Experiment 1

Aim: To install and configure the Flutter Environment

Theory:

Flutter is an open source framework by Google for building beautiful, natively compiled, multi-platform applications from a single codebase.

<u>Fast</u>: Flutter code compiles to ARM or Intel machine code as well as JavaScript, for fast performance on any device.

<u>Productive</u>: Build and iterate quickly with Hot Reload. Update code and see changes almost instantly, without losing state.

<u>Flexible</u>: Control every pixel to create customized, adaptive designs that look and feel great on any screen.

Android Studio is the official integrated development environment (IDE) for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development. It is available for download on Windows, macOS and Linux based operating systems. It is a replacement for the Eclipse Android Development Tools (E-ADT) as the primary IDE for native Android application development.

Flutter is successfully installed

```
PS C:\Users\Student> flutter
Manage your Flutter app development.

Common commands:

  flutter create <output directory>
    Create a new Flutter project in the specified directory.

  flutter run [options]
    Run your Flutter application on an attached device or in an emulator.

Usage: flutter <command> [arguments]

Global options:
-h, --help              Print this usage information.
-v, --verbose           Noisy logging, including all shell commands executed.
                        If used with "--help", shows hidden options. If used with "flutter doctor", shows additional
                        diagnostic information. (Use "-vv" to force verbose logging in those cases.)
-d, --device-id         Target device id or name (prefixes allowed).
    --version           Reports the version of this tool.
    --enable-analytics  Enable telemetry reporting each time a flutter or dart command runs.
    --disable-analytics Disable telemetry reporting each time a flutter or dart command runs, until it is
                        re-enabled.
    --suppress-analytics Suppress analytics reporting for the current CLI invocation.

Available commands:

Flutter SDK
```
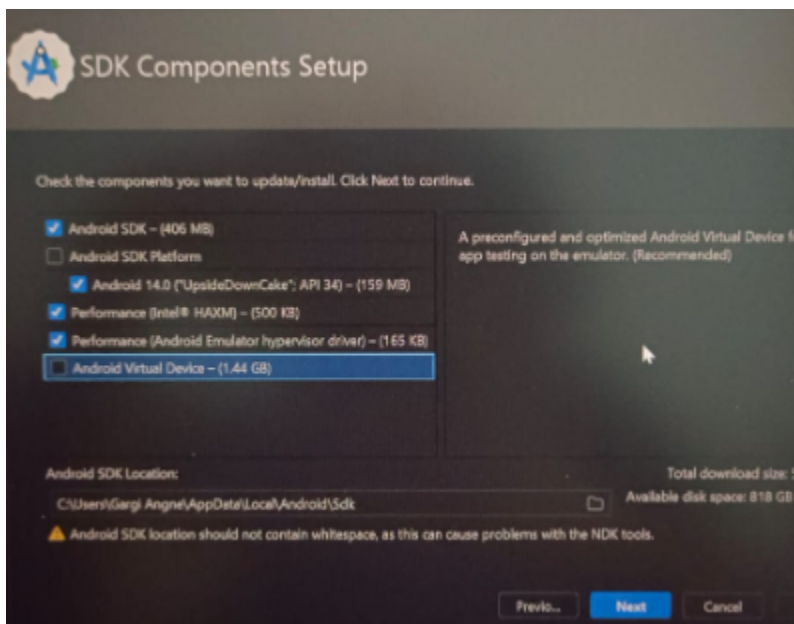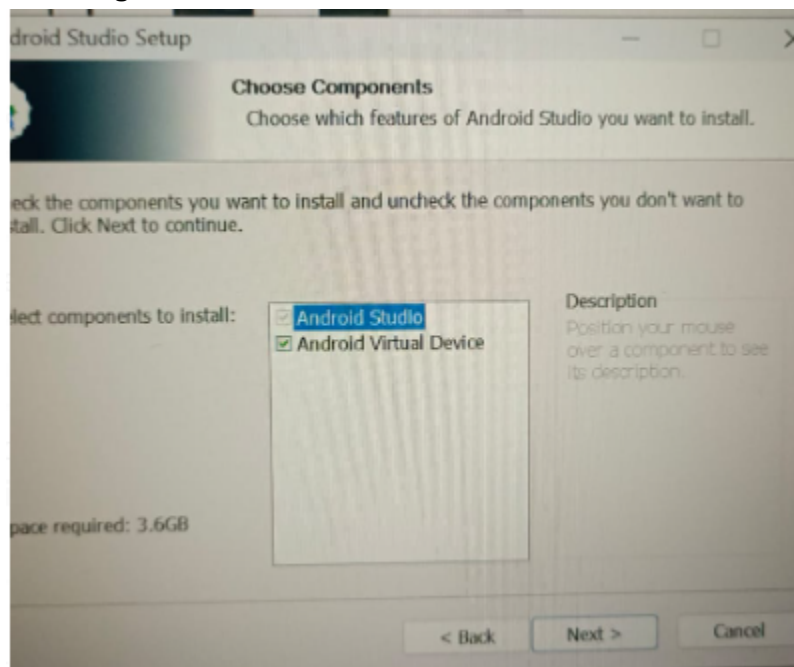
flutter doctor (command)

```
Microsoft Windows [Version 10.0.22000.2652]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Student>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[√] Flutter (Channel stable, 3.16.7, on Microsoft Windows [Version 10.0.22000.2652], locale en-IN)
[√] Windows Version (Installed version of Windows is version 10 or higher)
[!] Android toolchain - develop for Android devices (Android SDK version 34.0.0)
    X cmdline-tools component is missing
      Run `path/to/sdkmanager --install "cmdline-tools;latest"`
      See https://developer.android.com/studio/command-line for more details.
    X Android license status unknown.
      Run `flutter doctor --android-licenses` to accept the SDK licenses.
      See https://flutter.dev/docs/get-started/install/windows#android-setup for more details.
[√] Chrome - develop for the web
[X] Visual Studio - develop Windows apps
    X Visual Studio not installed; this is necessary to develop Windows apps.
      Download at https://visualstudio.microsoft.com/downloads/.
      Please install the "Desktop development with C++" workload, including all of its default components
[√] Android Studio (version 2023.1)
[√] VS Code (version 1.85.1)
[√] Connected device (3 available)
[!] Network resources
    X A cryptographic error occurred while checking "https://pub.dev/": Connection terminated during handshake
      You may be experiencing a man-in-the-middle attack, your network may be compromised, or you may have malware
      installed on your computer.
    X A cryptographic error occurred while checking "https://maven.google.com/": Connection terminated during handshake
      You may be experiencing a man-in-the-middle attack, your network may be compromised, or you may have malware
      installed on your computer.

! Doctor found issues in 3 categories.
```
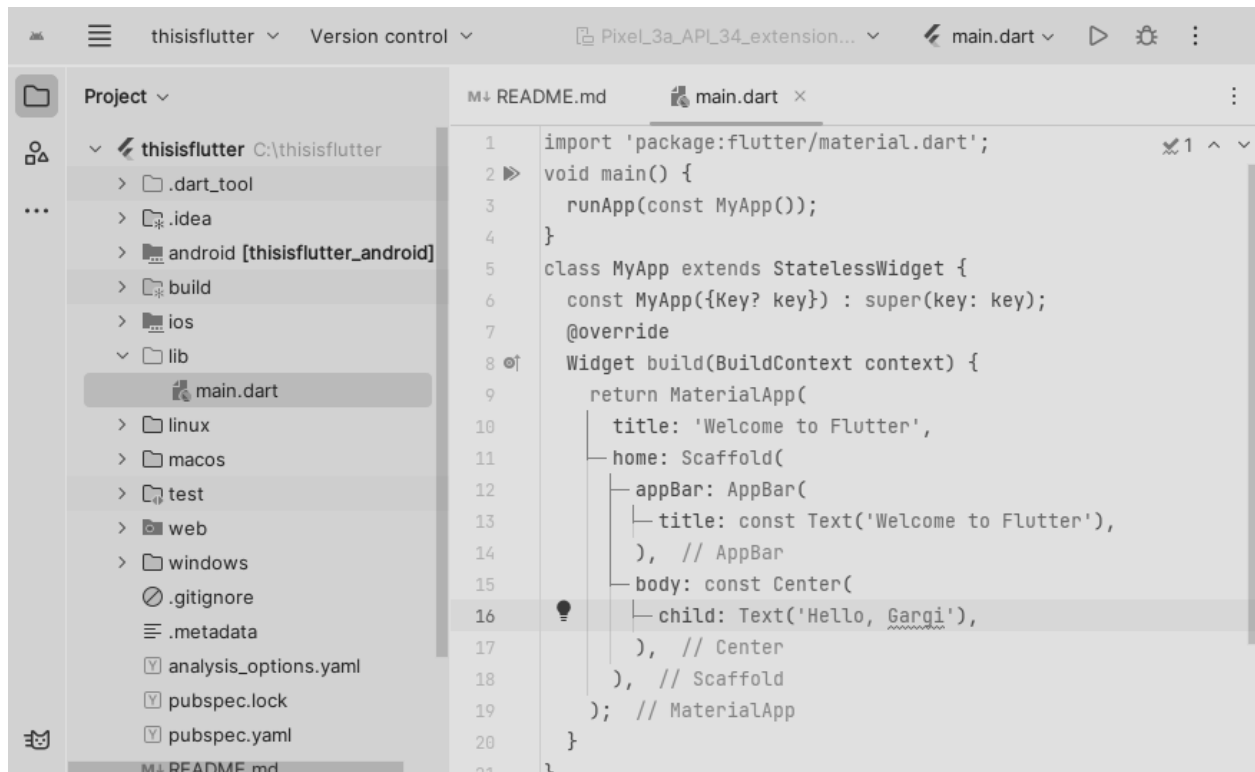
Installing Android Studio:

Entering the code in main.dart


```dart
import 'package:flutter/material.dart';
void main() {
runApp(const MyApp());
}
class MyApp extends StatelessWidget {
const MyApp({Key? key}) : super(key: key);
@override
Widget build(BuildContext context) {
return MaterialApp(
title: 'Welcome to Flutter',
home: Scaffold(
appBar: AppBar(
title: const Text('Welcome to Flutter'),
),
body: const Center(
child: Text('Hello, Gargi'),
),
),
);
}
}
```

OUTPUT :