CSM3114 Lab 3

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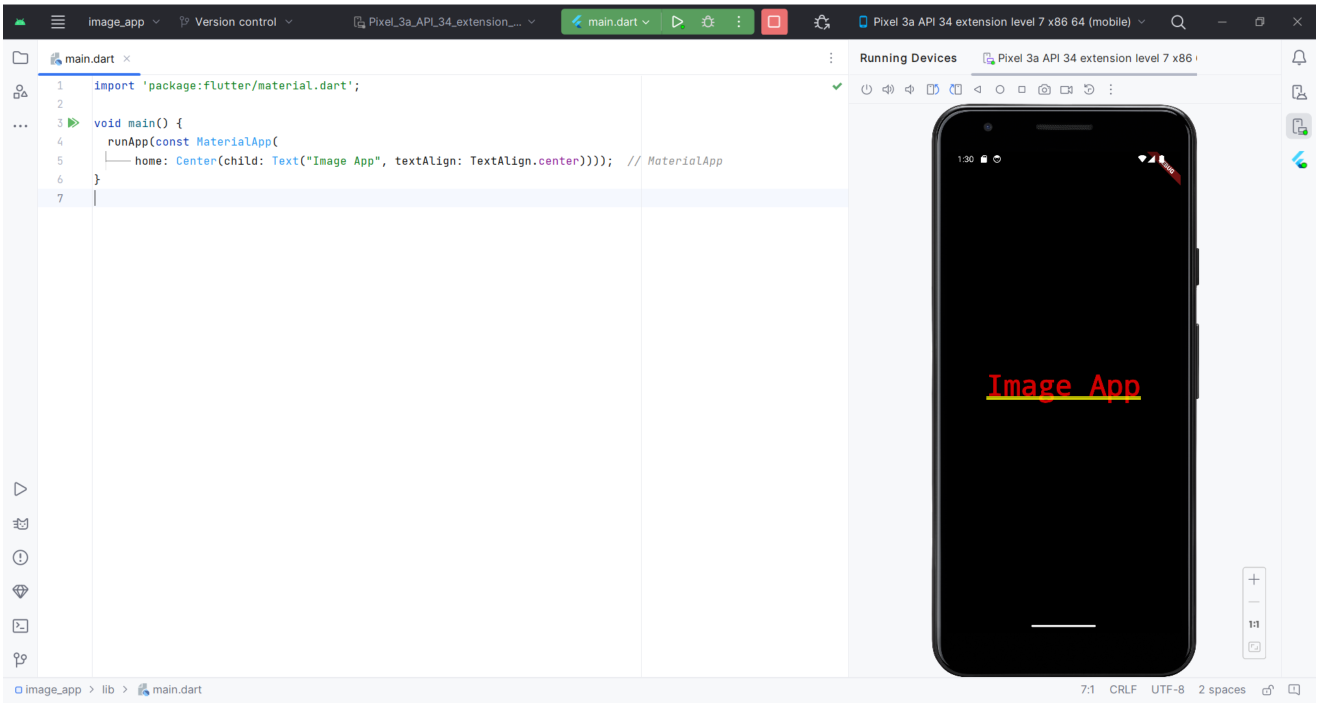
1 Creating a Flutter app from scratch

1.2 Adding a `MaterialApp` Widget for Image app

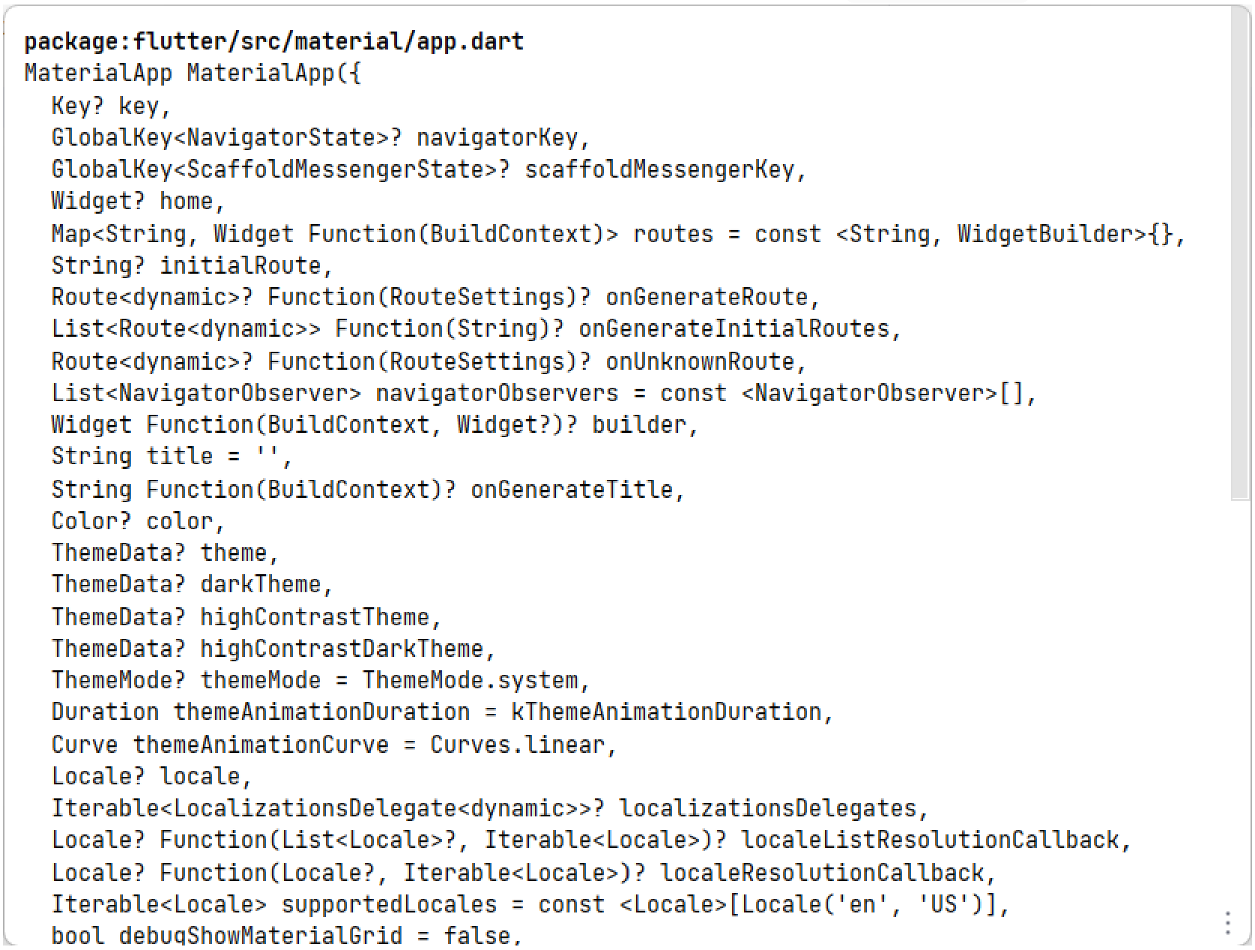

image_app
Version control
Pixel_3a_API_34_extension_...
main.dart
Pixel 3a API 34 extension level 7 x86 64 (mobile)
main.dart
Running Devices
Pixel 3a API 34 extension level 7 x86
Image App
image_app > lib > main.dart
7:1 CRLF UTF-8 2 spaces

```dart
import 'package:flutter/material.dart';

void main() {
  runApp(const MaterialApp(
      home: Center(child: Text("Image App", textAlign: TextAlign.center))));  // MaterialApp
}

```

1.3 Exercise

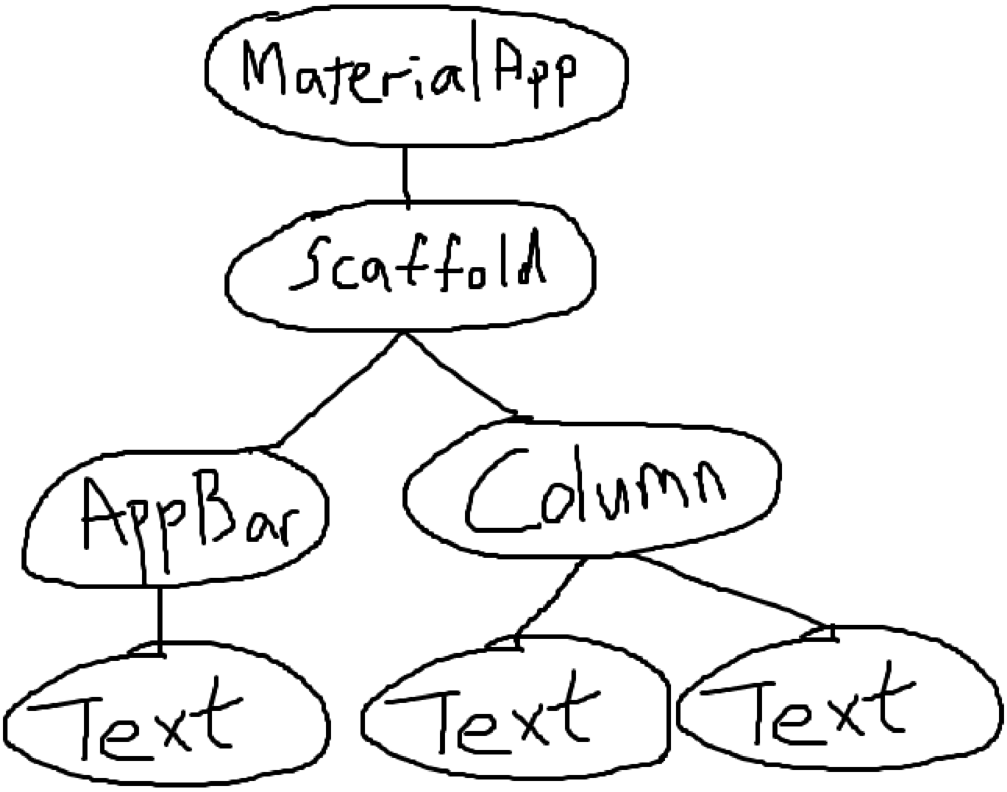
1. State FIVE (5) widgets that developer can use within the `MaterialApp` widget.
    1. `Text`
    2. `Center`
    3. `Scaffold`
    4. `Column`
    5. `Padding` or literally any custom Widget

2. List TEN (10) properties developer can defined when using `MaterialApp` widget.

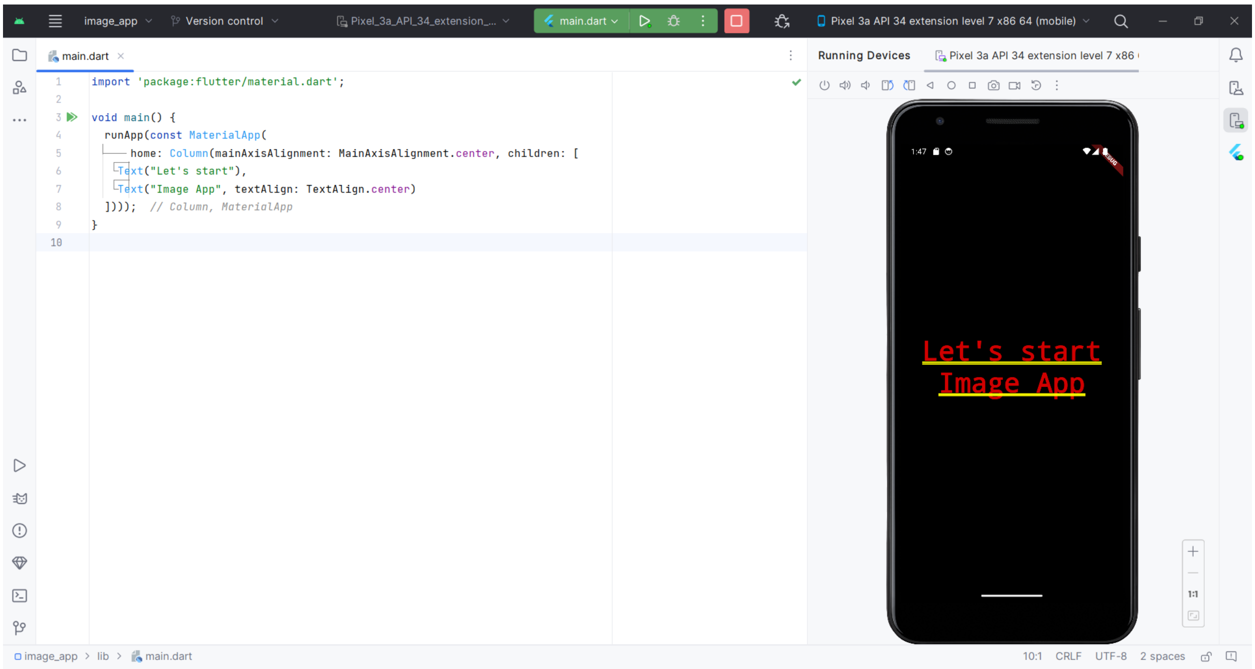


```
package:flutter/src/material/app.dart
MaterialApp MaterialApp({
  Key? key,
  GlobalKey<NavigatorState>? navigatorKey,
  GlobalKey<ScaffoldMessengerState>? scaffoldMessengerKey,
  Widget? home,
  Map<String, Widget Function(BuildContext)> routes = const <String, WidgetBuilder>{},
  String? initialRoute,
  Route<dynamic>? Function(RouteSettings)? onGenerateRoute,
  List<Route<dynamic>> Function(String)? onGenerateInitialRoutes,
  Route<dynamic>? Function(RouteSettings)? onUnknownRoute,
  List<NavigatorObserver> navigatorObservers = const <NavigatorObserver>[],
  Widget Function(BuildContext, Widget?)? builder,
  String title = '',
  String Function(BuildContext)? onGenerateTitle,
  Color? color,
  ThemeData? theme,
  ThemeData? darkTheme,
  ThemeData? highContrastTheme,
  ThemeData? highContrastDarkTheme,
  ThemeMode? themeMode = ThemeMode.system,
  Duration themeAnimationDuration = kThemeAnimationDuration,
  Curve themeAnimationCurve = Curves.linear,
  Locale? locale,
  Iterable<LocalizationsDelegate<dynamic>>? localizationsDelegates,
  Locale? Function(List<Locale>?, Iterable<Locale>)? localeListResolutionCallback,
  Locale? Function(Locale?, Iterable<Locale>)? localeResolutionCallback,
  Iterable<Locale> supportedLocales = const <Locale>[Locale('en', 'US')],
  bool debugShowMaterialGrid = false,
```

3. Based on the coding in question 2.1, draw the full widget tree for the application.



4. Enhanced your current coding by adding the new Text widget and label it as 'Let start..'. Subsequently, re-position the both text in the center layout and in the middle. You supposed to get the following output.



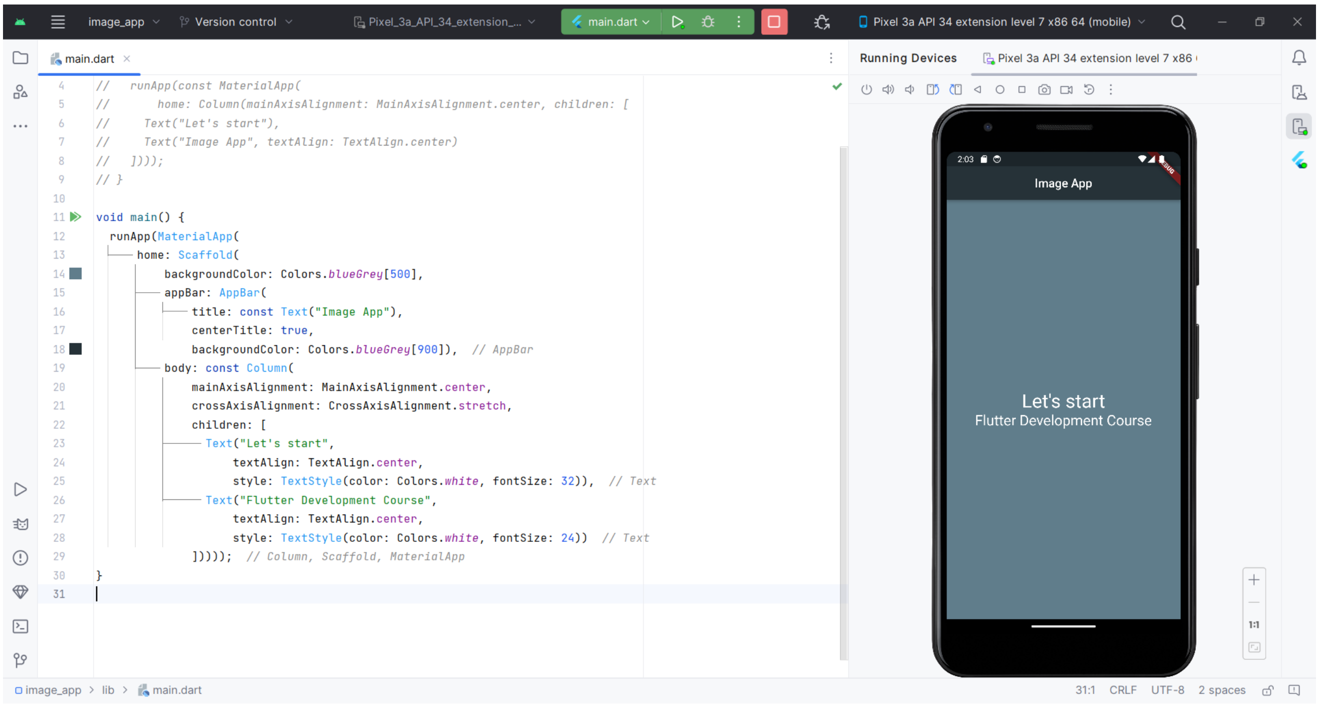
image_app
Version control
Pixel_3a_API_34_extension_...
main.dart
Pixel 3a API 34 extension level 7 x86 64 (mobile)
main.dart
Running Devices
Pixel 3a API 34 extension level 7 x86
1:47
image_app > lib > main.dart
10:1 CRLF UTF-8 2 spaces

```dart
import 'package:flutter/material.dart';

void main() {
  runApp(const MaterialApp(
      home: Column(mainAxisAlignment: MainAxisAlignment.center, children: [
    Text("Let's start"),
    Text("Image App", textAlign: TextAlign.center)
  ]))); // Column, MaterialApp
}
```

```
Let's start
Image App
```

2 Using Scaffolding widgets to expand the UI of mobile app.

2.1 Adding the Scaffolding widgets

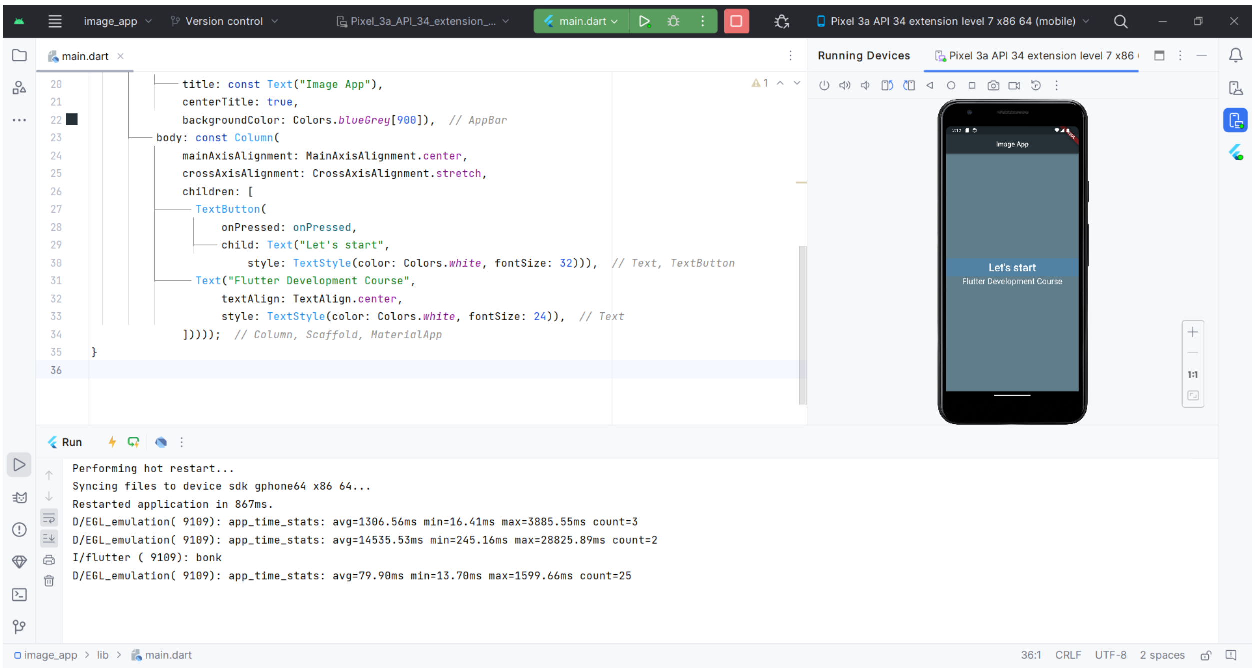


```dart
//   runApp(const MaterialApp(
//       home: Column(mainAxisAlignment: MainAxisAlignment.center, children: [
//     Text("Let's start"),
//     Text("Image App", textAlign: TextAlign.center)
//   ])));
// }

void main() {
  runApp(MaterialApp(
      home: Scaffold(
          backgroundColor: Colors.blueGrey[500],
          appBar: AppBar(
              title: const Text("Image App"),
              centerTitle: true,
              backgroundColor: Colors.blueGrey[900]),  // AppBar
          body: const Column(
              mainAxisAlignment: MainAxisAlignment.center,
              crossAxisAlignment: CrossAxisAlignment.stretch,
              children: [
                Text("Let's start",
                    textAlign: TextAlign.center,
                    style: TextStyle(color: Colors.white, fontSize: 32)),  // Text
                Text("Flutter Development Course",
                    textAlign: TextAlign.center,
                    style: TextStyle(color: Colors.white, fontSize: 24))  // Text
              ]))));  // Column, Scaffold, MaterialApp
}
```

image_app
Version control
Pixel_3a_API_34_extension_...
main.dart
Running Devices
Pixel 3a API 34 extension level 7 x86 64 (mobile)
2:03
Image App
Let's start
Flutter Development Course
image_app > lib > main.dart
31:1 CRLF UTF-8 2 spaces

2.2 Exercise

1. ~~Save the existing source code you wrote in part 2.1 in the Notepad for future reference.~~
2. Modify the Text widget and assign a sentence as 'Let start..' by changing the Text widget with `FlatButton` widget.
3. Save your source code and run the program.
4. Finally, attach a print screen the snapshot of the output



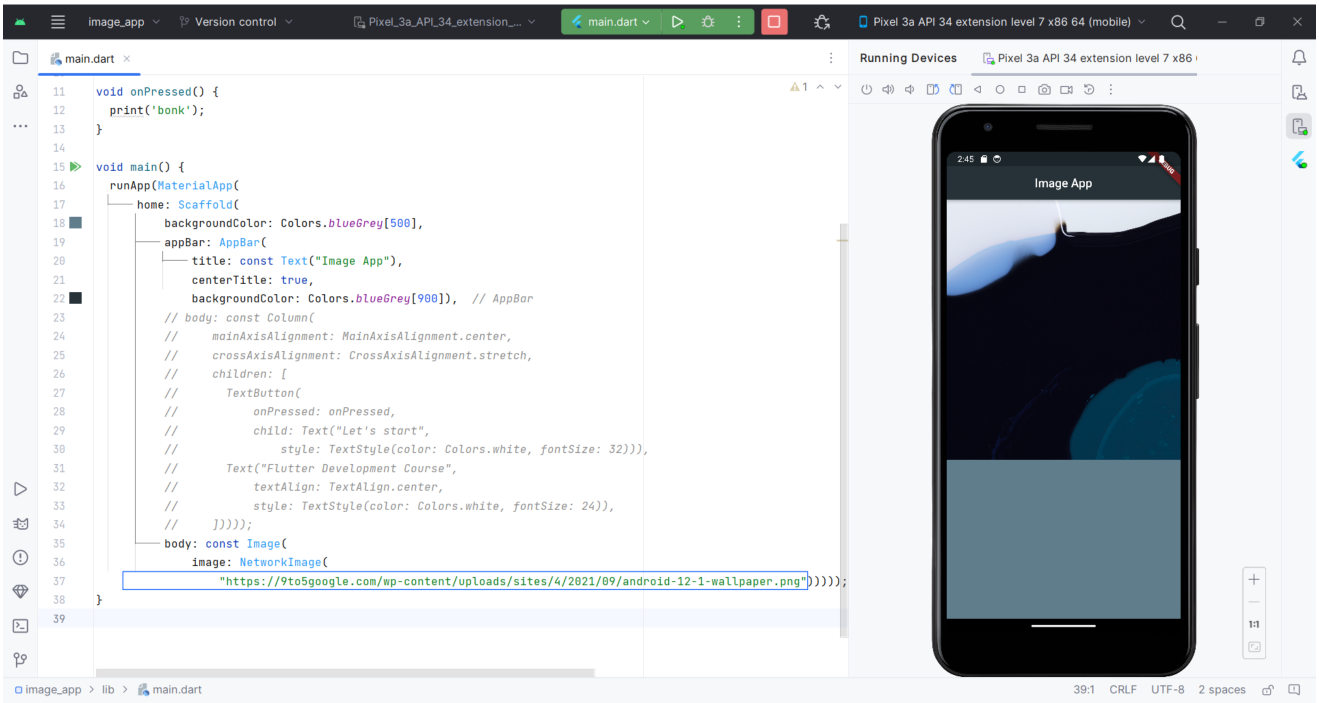
```dart
              title: const Text("Image App"),
              centerTitle: true,
              backgroundColor: Colors.blueGrey[900]),  // AppBar
          body: const Column(
              mainAxisAlignment: MainAxisAlignment.center,
              crossAxisAlignment: CrossAxisAlignment.stretch,
              children: [
                TextButton(
                    onPressed: onPressed,
                    child: Text("Let's start",
                        style: TextStyle(color: Colors.white, fontSize: 32))),  // Text, TextButton
                Text("Flutter Development Course",
                    textAlign: TextAlign.center,
                    style: TextStyle(color: Colors.white, fontSize: 24)),  // Text
              ]))));  // Column, Scaffold, MaterialApp
}
```

```
Performing hot restart...
Syncing files to device sdk gphone64 x86 64...
Restarted application in 867ms.
D/EGL_emulation( 9109): app_time_stats: avg=1306.56ms min=16.41ms max=3885.55ms count=3
D/EGL_emulation( 9109): app_time_stats: avg=14535.53ms min=245.16ms max=28825.89ms count=2
I/flutter ( 9109): bonk
D/EGL_emulation( 9109): app_time_stats: avg=79.90ms min=13.70ms max=1599.66ms count=25
```

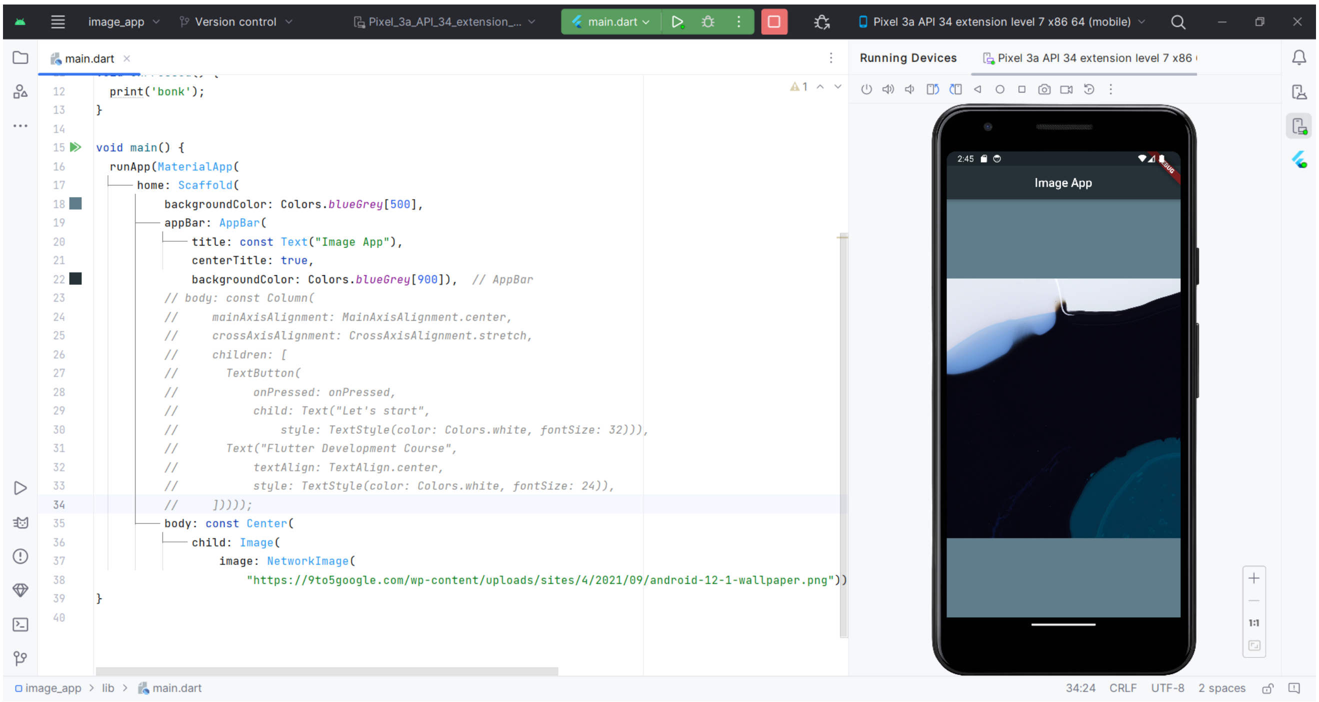
image_app
Version control
Pixel_3a_API_34_extension_...
main.dart
Running Devices
Pixel 3a API 34 extension level 7 x86 64 (mobile)
Image App
Let's start
Flutter Development Course
Run
image_app > lib > main.dart
36:1 CRLF UTF-8 2 spaces

3 Using assets and Modified the `pubspec` Configuration File

3.1 Using Image widget


image_app
Version control
Pixel_3a_API_34_extension_...
main.dart
Pixel 3a API 34 extension level 7 x86 64 (mobile)
Running Devices
Pixel 3a API 34 extension level 7 x86
Image App
image_app > lib > main.dart
39:1 CRLF UTF-8 2 spaces

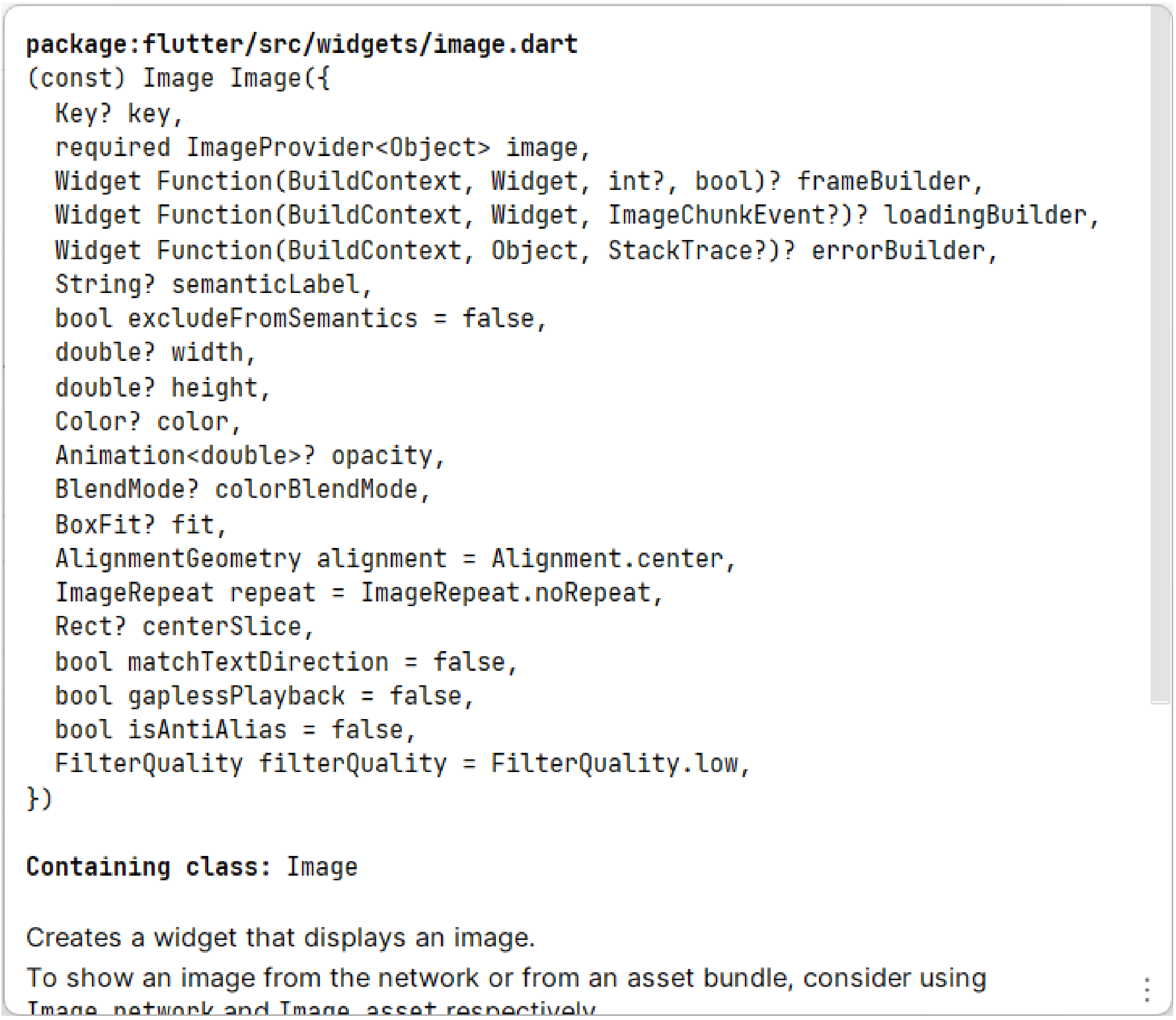
```dart
void onPressed() {
  print('bonk');
}

void main() {
  runApp(MaterialApp(
    home: Scaffold(
      backgroundColor: Colors.blueGrey[500],
      appBar: AppBar(
        title: const Text("Image App"),
        centerTitle: true,
        backgroundColor: Colors.blueGrey[900]),  // AppBar
      // body: const Column(
      //     mainAxisAlignment: MainAxisAlignment.center,
      //     crossAxisAlignment: CrossAxisAlignment.stretch,
      //     children: [
      //       TextButton(
      //           onPressed: onPressed,
      //           child: Text("Let's start",
      //               style: TextStyle(color: Colors.white, fontSize: 32))),
      //       Text("Flutter Development Course",
      //           textAlign: TextAlign.center,
      //           style: TextStyle(color: Colors.white, fontSize: 24)),
      //     ]))));
      body: const Image(
        image: NetworkImage(
            "https://9to5google.com/wp-content/uploads/sites/4/2021/09/android-12-1-wallpaper.png")))));
}
```


image_app
Version control
Pixel_3a_API_34_extension_...
main.dart
Pixel 3a API 34 extension level 7 x86 64 (mobile)
Running Devices
Pixel 3a API 34 extension level 7 x86
Image App
image_app > lib > main.dart
34:24 CRLF UTF-8 2 spaces

```dart
  print('bonk');
}

void main() {
  runApp(MaterialApp(
    home: Scaffold(
      backgroundColor: Colors.blueGrey[500],
      appBar: AppBar(
        title: const Text("Image App"),
        centerTitle: true,
        backgroundColor: Colors.blueGrey[900]),  // AppBar
      // body: const Column(
      //     mainAxisAlignment: MainAxisAlignment.center,
      //     crossAxisAlignment: CrossAxisAlignment.stretch,
      //     children: [
      //       TextButton(
      //           onPressed: onPressed,
      //           child: Text("Let's start",
      //               style: TextStyle(color: Colors.white, fontSize: 32))),
      //       Text("Flutter Development Course",
      //           textAlign: TextAlign.center,
      //           style: TextStyle(color: Colors.white, fontSize: 24)),
      //     ]))));
      body: const Center(
        child: Image(
          image: NetworkImage(
              "https://9to5google.com/wp-content/uploads/sites/4/2021/09/android-12-1-wallpaper.png"))
}
```

3.2 Exercise

1. Provide a list of constructor that available for Image widget.

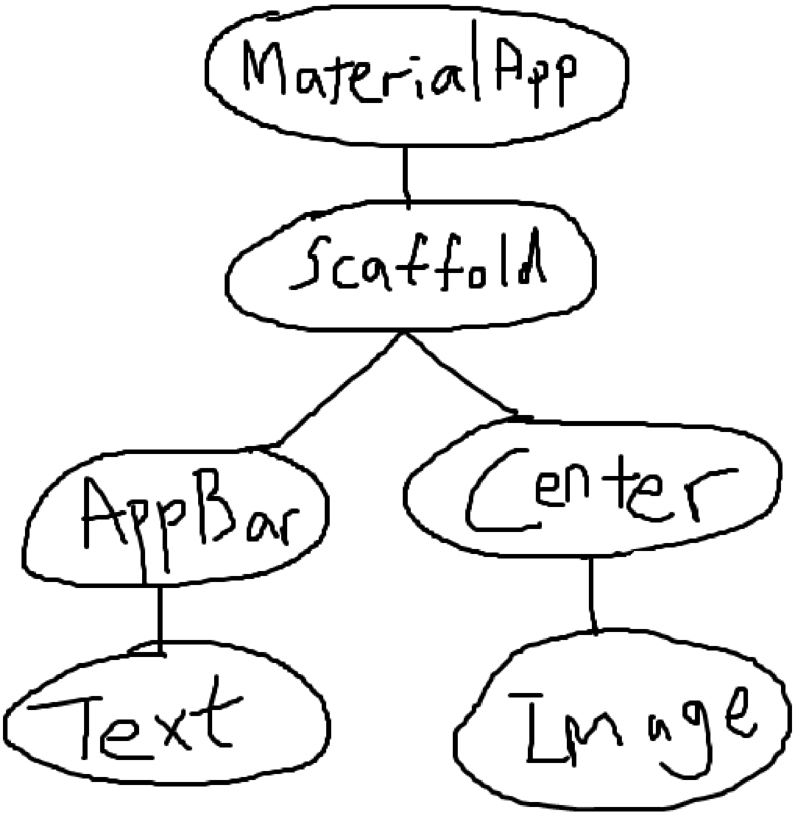


```
package:flutter/src/widgets/image.dart
(const) Image Image({
  Key? key,
  required ImageProvider<Object> image,
  Widget Function(BuildContext, Widget, int?, bool)? frameBuilder,
  Widget Function(BuildContext, Widget, ImageChunkEvent?)? loadingBuilder,
  Widget Function(BuildContext, Object, StackTrace?)? errorBuilder,
  String? semanticLabel,
  bool excludeFromSemantics = false,
  double? width,
  double? height,
  Color? color,
  Animation<double>? opacity,
  BlendMode? colorBlendMode,
  BoxFit? fit,
  AlignmentGeometry alignment = Alignment.center,
  ImageRepeat repeat = ImageRepeat.noRepeat,
  Rect? centerSlice,
  bool matchTextDirection = false,
  bool gaplessPlayback = false,
  bool isAntiAlias = false,
  FilterQuality filterQuality = FilterQuality.low,
})

Containing class: Image
```

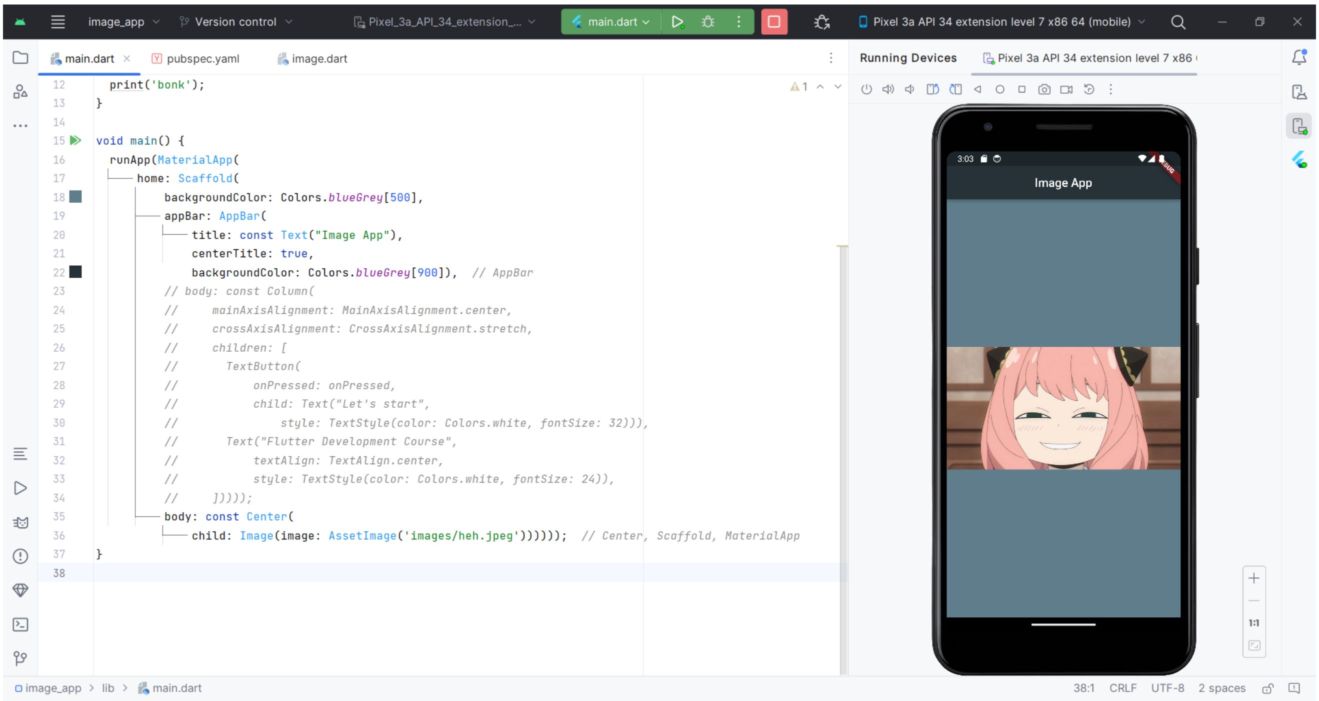
Creates a widget that displays an image.

To show an image from the network or from an asset bundle, consider using Image.network and Image.asset respectively.

2. Draw the widget tree based on the output produced.

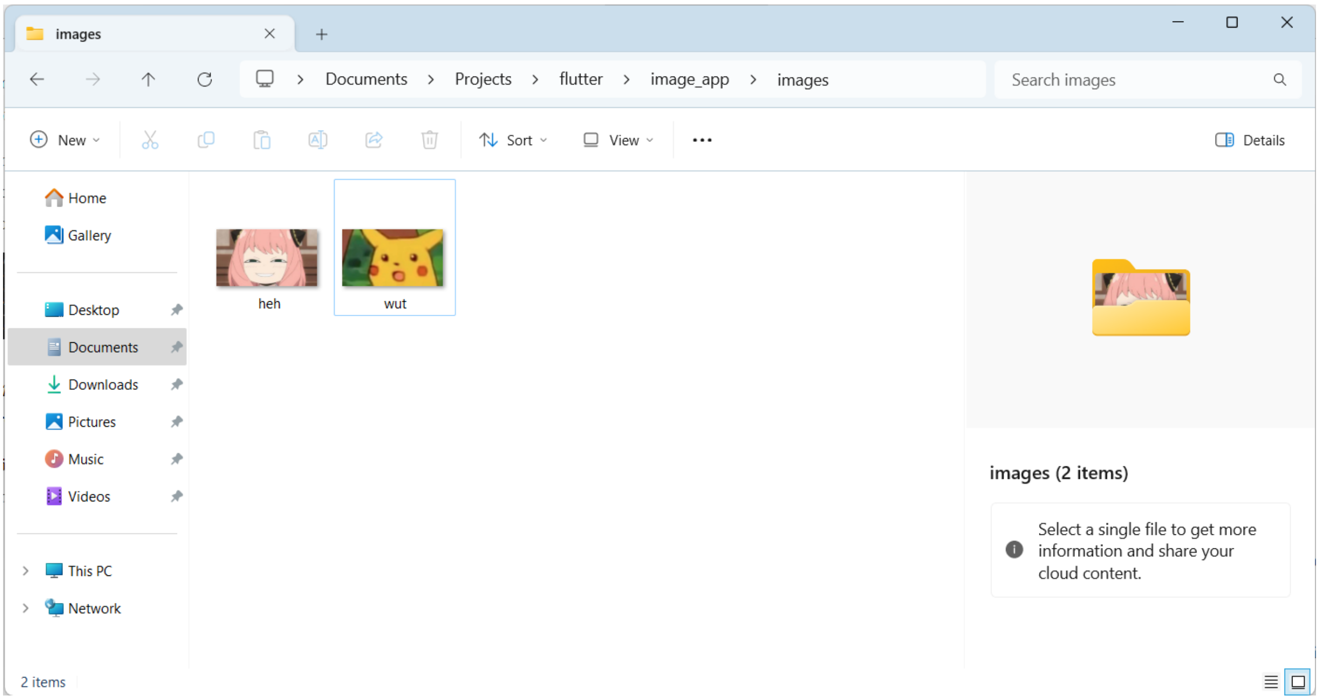


3.3 Using Local Image and Configure `pubspec` File

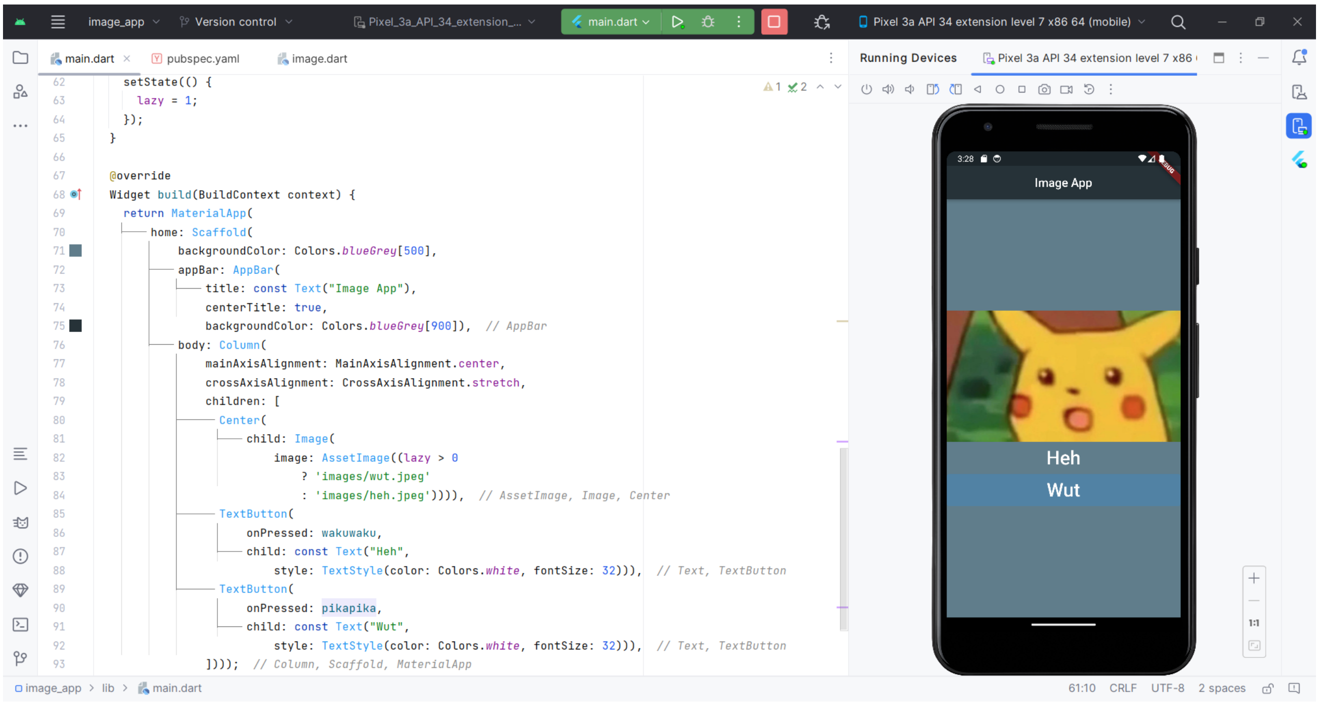

image_app
Version control
Pixel_3a_API_34_extension_...
main.dart
Pixel 3a API 34 extension level 7 x86 64 (mobile)
main.dart
pubspec.yaml
image.dart
Running Devices
Pixel 3a API 34 extension level 7 x86
3:03
Image App
image_app > lib > main.dart
38:1 CRLF UTF-8 2 spaces

```dart
  print('bonk');
}

void main() {
  runApp(MaterialApp(
    home: Scaffold(
      backgroundColor: Colors.blueGrey[500],
      appBar: AppBar(
        title: const Text("Image App"),
        centerTitle: true,
        backgroundColor: Colors.blueGrey[900]),  // AppBar
      // body: const Column(
      //     mainAxisAlignment: MainAxisAlignment.center,
      //     crossAxisAlignment: CrossAxisAlignment.stretch,
      //     children: [
      //       TextButton(
      //           onPressed: onPressed,
      //           child: Text("Let's start",
      //               style: TextStyle(color: Colors.white, fontSize: 32))),
      //       Text("Flutter Development Course",
      //           textAlign: TextAlign.center,
      //           style: TextStyle(color: Colors.white, fontSize: 24)),
      //     ]))));
      body: const Center(
        child: Image(image: AssetImage('images/heh.jpeg'))))));  // Center, Scaffold, MaterialApp
}
```

3.4 Exercise



Select a single file to get more information and share your cloud content.



image_app
Version control
Pixel_3a_API_34_extension_...
main.dart
main.dart
pubspec.yaml
image.dart
Running Devices
Pixel 3a API 34 extension level 7 x86
Pixel 3a API 34 extension level 7 x86 64 (mobile)
3:28
Image App
Heh
Wut
image_app > lib > main.dart
61:10
CRLF
UTF-8
2 spaces

```
    setState(() {
      lazy = 1;
    });
  }

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
        home: Scaffold(
            backgroundColor: Colors.blueGrey[500],
            appBar: AppBar(
                title: const Text("Image App"),
                centerTitle: true,
                backgroundColor: Colors.blueGrey[900]),  // AppBar
            body: Column(
                mainAxisAlignment: MainAxisAlignment.center,
                crossAxisAlignment: CrossAxisAlignment.stretch,
                children: [
                  Center(
                      child: Image(
                          image: AssetImage((lazy > 0
                              ? 'images/wut.jpeg'
                              : 'images/heh.jpeg')))),  // AssetImage, Image, Center
                  TextButton(
                      onPressed: wakuwaku,
                      child: const Text("Heh",
                          style: TextStyle(color: Colors.white, fontSize: 32))),  // Text, TextButton
                  TextButton(
                      onPressed: pikapika,
                      child: const Text("Wut",
                          style: TextStyle(color: Colors.white, fontSize: 32))),  // Text, TextButton
                ])));  // Column, Scaffold, MaterialApp
```