ASSIGNMENT 3

The basic structure of an Arduino program consists of two main functions and some additional elements that are common to most sketches. Here’s a breakdown:

* **Include Libraries (Optional)**
  + #include <library\_name>: Used to include external libraries that provide additional functionality.
* **Global Variables Declaration**
  + Declare variables that will be used throughout the program, outside of any function.
* **setup() Function**
  + Runs once when the program starts.
  + Used to initialize variables, pin modes, start using libraries, etc.
  + Example: void setup() { pinMode(LED\_BUILTIN, OUTPUT); }
* **loop() Function**
  + Runs continuously after the setup() function finishes.
  + Contains the main code that will be executed repeatedly.
  + Example: void loop() { digitalWrite(LED\_BUILTIN, HIGH); delay(1000); digitalWrite(LED\_BUILTIN, LOW); delay(1000); }
* **Functions (Optional)**
  + Custom functions can be defined for code modularity and reusability.
  + Example: void blinkLED() { digitalWrite(LED\_BUILTIN, HIGH); delay(1000); digitalWrite(LED\_BUILTIN, LOW); delay(1000); }
* **Comments**
  + Used to annotate code, making it easier to understand.
  + Single-line comments start with //, and multi-line comments are enclosed within /\* \*/.
* **Setup of Libraries (Optional)**
  + If you use libraries, you may need to include setup code specific to them inside the setup() function.