

FLUTTER::

2. a) Explore various Flutter widgets (Text, Image, Container, etc.).

Text Widget:

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

```
void main(){
```

```
  runApp(MyApp());
```

```
}
```

```
class MyApp extends StatelessWidget{
```

```
  @override
```

```
  Widget build(BuildContext context){
```

```
    return MaterialApp(
```

```
      home:Scaffold(
```

```
        backgroundColor: Colors.green,
```

```
        appBar:AppBar(
```

```
          title:Text('This is the header'),
```

```
          backgroundColor: Colors.blue,
```

```
        ),
```

```
        body:Center(
```

```
          child:Text(
```

```
            'Hello World',
```

```
          ),
```

```
        ),
```

```
      ),
```

```
    );
```

```
}
```

```
}
```

Container widget

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

```
void main() {
```

```
  runApp(MyApp());
```

```
}
```

```
class MyApp extends StatelessWidget {
```

```
  @override
```

```
  Widget build(BuildContext context) {
```

```
    return MaterialApp(
```

```
      home: Scaffold(
```

```
        appBar: AppBar(
```

```
          title: Text('Container Example'),
```

```
        ),
```

```
        body: Container(
```

```
          height: 200,
```

```
          color: Colors.purple,
```

```
          alignment: Alignment.center,
```

```
          child: Text(
```

```
            'Hello! I am inside a container!',
```

```
          ),
```

```
        ),
```

```
      ),
```

```
    );
```

```
}
```

```
}
```

3.Design a responsive UI that adapts to different screen sizes using Dart Language.

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

void main() => runApp(MyApp());

class MyApp extends StatelessWidget {

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(title: Text('Responsive UI')),
        body: LayoutBuilder(
          builder: (context, constraints) {
            // Check screen width
            if (constraints.maxWidth < 600) {
              return Center(
                child: Text('Small Screen',
                  style: TextStyle(fontSize: 20, color: Colors.blue)),
              );
            } else {
              return Center(
                child: Text('Large Screen',
                  style: TextStyle(fontSize: 30, color: Colors.green)),
              );
            }
          },
        ),
      );
  }
}
```

5) Design a form with various input fields using Dart Language.

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

void main() => runApp(MyApp());

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(title: Text('Simple Form')),
        body: Padding(
          padding: EdgeInsets.all(20),
          child: Column(
            children: [
              TextField(decoration: InputDecoration(labelText: 'Name')),
              TextField(decoration: InputDecoration(labelText: 'Email')),
              TextField(
                decoration: InputDecoration(labelText: 'Password'),
                obscureText: true,
              ),
              SizedBox(height: 20),
              ElevatedButton(
                onPressed: () {
                  print('Form Submitted!');
                },
                child: Text('Submit'),
              ),
            ],
          ),
        ),
      ),
    );
  }
}
```

```
    ),  
    ),  
);  
}  
}
```

Stateless Widget Example

```
import 'package:flutter/material.dart';  
  
void main()=>  
  runApp(MyApp());  
  
class MyApp extends StatelessWidget{  
  Widget build(BuildContext context){  
    return MaterialApp(  
      home:Scaffold(  
        appBar:AppBar(title:Text('Stateless Widget'),  
          backgroundColor:Colors.blue  
        ),  
        body:Center(  
          child:  
            Text('This is text Stateless',  
              style:TextStyle(fontSize:20),  
            ),  
        ),  
        backgroundColor:Colors.green,  
      ),
```

```
);  
}  
}
```

STATEFUL:

```
import 'package:flutter/material.dart';  
  
void main() => runApp(MyApp());  
  
class MyApp extends StatefulWidget {  
  @override  
  State<MyApp> createState() => _MyAppState();  
}  
  
class _MyAppState extends State<MyApp> {  
  int count = 0;  
  
  @override  
  Widget build(BuildContext context) {  
    return MaterialApp(  
      home: Scaffold(  
        appBar: AppBar(title: Text('Simple Counter')),  
        body: Center(  
          child: Column(  
            children: [  
              Text('Count: $count', style: TextStyle(fontSize: 24)),  
              ElevatedButton(  
                onPressed: () => setState(() => count++),  
                child: Text('Add'),  
              ),  
            ],  
          ),  
        ),  
      ),  
    );  
  }  
}
```

```
        ],
        ),
        ),
        );
    }
}
```

NAVIGATOR:

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

void main() => runApp(MaterialApp(home: FirstPage()));

class FirstPage extends StatelessWidget {
    @override
    Widget build(BuildContext context) {
        return Scaffold(
            appBar: AppBar(title: Text('First Page')),
            body: Center(
                child: ElevatedButton(
                    child: Text('Go to Second Page'),
                    onPressed: () {
                        Navigator.push(
                            context,
                            MaterialPageRoute(builder: (context) => SecondPage()),
                        );
                    },
                ),
            ),
        );
    }
}
```

```
        ),  
        ),  
    );  
}  
  
}  
  
class SecondPage extends StatelessWidget {  
  
    @override  
    Widget build(BuildContext context) {  
        return Scaffold(  
            appBar: AppBar(title: Text('Second Page')),  
            body: Center(  
                child: ElevatedButton(  
                    child: Text('Go Back'),  
                    onPressed: () {  
                        Navigator.pop(context);  
                    },  
                ),  
            ),  
        );  
    }  
}
```

ANIMATED:

```
import 'package:flutter/material.dart';  
  
void main() {
```

```
runApp(MyApp());  
}  
  
class MyApp extends StatefulWidget {  
    @override  
    _MyAppState createState() => _MyAppState();  
}  
  
class _MyAppState extends State<MyApp> {  
    double boxSize = 100.0;  
  
    void changeSize(){  
        setState((){  
            boxSize= boxSize==100.0 ? 200.0 : 100.0;  
        });  
    }  
    @override  
    Widget build(BuildContext context) {  
        return MaterialApp(  
            home: Scaffold(  
                appBar: AppBar(title: Text('Simple Animation')),  
                body: Center(  
                    child: Column(  
                        children:[  
                            AnimatedContainer(  
                                height:boxSize,  
                                width:boxSize,  
                                color:Colors.blue,  
                                duration:Duration(seconds:1),  
                            ),  
                        ],  
                    ),  
                ),  
            ),  
    }  
}
```

```
ElevatedButton(  
    onPressed:changeSize,  
    child:Text('Click to Animate'),  
),  
],  
,  
,  
,  
);  
}  
}
```