1. **Explain Basic Structure of an Arduino Program**

**A) Basic Structure of an Arduino Program**

An Arduino program, also known as a sketch, typically consists of two main functions: setup() and loop().

An Arduino program is primarily stored in the Flash memory of the microcontroller.

* Arduino program (code) itself is stored in Flash memory.
* Data used by the program while running is stored in SRAM.
* Data that needs to be preserved across power cycles can be stored in EEPROM (if available).

**1. setup() function**

* Runs only once when the Arduino board is powered up or reset.
* Used to initialize variables, set pin modes (input or output), start communication protocols (like Serial), and configure hardware components.
* Syntax:

void setup() {

// Code to run once

}

**2. loop() function**

* Runs repeatedly after the setup() function completes.
* Contains the core logic of your program, where you'll implement actions that need to be performed continuously.
* Syntax:

void loop() {

// Code to run repeatedly

}

**Example:**

void setup() {

pinMode(13, OUTPUT);

}

void loop() {

digitalWrite(13, HIGH);

delay(1000);

digitalWrite(13, LOW);

delay(1000);

}

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