1. What are the 4 OOP principles? And explain any one of them with providing an example.

2. What are the types of UML diagrams? And what is a class diagram?

3. What are the 3 types of Inheritance and which types supported by Dart ?

4. What is the difference between Class and Object? Please provide a short example in Dart to show how creating a class and an object by using this class.

5. What is Flutter and in which cases its better to avoid using it?

6. Flutter has 4 main layers, explain them briefly.

7. There are so many widgets when building a Flutter app, please mention 4 of the widgets that you'll probably use them when creating any application.

8. What is the type of the data in the code snippet below:-

   - *local database*

   - *JSON-based API*

   - **hard-coded data in this chapter**

```
static List<Recipe> samples = [
  Recipe(
    'Spaghetti and Meatballs',
    'assets/2126711929_ef763de2b3_w.jpg',
  ),
  Recipe(
    'Tomato Soup',
    'assets/27729023535_a57606c1be.jpg',
  ),
  Recipe(
    'Grilled Cheese',
    'assets/3187380632_5056654a19_b.jpg',
  ),
  Recipe(
    'Chocolate Chip Cookies',
    'assets/15992102771_b92f4cc00a_b.jpg',
  ),
  Recipe(
    'Taco Salad',
    'assets/8533381643_a31a99e8a6_c.jpg',
  ),
  Recipe(
    'Hawaiian Pizza',
    'assets/15452035777_294cefced5_c.jpg',
  ),
];
```

9- Explain the following code snippet line by line

```
// 4
child: ListView.builder(
  // 5
  itemCount: Recipe.samples.length,
  // 6
  itemBuilder: (BuildContext context, int index) {
    // 7
    // TODO: Update to return Recipe card
    return Text(Recipe.samples[index].label);
  },
),
```

10- Which tool in Flutter, allows you to see the Widgets Tree of your app?

11- Describe 4 of the following widgets:
SizedBox, Container, Slider,   Column, Scaffold, Padding, Center, GestureDetector.

12- If I asked you to build this Flutter iOS application below, then its good idea to start drawing the widget tree before starting to build the app. Please draw the Widget Tree according the provided screen.