Exp No: 3

Aim: To include icons, images, fonts in Flutter app

Theory:

1) **NetworkImage:**
   Purpose: The NetworkImage widget is specifically designed to load and display images from URLs on the internet.
   Usage: You provide the URL of the image you want to display as a string parameter to the NetworkImage constructor.
   Loading: It handles the process of fetching the image from the network asynchronously, which means it won't block the UI thread while waiting for the image to download.
   Caching: Flutter's image caching mechanism helps improve performance by caching images, reducing unnecessary network requests.

2) **Icon:**
   Purpose: The Icon widget is used to display vector icons in Flutter apps. It's commonly used to represent actions, buttons, or other UI elements.
   IconData: Icons are represented by IconData objects, each of which uniquely identifies an icon. Flutter provides a set of built-in icons through the Icons class.
   Customization: Icons can be customized using the color, size, and semanticLabel properties. Additionally, you can customize the appearance of icons using the IconTheme widget.

3) **Image**
   Purpose: The Image widget is a versatile tool for displaying images in Flutter apps, supporting various image sources such as assets, files, memory, and network URLs.
   Source Types: Depending on the source of the image, you can use different constructors such as AssetImage, FileImage, MemoryImage, and NetworkImage.

Performance: Flutter optimizes image loading and rendering for better performance. It also provides features like image caching and image format decoding to improve efficiency.

Code:

```dart
import 'package:flutter/material.dart';
import 'package:font_awesome_flutter/font_awesome_flutter.dart';
import 'package:ig/core/constants/app_colors.dart';
import 'package:ig/core/constants/constants.dart';
import 'package:ig/core/widgets/round_icon_button.dart';

class HomeScreen extends StatefulWidget {
  const HomeScreen({Key? key}) : super(key: key);

  static const routeName = '/home';

  @override
  State<HomeScreen> createState() => _HomeScreenState();
}

class _HomeScreenState extends State<HomeScreen> with
TickerProviderStateMixin {
  late final TabController _tabController;

  @override
  void initState() {
    _tabController = TabController(length: 5, vsync: this);
    super.initState();
  }

  @override
  void dispose() {
    _tabController.dispose();
    super.dispose();
  }

  @override
```

```dart
Widget build(BuildContext context) {
  return Scaffold(
    backgroundColor: AppColors.greyColor,
    appBar: AppBar(
      backgroundColor: AppColors.whiteColor,
      elevation: 0,
      title: _buildFacebookText(),
      actions: [
        _buildSearchWidget(),
        _buildMessengerWidget(),
      ],
    ),
    body: TabBarView(
      controller: _tabController,
      children: Constants.screens,
    ),
    bottomNavigationBar: Material(
      color: AppColors.whiteColor,
      child: TabBar(
        tabs: Constants.getHomeScreenTabs(_tabController.index),
        controller: _tabController,
        onTap: (index) {
          setState(() {});
        },
      ),
    ),
  );
}

Widget _buildFacebookText() => const Text(
      'Instagram',
      style: TextStyle(
        color: AppColors.blackColor,
        fontSize: 30,
        fontWeight: FontWeight.bold,
      ),
    );
```

```
Widget _buildSearchWidget() => const RoundIconButton(
    icon: FontAwesomeIcons.heart,
  );


Widget _buildMessengerWidget() => InkWell(
    onTap: () {},
    child: const RoundIconButton(
      icon: FontAwesomeIcons.facebookMessenger,
    ),
  );
}
```

Output: