

LAB ASSIGNMENTS

ADVANCE PYTHON PROGRAMMING

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Q) web application using flutter

Code:

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

/// DATA_MODEL

/// Manages the counter's state and notifies listeners of changes.
class CounterData extends ChangeNotifier {
    int _count = 0;
    /// The current count value.
    int get count => _count;
    /// Increments the counter and notifies all listeners.
    void increment() {
        _count++;
        notifyListeners();
    }
}

class MyApp extends StatelessWidget {
    const MyApp({super.key});

    @override
    Widget build(BuildContext context) {
        return ChangeNotifierProvider<CounterData>(
```

```
// Create an instance of CounterData.

create: (BuildContext context) => CounterData(),

// Use the builder parameter as per instructions.

builder: (BuildContext context, Widget? child) {

  return MaterialApp(
    title: 'Cute Counter App',
    theme: ThemeData(
      useMaterial3: true,
      colorScheme: ColorScheme.fromSeed(
        seedColor: Colors.pink.shade200,
        brightness: Brightness.light,
      ),
      appBarTheme: AppBarTheme(
        backgroundColor: Colors.pink.shade100,
        foregroundColor: Colors.deepPurple,
        elevation: 4,
      ),
    ),
    // Fix: Use CardThemeData instead of CardTheme
    cardTheme: CardThemeData(
      shape: RoundedRectangleBorder(
        borderRadius: BorderRadius.circular(20),
      ),
      elevation: 8,
      color: Colors.white,
    ),
    elevatedButtonTheme: ElevatedButtonThemeData(
      style: ElevatedButton.styleFrom(
        backgroundColor: Colors.deepPurple.shade300,
        foregroundColor: Colors.white,
        shape: RoundedRectangleBorder(
          borderRadius: BorderRadius.circular(15),
        ),
      ),
    ),
  );
}
```

```
        ),
        padding:
            const EdgeInsets.symmetric(horizontal: 30, vertical: 15),
        textStyle:
            const TextStyle(fontSize: 18, fontWeight: FontWeight.bold),
        ),
    ),
    textTheme: TextTheme(
        displayLarge: TextStyle(
            fontSize: 72,
            fontWeight: FontWeight.bold,
            color: Colors.pink.shade800),
        headlineSmall: TextStyle(
            fontSize: 24,
            fontWeight: FontWeight.w600,
            color: Colors.deepPurple.shade700),
        bodyLarge: const TextStyle(fontSize: 18, color: Colors.black87),
        bodyMedium: const TextStyle(fontSize: 16, color: Colors.black54),
    ),
),
home: const CuteCounterHomePage(),
debugShowCheckedModeBanner: false,
);
},
);
}
}

class CuteCounterHomePage extends StatelessWidget {
const CuteCounterHomePage({super.key});
```

```
@override
Widget build(BuildContext context) {
    final TextTheme textTheme = Theme.of(context).textTheme;
    // Listen to changes in CounterData provided by the ancestor.
    final CounterData counterData = Provider.of<CounterData>(context);

    return Scaffold(
        appBar: AppBar(
            title: const Text('Cute Counter Fun!'),
            centerTitle: true,
        ),
        body: Center(
            child: Padding(
                padding: const EdgeInsets.all(20.0),
                child: Card(
                    child: Padding(
                        padding: const EdgeInsets.all(32.0),
                        child: Column(
                            mainAxisSize: MainAxisSize.min,
                            children: <Widget>[
                                Icon(
                                    Icons.favorite,
                                    size: 80,
                                    color: Colors.pink.shade400,
                                ),
                                const SizedBox(height: 24),
                                Text(
                                    'You clicked me!',
                                    style: textTheme.headlineSmall,
                                ),
                                const SizedBox(height: 12),
                            ],
                        ),
                    ),
                ),
            ),
        ),
    );
}
```

```
// Display the count from the data model.  
Text(  
  '${counterData.count} times!',  
  style: textTheme.displayLarge?.copyWith(fontSize: 64),  
,  
  const SizedBox(height: 30),  
  ElevatedButton.icon(  
    // Call the increment method from the data model.  
    onPressed: counterData.increment,  
    icon: const Icon(Icons.add_circle_outline),  
    label: const Text('Tap for Joy!'),  
,  
  ],  
,  
,  
,  
,  
);  
}  
}
```

screenshot:

```
1 import 'package:flutter/material.dart';
2 import 'package:provider/provider.dart';
3
4 /// DATA_MODEL
5 /// Manages the counter's state and notifies listeners of changes.
6 class CounterData extends ChangeNotifier {
7     int _count = 0;
8
9     /// The current count value.
10    int get count => _count;
11
12    /// Increments the counter and notifies all listeners.
13    void increment() {
14        _count++;
15        notifyListeners();
16    }
17 }
18
19 class MyApp extends StatelessWidget {
20     const MyApp({super.key});
21
22     @override
23     Widget build(BuildContext context) {
24         return ChangeNotifierProvider<CounterData>(
25             // Create an instance of CounterData.
26             create: (BuildContext context) => CounterData(),
27             // Use the builder parameter as per instructions.
28             builder: (BuildContext context, Widget? child) {
29                 return MaterialApp(
30                     title: 'Cute Counter App',
31                     theme: ThemeData(
32                         useMaterial3: true,
33                         colorScheme: ColorScheme.fromSeed(
34                             seedColor: Colors.pink.shade200,
35                             brightness: Brightness.light,
36                         ),
37                         appBarTheme: AppBarTheme(
38                             backgroundColor: Colors.pink.shade100,
39                             foregroundColor: Colors.deepPurple,
40                             elevation: 4,
41                         ),
42                         // Fix: Use CardThemeData instead of CardTheme
43                         cardTheme: CardThemeData(
44                             shape: RoundedRectangleBorder(
45                                 borderRadius: BorderRadius.circular(20),
46                             ),
47                             elevation: 8,
48                             color: Colors.white,
49                         ),
50                         elevatedButtonTheme: ElevatedButtonThemeData(
51                             style: ElevatedButton.styleFrom(
52                                 backgroundColor: Colors.deepPurple.shade300,
53                                 foregroundColor: Colors.white,
54                                 shape: RoundedRectangleBorder(
55                                     borderRadius: BorderRadius.circular(15),
56                             ),
57                         ),
58                     ),
59                     debugShowCheckedModeBanner: false,
60                 );
61             },
62         );
63     }
64 }
```

```
28         builder: (BuildContext context, Widget? child) {
29             return MaterialApp(
30                 title: 'Cute Counter App',
31                 theme: ThemeData(
32                     useMaterial3: true,
33                     colorScheme: ColorScheme.fromSeed(
34                         seedColor: Colors.pink.shade200,
35                         brightness: Brightness.light,
36                     ),
37                     appBarTheme: AppBarTheme(
38                         backgroundColor: Colors.pink.shade100,
39                         foregroundColor: Colors.deepPurple,
40                         elevation: 4,
41                     ),
42                     // Fix: Use CardThemeData instead of CardTheme
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44                         shape: RoundedRectangleBorder(
45                             borderRadius: BorderRadius.circular(20),
46                         ),
47                         elevation: 8,
48                         color: Colors.white,
49                     ),
50                     elevatedButtonTheme: ElevatedButtonThemeData(
51                         style: ElevatedButton.styleFrom(
52                             backgroundColor: Colors.deepPurple.shade300,
53                             foregroundColor: Colors.white,
54                             shape: RoundedRectangleBorder(
55                                 borderRadius: BorderRadius.circular(15),
56                             ),
57                         ),
58                     ),
59                     debugShowCheckedModeBanner: false,
60                 );
61             );
62         },
63     );
64 }
```

```
55     borderRadius: BorderRadius.circular(15),
56   ),
57   padding:
58     const EdgeInsets.symmetric(horizontal: 30, vertical: 15),
59   textStyle:
60     const TextStyle(fontSize: 18, fontWeight: FontWeight.bold),
61   ),
62   ),
63   textTheme: TextTheme(
64     displayLarge: TextStyle(
65       fontSize: 72,
66       fontWeight: FontWeight.bold,
67       color: Colors.pink.shade800),
68     headlineSmall: TextStyle(
69       fontSize: 24,
70       fontWeight: FontWeight.w600,
71       color: Colors.deepPurple.shade700),
72     bodyLarge: const TextStyle(fontSize: 18, color: Colors.black87),
73     bodyMedium: const TextStyle(fontSize: 16, color: Colors.black54),
74   ),
75   ),
76   home: const CuteCounterHomePage(),
77   debugShowCheckedModeBanner: false,
78 );
79 },
80 );
81 }
82 }
```

```
100
101   size: 60,
102   color: Colors.pink.shade4
103 ),
104 const SizedBox(height: 24),
105 Text(
106   'You clicked me!',
107   style: textTheme.headlineSmall,
108 ),
109 const SizedBox(height: 12),
110 // Display the count from the data model.
111 Text(
112   '${counterData.count} times!',
113   style: textTheme.displayLarge?.copyWith(fontSize: 64),
114 ),
115 const SizedBox(height: 30),
116 ElevatedButton.icon(
117   // Call the increment method from the data model.
118   onPressed: counterData.increment,
119   icon: const Icon(Icons.add_circle_outline),
120   label: const Text('Tap for Joy!'),
121   ),
122   ],
123   ),
124   ),
125   ),
126   );
127 }
```

Cute Counter Fun!



You clicked me!

22 times!

⊕ Tap for Joy!