Experiment 4

Aim: Develop a mobile application that interacts with a icons.

Objectives:

- To design a simple Flutter application with interactive icons.
- To implement functionality for each icons.

Theory:

Flutter is an open-source UI toolkit that allows developers to build natively compiled applications for mobile, web, and desktop from a single codebase. It provides a rich set of pre-designed widgets, including interactive icons, that can be customized and animated.

Icons in Flutter are implemented using the Icon widget, often wrapped inside an IconButton for interactivity. State management (e.g., StatefulWidget) is essential for handling user interactions such as tapping, pressing, or toggling states.

For this experiment, we will use:

- **Spotify-style icons**: Message, song, star, and camera.
- **Flutter's built-in widgets**: Icon, IconButton, GestureDetector, and AnimatedContainer for smooth transitions.
- **State management**: StatefulWidget to handle interactions.

The expected outcome is a functional mobile app where:

- Tapping the **message** icon opens a chat screen.
- Tapping the **song** icon plays or pauses a song.
- Tapping the **star** icon toggles its filled/unfilled state.
- Tapping the **camera** icon triggers an image capture function.

Code:

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


void main() {
 runApp(TabBarDemo());
}


class TabBarDemo extends StatelessWidget {
```
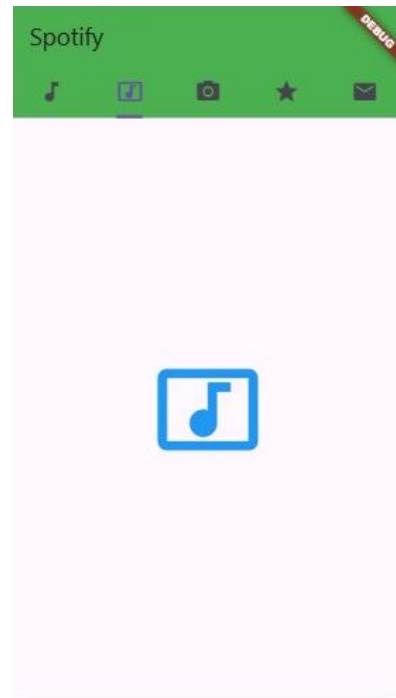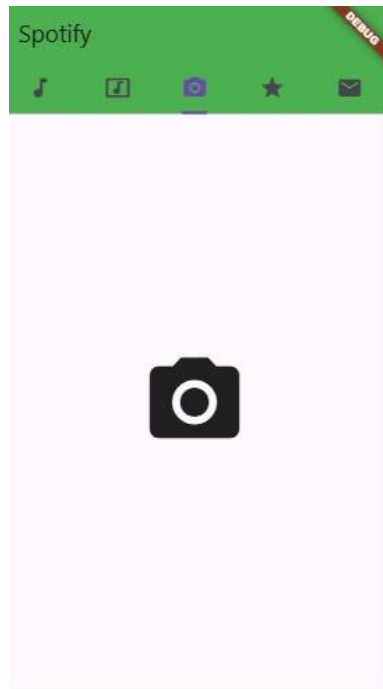
```dart
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: DefaultTabController(
        length: 5,
        child: Scaffold(
          appBar: AppBar(
            bottom: TabBar(
              tabs: [
                Tab(icon: Icon(Icons.music_note)),
                Tab(icon: Icon(Icons.music_video)),
                Tab(icon: Icon(Icons.camera_alt)),
                Tab(icon: Icon(Icons.grade)),
                Tab(icon: Icon(Icons.email)),
              ],
            ),
            title: Text('GeeksForGeeks'),
            backgroundColor: Colors.green,
          ),
          body: TabBarView(
            children: [
              Icon(Icons.music_note,
                  size: 100),
              Icon(Icons.music_video,
                  color: Colors.blue,
                  size: 100),
              Icon(Icons.camera_alt,
                  semanticLabel: 'Camera',
                  size: 100),
              Icon(Icons.grade,
                color: Colors.red,
                size: 300,
                semanticLabel: 'Star',),
              Icon(Icons.email),
```

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

Output

Learning Outcome