1.a) Install flutter and Dart sdk

To install Flutter and the Dart SDK, you can follow these steps:

a) Download Flutter: Visit the Flutter website's Get Started page and download the Flutter SDK for your operating system (Windows, macOS, or Linux).

 b) Extract the Flutter SDK: After downloading, extract the contents of the compressed file to a location on your computer where you want to store the Flutter SDK. For example, you can extract it to C:\flutter on Windows, /Users//flutter on macOS, or ~/flutter on Linux.

c) Add Flutter to your PATH: Update your system's PATH variable to include the Flutter bin directory. This step allows you to execute Flutter commands from any directory in your terminal or command prompt. The precise steps for updating the PATH vary depending on your operating system.

Windows: From the Start search bar, type 'env' and select 'Edit the system environment variables'. Click on 'Environment Variables'. Under 'System Variables', find the 'Path' variable, select it, and click 'Edit'. Click 'New' and add the path to the bin directory inside the Flutter directory (e.g., C:\flutter\bin). Click 'OK' on all open dialogs to save your changes.

d) Verify the Flutter installation: Open a new terminal window, and run the following command to verify that Flutter is properly installed: flutter --version This command should display the Flutter version and other relevant information if the installation was successful.

e) Install Flutter dependencies: Depending on your development environment, you may need to install additional dependencies, such as Android Studio to fully set up your Flutter development environment.

 f) Download Dart SDK (if not bundled with Flutter): Flutter comes with the Dart SDK bundled, so if you've installed Flutter, you should have the Dart SDK as well. However, if you need to install Dart separately, you can download it from the Dart "SDK archive".

1.b) Write a simple dart program to understand the language basics

```dart
// Define a main function, which is the entry point of a Dart program.

void main() {

// Variables and data types

int myNumber = 20;

double myDouble = 7.14;

String myString = 'Hello World';

bool myBool = true;

// Printing variables

print('My number is: $myNumber');

print('My double is: $myDouble');

print('My string is: $myString');

print('My boolean is: $myBool');

int result = myNumber + 5;

print('Result of addition: $result');

// Conditional statements

if (myBool) { print('myBool is true'); }

else { print('myBool is false'); }

// Loops

for (int i = 0; i < 5; i++) {

print('Iteration $i'); }

// Lists

List numbers = [1, 2, 3, 4, 5];

print('First element of the list: ${numbers[0]}');

print('Length of the list: ${numbers.length}');

// Maps

Map ages = { 'Sandhya': 35, 'Vani': 23, 'Kruthika': 22, };

print('Kiran\'s age: ${ages['Sandhya']}'); }
```