PROGRAM STRACTURE

- The source code for the Java environment is released under the GPL and the C/C++ microcontroller libraries are under the LGPL.
- Sketch - The first new terminology in the Arduino program is called "sketch"
- Arduino Programs can be divided in three main parts:
  — Structure
  — Values (variables & constants)
  — Functions

Structure

Software structure consist of two main functions:

- Setup()
- Loop()

```
sketch_oct20a.ino          ReadMe.adoc

1 ▾ /*
2
3   */
4
5 ▾ void setup() {
6
7   }
8
9 ▾ void loop() {
10
11  }
12  |
```

Void setup() {

}

- **PURPOSE:** the setup function is called when a sketch starts. We use it to initialise the variables, pin modes, start using libraries, etc. The setup function will only run once, after each power up or reset of the Arduino board.

- **INPUT**
- **OUTPUT**
- **RETURN**

Void loop() {

}

- **PURPOSE:** After creating a setup() function, which initialises and sets the initial values, the loop() function does precisely what its name suggests, and loops consecutively, allowing your program to change and respond. Use it to actively control Arduino board.
- **INPUT**
- **OUTPUT**
- **RETURN**

CODE EXAMPLE BLINK ON LED

```
25  // the setup function runs once when you press reset or power the board
26  void setup() {
27    // initialize digital pin LED_BUILTIN as an output.
28    pinMode(LED_BUILTIN, OUTPUT);
29  }
30
31  // the loop function runs over and over again forever
32  void loop() {
33    digitalWrite(LED_BUILTIN, HIGH);   // turn the LED on (HIGH is the voltage level)
34    delay(1000);                       // wait for a second
35    digitalWrite(LED_BUILTIN, LOW);    // turn the LED off by making the voltage LOW
36    delay(1000);                       // wait for a second
37  }
38
```