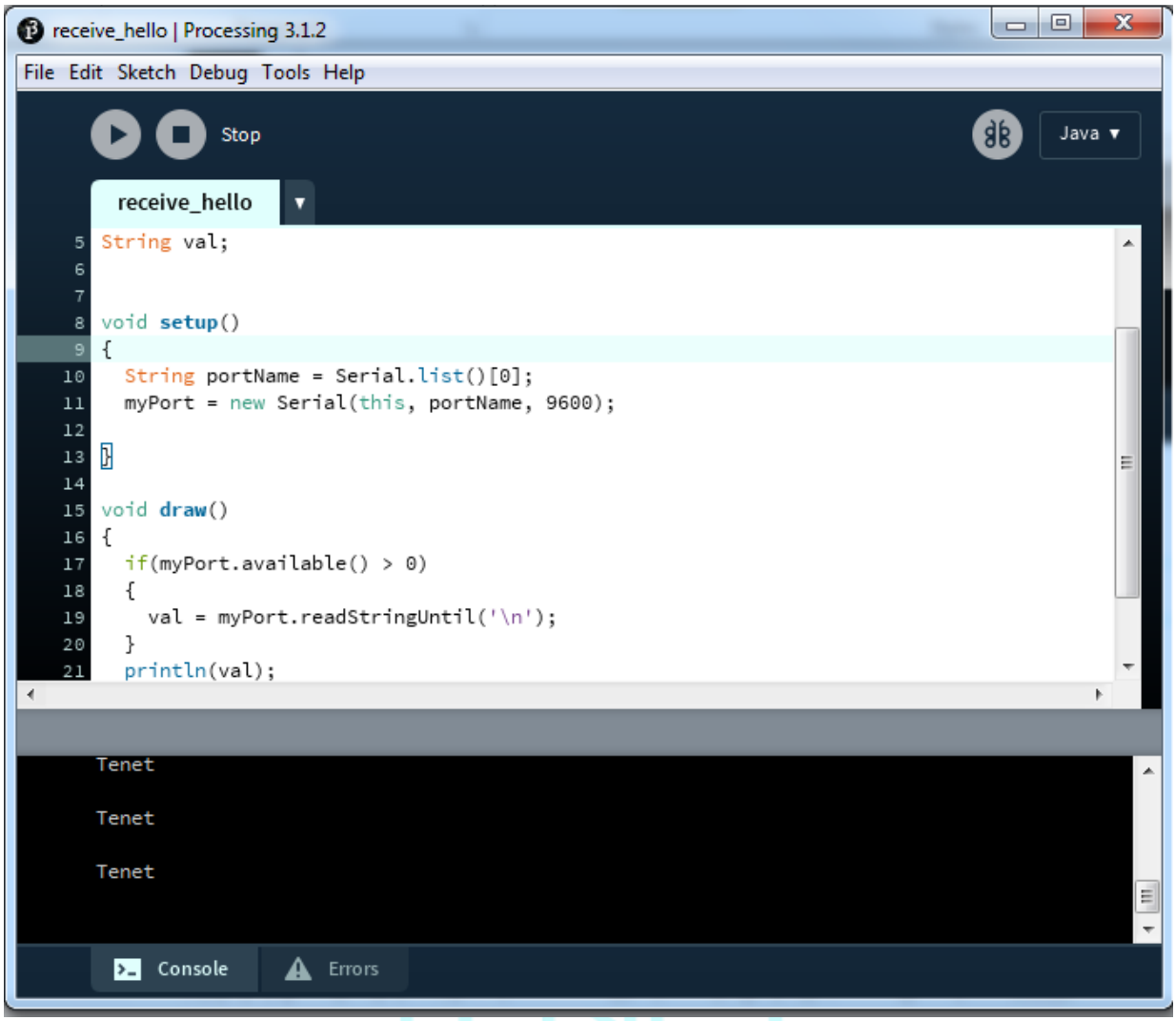

Figure 16