ASHWADH A

231501022

AIML 'A'

LAB EXPERIMENT : 11

11) Implement an application that writes data to the SD card.

# AIM:

The aim of this project is to design an application that writes data to an SD card using a microcontroller (such as Arduino or ESP32). The program will demonstrate how to write text data to a file on the SD card.

# ALGORITHM:

## Initialize SD Card:

* + Begin by initializing the SD card interface and checking if the card is correctly detected.

## Open a File:

* + Open a file on the SD card in write mode.

## Write Data:

* + Write data (e.g., text strings or sensor data) to the file on the SD card.

## Close the File:

* + Properly close the file after writing to ensure data integrity.

## Error Handling:

* + Handle any errors that might occur, such as SD card not being detected or file access issues.

## Repeat (if necessary):

* + Optionally, repeat the writing process for continuous logging of data.

# SOURCE CODE:

#include <SD.h> // Include the SD card library

#include <SPI.h> // Include the SPI library (needed for SD card communication)

const int chipSelect = 10; // Chip select pin for the SD card module

void setup() {

// Start serial communication at 9600 baud Serial.begin(9600);

// Initialize the SD card

if (!SD.begin(chipSelect)) {

Serial.println("Initialization failed!"); // If initialization fails return;

}

Serial.println("SD card initialized.");

// Open the file "data.txt" for writing

File dataFile = SD.open("data.txt", FILE\_WRITE);

// Check if the file opened successfully if (dataFile) {

dataFile.println("Hello, SD card!"); // Write a test message dataFile.close(); // Close the file to save data Serial.println("Data written to SD card.");

} else {

// If the file didn't open, print an error message Serial.println("Error opening data.txt");

}

}

void loop() {

// Nothing to do in the loop for this example

}

# RESULT :

When the application runs, the SD card will store the text data "Hello, SD card!" in a file named data.txt. The user can read this data on the SD card by connecting the card to a computer or card reader.

OUTPUT :

