

Include libraries required

- Communication
- Sensor
- LCD

Define pins and specifications for LCD TFT

Setup BME680

Setup Pins for the buttons

Variables for the cursorPosition, ButtonStates and debounceTime and delay

Initialize TFT

setup()

Start LCD

Set its specifications

Set pins for buttons as PULLUP

Set oversampling for the BME680 sensor

loop()

Display menu in TFT LCD

setcursor(270, cursorPosition)

tft.print(">")

Wait for an

Chatgpt

// Library Inclusions

#include <Wire.h>

#include <Adafruit_Sensor.h>

#include <Adafruit_BME680.h>

#include <Adafruit_GFX.h>

#include <Adafruit_ILI9341.h>

#include <SPI.h>

// TFT LCD Setup

// Define TFT pin configurations

// Define screen width and height

// BME680 Setup

// Create an instance of the BME680 sensor

// Button Setup

// Define button pin configurations

// Define button state variables

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// Initialize button states

// Define debounce variables
// Initialize debounce variables

// SD Card Setup
// Define chip select pin for the SD card module

// Define variables for sensor data

// Create an instance of the Adafruit_ILI9341 TFT display

void setup() {
  // TFT setup
  // Initialize TFT display
  // Set display rotation
  // Fill the screen with black color

  // Button setup
  // Set button pins as inputs

  // BME680 setup
  // Set temperature, pressure, humidity oversampling
  // Set gas heater parameters

  // SD Card setup
  // Initialize SD card
  // Open data file for writing
  // Write header to the data file
}

void loop() {
  // Start serial communication

  // Display menu options on TFT display

  // Read button states and debounce

  // Handle down button press
  // Update cursor position
  // Check if cursor position exceeds the menu options limit
  // Wait for a delay
  // Clear the TFT display

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// Handle select button press
// Check the current cursor position
// Display selected option and sensor data on TFT display
// Wait for a delay
// Write sensor data to the data file

// Handle clear button press
// Clear the TFT display
// Display a message indicating the menu is cleared
// Wait for a delay
// Reset the cursor position

// Update last button states for debouncing

// End of loop
}
```