CSM3114 Lab 1

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1 Creating a simple quiz application

1.2 Adding a Layout Widget for Quiz app

```
Android
                                                                                                                                                                                                 Û
                                                              import 'package:flutter/material.dart';
                                                                                                                                           ∨ 🛅 quiz_app
                                                                                                                                                                                                3 ▶ void main() {
                                                                                                                                                                                                🚜 main.dart
        > iii tests
     > 🕞 quiz_app_android
                                                             class MyApp extends StatelessWidget {
                                                               const MyApp({super.key});
                                                               Widget build(BuildContext context) {
                                                                 return MaterialApp(
                                                                   --- home: Scaffold(
                                                                   appBar: AppBar(title: const Text('Quiz App')),
                                                                   body: const Column(
                                                                    children: [
                                                                    Text('Question'),

ElevatedButton(onPressed: null, child: Text('Answer 1')),
                                                                   ElevatedButton(onPressed: null, child: Text('Answer 2')),
ElevatedButton(onPressed: null, child: Text('Answer 3'))
                                                                     1,
                                                                   ), // Column
\triangleright
                                                                 )); // Scaffold, MaterialApp
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□ first_app > lib > € main.dart
                                                                                                                                                               26:1 CRLF UTF-8 2 spaces 🗹 🗓
```

1.3 Exercise: Replace the ElevatedButton widget with OutlineButton widget

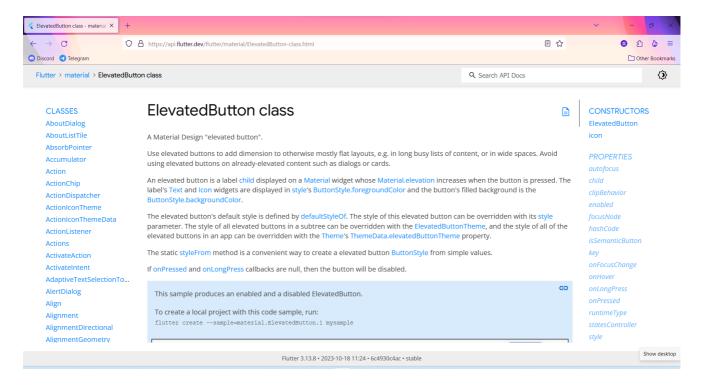
```
Ų
Android
                                                         import 'package:flutter/material.dart';
     ∨ ि quiz_app

    java

                                                                                                                                                                                                        🚜 main.dart
                                                                   runApp(const MyApp());
      > [aquiz_app_android
                                                                class MyApp extends StatelessWidget {
                                                                   const MyApp({super.key});
                                                                  Widget build(BuildContext context) {
                                                                     return MaterialApp(
home: Scaffold(
appBar: AppBar(title: const Text('Quiz App')),
                                                                       body: const Column(
                                                                        children: [
                                                                         — Text('Question'),
                                                                      ElevatedButton(onPressed: null, child: Text('Answer 1')),
ElevatedButton(onPressed: null, child: Text('Answer 2')),
OutlinedButton(onPressed: null, child: Text('Answer 3'))
                                                                        1,
                                                                       ), // Column
                                                                    )); // Scaffold, MaterialApp
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□ first_app > lib > 🐔 main.dart
```

2 The Flutter Official Documentation

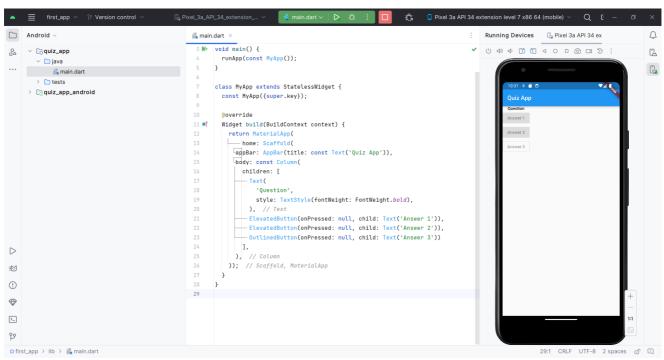
2.1 Finding the Flutter Official Documentation



2.2 Exploring Text Widget

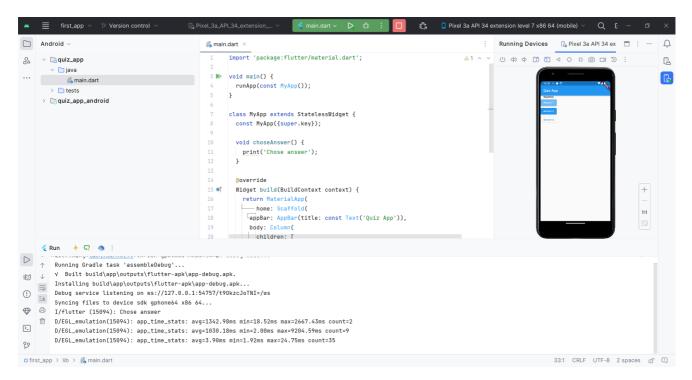
```
package:flutter/src/widgets/text.dart
Text Text(
  String data, {
  Key? key,
  TextStyle? style,
  StrutStyle? strutStyle,
  TextAlign? textAlign,
  TextDirection? textDirection,
  Locale? locale,
  bool? softWrap,
  TextOverflow? overflow,
  double? textScaleFactor,
  int? maxLines,
  String? semanticsLabel,
  TextWidthBasis? textWidthBasis,
  TextHeightBehavior? textHeightBehavior,
  Color? selectionColor,
})
Containing class: Text
Creates a text widget.
If the style argument is null, the text will use
the style from the closest enclosing
DefaultTextStyle.
The data parameter must not be null.
The overflow property's behavior is affected
by the softWrap argument. If the softWrap is
```

```
package:flutter/src/painting/text_style.dart
(const) TextStyle TextStyle({
  bool inherit = true,
  Color? color,
  Color? backgroundColor,
  double? fontSize,
  FontWeight? fontWeight,
  FontStyle? fontStyle,
  double? letterSpacing,
  double? wordSpacing,
  TextBaseline? textBaseline,
  double? height,
  TextLeadingDistribution? leadingDistribution,
  Locale? locale,
  Paint? foreground,
  Paint? background,
  List<Shadow>? shadows,
  List<FontFeature>? fontFeatures,
  List<FontVariation>? fontVariations,
  TextDecoration? decoration,
  Color? decorationColor,
  TextDecorationStyle? decorationStyle,
  double? decorationThickness,
  String? debugLabel,
  String? fontFamily,
  List<String>? fontFamilyFallback,
  String? package,
  TextOverflow? overflow,
})
```



3 Passing Callback function

3.1 Creating function and attach to button



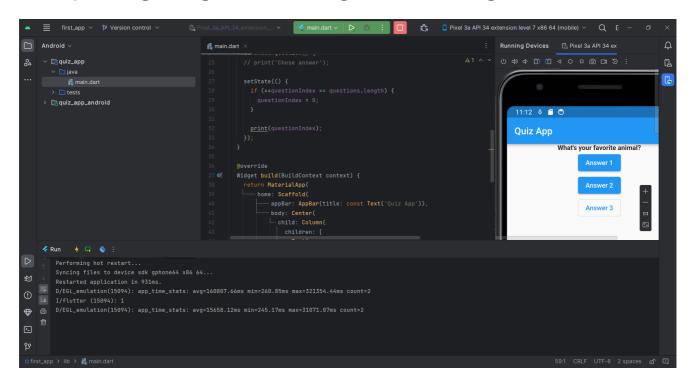
3.2 Using anonymous function

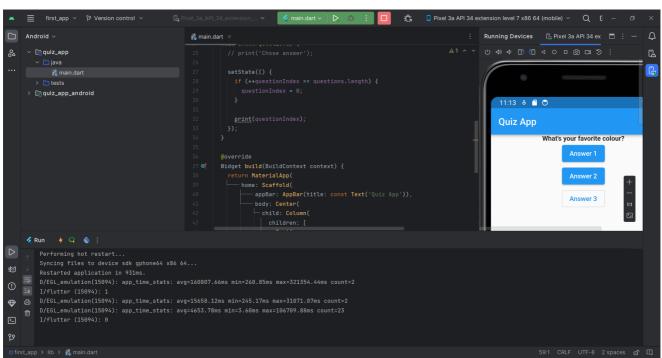
```
first_app
                                                                                                                              Pixel 3a API 34 extension level 7 x86 64 (mobile)
Android

    main.dart →

                                                                                                                                             Running Devices 📴 Pixel 3a API 34 ex 🗖 🗄
                                                                                                                                    A2 ^ < () 4) 4) (1) (1) 4 0 0 0 0 0 5
     ∨ िauiz_app
                                                                   appBar: AppBar(title: const Text('Quiz App')),
body: Column(
         java
           🚜 main.dart
                                                                      children: [
         > 🗀 tests
                                                                       - const Text(
      > 🕞 quiz_app_android
                                                                          'Question'
                                                                         style: TextStyle(fontWeight: FontWeight.bold),
                                                                      ElevatedButton(onPressed: choseAnswer, child: const Text('Answer 1'
                                                                    ElevatedButton(onPressed: choseAnswer, child: const Text('Answer 2'
OutlinedButton(onPressed: () => print('Chose answer 3'), child: co
                                                                    ). // Column
                                                                  )); // Scaffold, MaterialApp
      Performing hot restart...
¥
         Restarted application in 1,137ms.
    D/EGL_emulation(15094): app_time_stats: avg=13175.76ms min=2.18ms max=197565.70ms count=15
(!)
    D/EGL_emulation(15094): app_time_stats: avg=7027.63ms min=279.06ms max=13776.20ms count=2
         D/EGL_emulation(15094): app_time_stats: avg=16.31ms min=9.30ms max=21.94ms count=61
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□ first_app > lib > 👢 main.dart
```

3.3 Updating Widget Data using Stateful Widget





3.4 Exercise

```
Running Devices 🔓 Pixel 3a API 34 ex 🗖 🗄 —
main.dart ×
                             Hext(
                                                                                                                               04
                                                                                                                                                                                        questions[questionIndex]['question'].toString(),
                             fontWeight: FontWeight.bold, fontSize: 24), // TextStyle
), // Text
                               style: const TextStyle(
                                                                                                                                                                                       G
                                   onPressed: answerQuestion, child: const Text('Answer 1')),
                                                                                                                                                   What's your preferred type of
                             // ElevatedButton(
                                    onPressed: answerQuestion, child: const Text('Answer 2')),
                             // OutlinedButton(
                                   onPressed: answerOuestion, child: const Text('Answer 3'))
                              ...answers.map((answer) => ElevatedButton(
                                   onPressed: answerQuestion,
child: Text(answer),
                                )), // ElevatedButton
                                                                                                                                                                                 +
                           1,
                         )), // Column, Center
                        ))); // Padding, Scaffold, MaterialApp
             }
     Running Gradle task 'assembleDebug'...
         V Built build\app\outputs\flutter-apk\app-debug.apk.
₩
    Installing build\app\outputs\flutter-apk\app-debug.apk...

Debug service listening on ws://127.0.0.1:54405/-fihIIuMR2Y=/ws
① Debug service listening on ws://xz/...

Syncing files to device sdk gphone64 x86 64...

→ □ I/flutter ( 6868): 1
    m D/EGL_emulation( 6868): app_time_stats: avg=13808.54ms min=3.62ms max=27613.46ms count=2
>_
         D/EGL_emulation( 6868): app_time_stats: avg=1079.01ms min=20.13ms max=2137.90ms count=2
         I/flutter ( 6868): 2
99
□ quiz_app > lib > 🚜 main.dart
                                                                                                                                              77:1 CRLF UTF-8 2 spaces 🕤 🗓
```

3.X Extras