Flutter Assignment
BMI_Calculator

Sudarshan.M.S
[CB.EN.U4CSE18258]

Code

main.dart file -

```dart
import 'package:BMI_calculator/screens/results_page.dart';
import 'package:flutter/material.dart';

import 'screens/input_page.dart';

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

class BMICalculator extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      theme: ThemeData.dark().copyWith(
        primaryColor: Color(0xFF0A0E21),
        scaffoldBackgroundColor: Color(0xFF0A0E21),
      ),
      home: InputPage(),
      routes: {
        ResultPage.routeName: (context) => ResultPage(),
      },
    );
  }
}
```

Constant.dart -

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

const kBottomContainerHeight = 80.0;
const kBottomContainerColor = Color(0xFFEB1555);
const kActiveCardColor = Color(0xFF1D1E33);
const kInActiveCardColor = Color(0xFF111328);

const kLabelStyle = TextStyle(
  fontSize: 18.0,
  color: Color(0xFF8D8E98),
);

const kNumberTextStyle = TextStyle(
  fontSize: 50.0,
  fontWeight: FontWeight.w900,
);
```

```dart
const kLargeButtonTextStyle = TextStyle(
  fontSize: 25.0,
  fontWeight: FontWeight.bold,
);

const kTitleTextStyle = TextStyle(
  fontSize: 50.0,
  fontWeight: FontWeight.bold,
);

const kResultTextStyle = TextStyle(
  color: Color(0xFF24D876),
  fontSize: 22.0,
  fontWeight: FontWeight.bold,
);

const kBMITextStyle = TextStyle(
  fontSize: 100.0,
  fontWeight: FontWeight.bold,
);

const kBodyTextStyle = TextStyle(
  fontSize: 22.0,
);
```

BMI Calculator Math(Calculator-Brain.dart):-

```dart
import 'dart:math';

class CalculatorBrain {
  CalculatorBrain({this.height, this.weight});

  final int height;
  final int weight;
  double _bmi;

  String calculateBMI() {
    _bmi = weight / pow(height / 100, 2);
    return _bmi.toStringAsFixed(1);
  }

  String getResult() {
    if (_bmi >= 25) {
      return 'Overweight';
    } else if (_bmi > 18.5) {
      return 'Normal';
    } else {
      return 'Underweight';
    }
  }

  String getInterpretation() {
    if (_bmi >= 25) {
```

```
      return 'You have higher than normal body weight. Try exercising
more.';
    } else if (_bmi > 18.5) {
      return 'You have a normal body weight. Good job!.';
    } else {
      return 'You have lower than normal body weight. You can eat bit
more.';
    }
  }
}
```

Screens:-

Results Page:-

```
import 'package:BMI_calculator/components/reusable_card.dart';
import 'package:BMI_calculator/constant.dart';
import 'package:flutter/cupertino.dart';
import 'package:flutter/material.dart';
import '../components/bottom_button.dart';

class ResultPage extends StatelessWidget {
  static const routeName = '/result';
  ResultPage({this.bmiResult, this.resultText, this.interpretation});

  final String bmiResult;
  final String resultText;
  final String interpretation;
  @override
  Widget build(BuildContext context) {
    final ResultPage resultPage = ModalRoute.of(context).settings.arguments;
    return Scaffold(
      appBar: AppBar(
        title: Text('BMI CALCULATOR'),
      ),
      body: Column(
        mainAxisAlignment: MainAxisAlignment.spaceEvenly,
        crossAxisAlignment: CrossAxisAlignment.stretch,
        children: [
          Expanded(
            child: Container(
              alignment: Alignment.bottomLeft,
              padding: EdgeInsets.all(15.0),
              child: Text(
                'Your result',
                style: kTitleTextStyle,
              ),
            ),
          ),
          Expanded(
            flex: 5,
            child: ReusableCard(
              colour: kActiveCardColor,
```

```dart
        cardChild: Column(
          mainAxisAlignment: MainAxisAlignment.spaceEvenly,
          crossAxisAlignment: CrossAxisAlignment.center,
          children: [
            Expanded(
              child: Center(
                child: Text(
                  resultPage.resultText,
                  style: kResultTextStyle,
                ),
              ),
            ),
            Expanded(
              child: Text(
                resultPage.bmiResult,
                style: kBMITextStyle,
              ),
            ),
            Expanded(
              child: Text(
                resultPage.interpretation,
                textAlign: TextAlign.center,
                style: kBodyTextStyle,
              ),
            ),
          ],
        ),
      ),
    ),
    BottomButton(
      buttonText: 'RE - CALCULATE',
      onTap: () {
        Navigator.pushNamed(
          context,
          '/',
        );
      },
    ),
  ],
  ),
);
  }
}
```

Components:-

Bottom_Button:-

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

import '../constant.dart';

class BottomButton extends StatelessWidget {
  const BottomButton({@required this.buttonText, @required this.onTap});

  final String buttonText;
  final Function onTap;
  @override
  Widget build(BuildContext context) {
    return GestureDetector(
      onTap: onTap,
      child: Container(
        child: Center(
          child: Text(
            buttonText,
            style: kLargeButtonTextStyle,
          ),
        ),
        margin: EdgeInsets.only(top: 10.0),
        color: kBottomContainerColor,
        height: kBottomContainerHeight,
        width: double.infinity,
        padding: EdgeInsets.only(bottom: 20.0),
      ),
    );
  }
}
```

icon_contest:-

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

import '../constant.dart';

class IconContent extends StatelessWidget {
  const IconContent({@required this.icon, @required this.label});

  final IconData icon;
  final String label;
  @override
  Widget build(BuildContext context) {
    return Column(
      mainAxisAlignment: MainAxisAlignment.center,
      children: [
        Icon(
          icon,
          size: 80.0,
        ),
        SizedBox(
          height: 15.0,
```

```
          ),
          Text(
            '$label',
            style: kLabelStyle,
          )
        ],
      );
    }
  }
```

reusable_card:-

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

class ReusableCard extends StatelessWidget {
  const ReusableCard({@required this.colour, this.cardChild, this.onPress});
  final Color colour;
  final Widget cardChild;
  final Function onPress;

  @override
  Widget build(BuildContext context) {
    return GestureDetector(
      onTap: onPress,
      child: Container(
        child: cardChild,
        margin: EdgeInsets.all(15.0),
        decoration: BoxDecoration(
          color: colour,
          borderRadius: BorderRadius.circular(10.0),
        ),
      ),
    );
  }
}
```

round_button_icon

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

class RoundIconButton extends StatelessWidget {
  RoundIconButton({@required this.icon, @required this.onPressed});
  final IconData icon;
  final Function onPressed;
  @override
  Widget build(BuildContext context) {
    return RawMaterialButton(
      child: Icon(icon),
      onPressed: () {
        onPressed();
      },
      shape: CircleBorder(),
      fillColor: Color(0xFF4C4F5E),
      constraints: BoxConstraints.tightFor(
        width: 56.0,
```

```dart
        height: 56.0,
      ),
      elevation: 6.0,
    );
  }
}
```
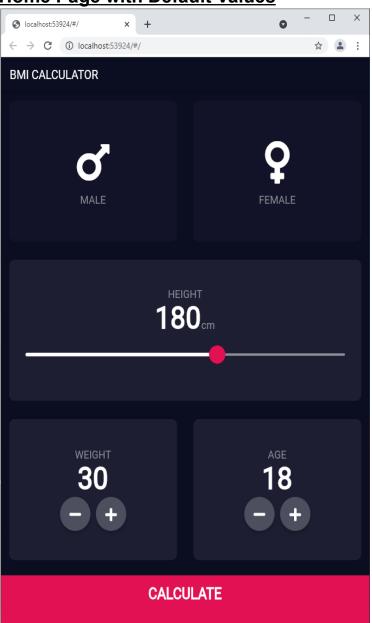
Services-

storage_manager

```dart
import 'package:shared_preferences/shared_preferences.dart';

class StorageManager {
  static void saveData(String key, dynamic value) async {
    final prefs = await SharedPreferences.getInstance();
    if (value is int) {
      prefs.setInt(key, value);
    } else if (value is String) {
      prefs.setString(key, value);
    } else if (value is bool) {
      prefs.setBool(key, value);
    } else {
      print("Invalid Type");
    }
  }

  static Future<dynamic> readData(String key) async {
    final prefs = await SharedPreferences.getInstance();
    dynamic obj = prefs.get(key);
    return obj;
  }

  static Future<bool> deleteData(String key) async {
    final prefs = await SharedPreferences.getInstance();
    return prefs.remove(key);
  }
}
```

theme_manager

```dart
import 'package:flutter/material.dart';
import 'package:BMI_calculator/services/storage_manager.dart';

class ThemeNotifier with ChangeNotifier {
  final darkTheme = ThemeData(
    primarySwatch: Colors.grey,
    primaryColor: Colors.black,
    brightness: Brightness.dark,
    backgroundColor: const Color(0xFF212121),
    accentColor: Colors.white,
    accentIconTheme: IconThemeData(color: Colors.black),
    dividerColor: Colors.black12,
  );
```

```dart
  final lightTheme = ThemeData(
    primarySwatch: Colors.grey,
    primaryColor: Colors.white,
    brightness: Brightness.light,
    backgroundColor: const Color(0xFFE5E5E5),
    accentColor: Colors.black,
    accentIconTheme: IconThemeData(color: Colors.white),
    dividerColor: Colors.white54,
  );

  ThemeData _themeData;
  ThemeData getTheme() => _themeData;

  ThemeNotifier() {
    StorageManager.readData('themeMode').then((value) {
      print('value read from storage: ' + value.toString());
      var themeMode = value ?? 'light';
      if (themeMode == 'light') {
        _themeData = lightTheme;
      } else {
        print('setting dark theme');
        _themeData = darkTheme;
      }
      notifyListeners();
    });
  }

  void setDarkMode() async {
    _themeData = darkTheme;
    StorageManager.saveData('themeMode', 'dark');
    notifyListeners();
  }

  void setLightMode() async {
    _themeData = lightTheme;
    StorageManager.saveData('themeMode', 'light');
    notifyListeners();
  }
}
```

Outputs -

Chrome Web

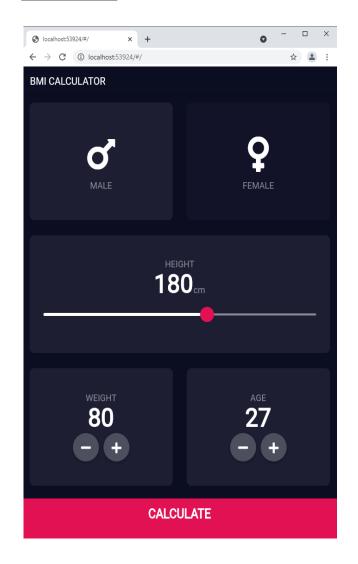## Home Page with Default Values

Selected Gender Based Analysis -

Female

Underweight

Normal BMI

Overweight

Male

Underweight

Normal BMI

Overweight

s

Android Emulator