



SNS COLLEGE OF ENGINEERING

(Autonomous)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



190E204- IoT System Architecture

Arduino - LIBRARIES

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Arduino - Library

What is library function of Arduino?

The Library is considered as the advanced feature, which extends the capabilities of the Arduino IDE. It means that the libraries provide extra functionality to the programming platform of Arduino. The libraries in Arduino are written in C or C++.

The Arduino environment can be extended through the use of libraries, just like most programming platforms. Libraries provide extra functionality for use in sketches, e.g. working with hardware or manipulating data. To use a library in a sketch, select it from **Sketch > Import Library**.

[Communication](#) (1217)

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[Signal Input/Output](#) (421)

[Timing](#) (222)

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library

Robotics

Libraries for controlling servo and stepper motors.

- [Servo](#) - for controlling servo motors.
- [Stepper](#) - for controlling stepper motors.

Communication

Libraries for using the SPI, I2C and UART protocols.

- [SPI](#) - for communicating with devices using the Serial Peripheral Interface (SPI) Bus.
- [Wire](#) - Two Wire Interface (TWI/I2C) for sending and receiving data over a net of devices or sensors.
- [SoftwareSerial](#) - for serial communication on any digital pins.

Connectivity

Libraries to access radio modules on different IoT boards (Wi-Fi, Bluetooth®, LoRa®, GSM, NB-IoT, Sigfox).

- [ArduinoIoTCloud](#) - This library allows to connect to the Arduino IoT Cloud service. .
- [ArduinoBLE](#) - library to use the Bluetooth® Low Energy on a selection of boards.
- [Ethernet](#) - for connecting to the Internet via Ethernet.
- [GSM](#) - for connecting to a GSM/GRPS network with the GSM shield.



Memory

Libraries for memory management and data storage.

[EEPROM](#) - reading and writing to "permanent" storage.

[SD](#) - for reading and writing SD cards.

Display

Libraries for controlling different displays.

[LiquidCrystal](#) - for controlling liquid crystal displays (LCDs).

[TFT](#) - for drawing text , images, and shapes on the Arduino TFT screen.

Audio

Libraries for audio sampling and playback.

[AudioFrequencyMeter](#) - library to sample an audio signal and get its frequency back.

[AudioZero](#) - library to play audio files from a SD card.

[ArduinoSound](#) - simple way to play and analyze audio data.

[Audio](#) - allows playing audio files from an SD card. For Arduino DUE only.

[I2S](#) - library for using the I2S protocol on SAMD21 (included in SAMD platform).

USB

Libraries for using your Arduino as either a USB host or device.

[USBHost](#) - communicate with USB peripherals like mice and keyboards.

[Keyboard](#) - send keystrokes to an attached computer.

[Mouse](#) - control cursor movement on a connected computer.



Thank you