Final Paper

Mobile Application Development

Section AM

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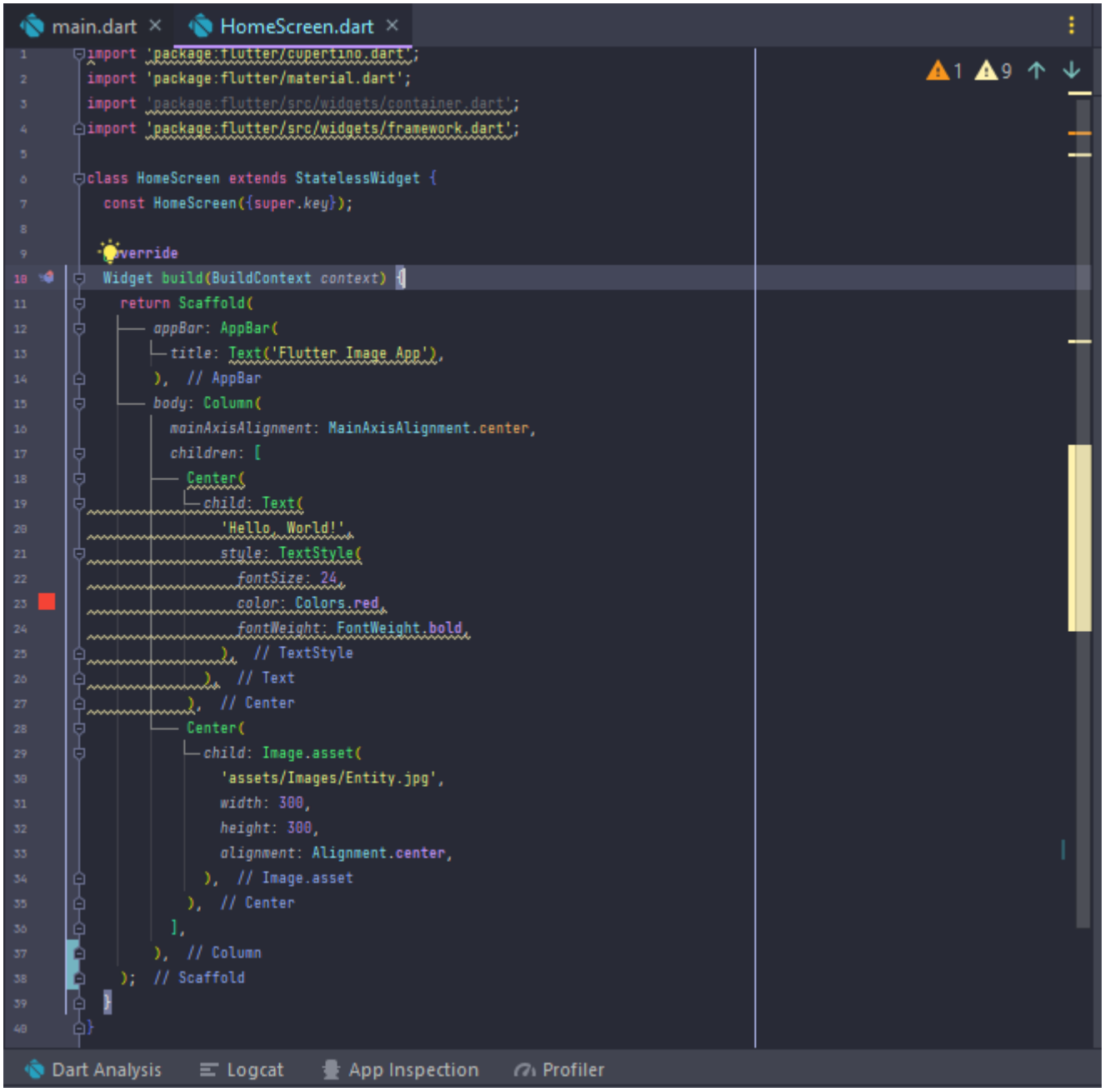
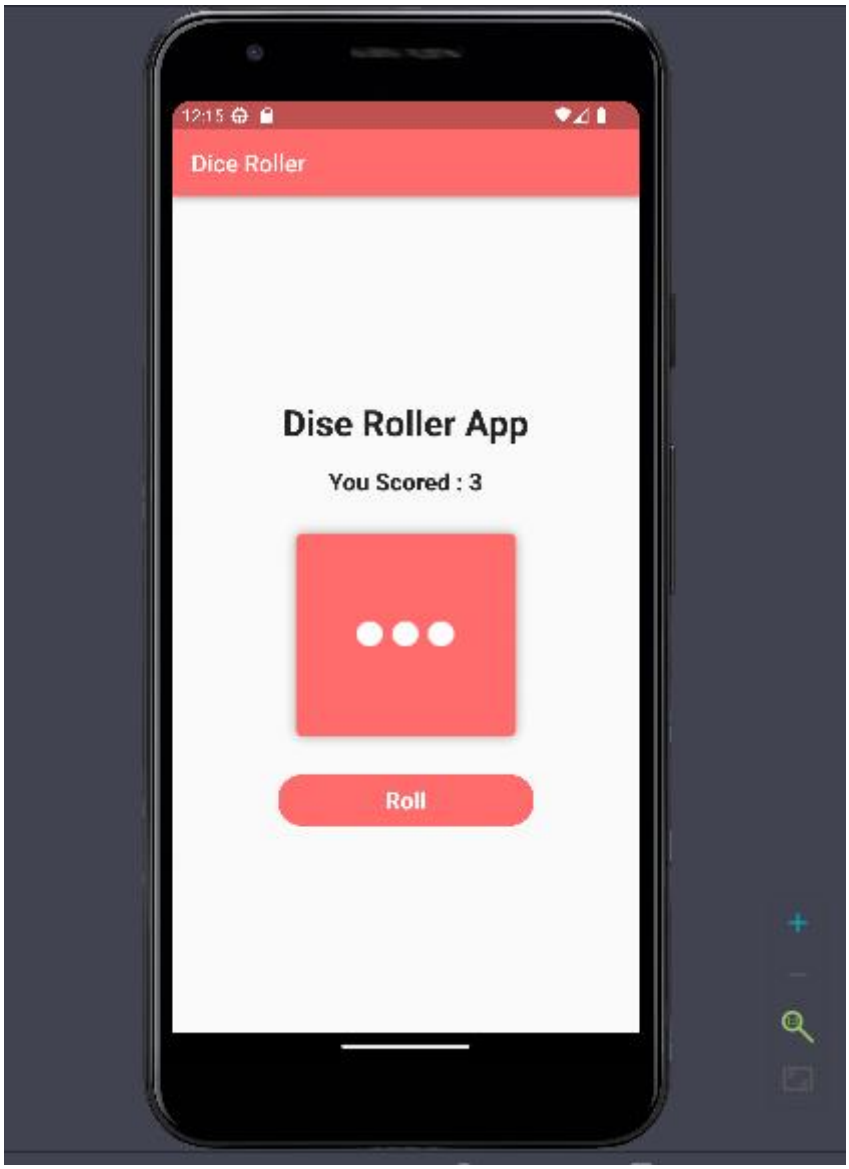
Fa19-bsse-0008

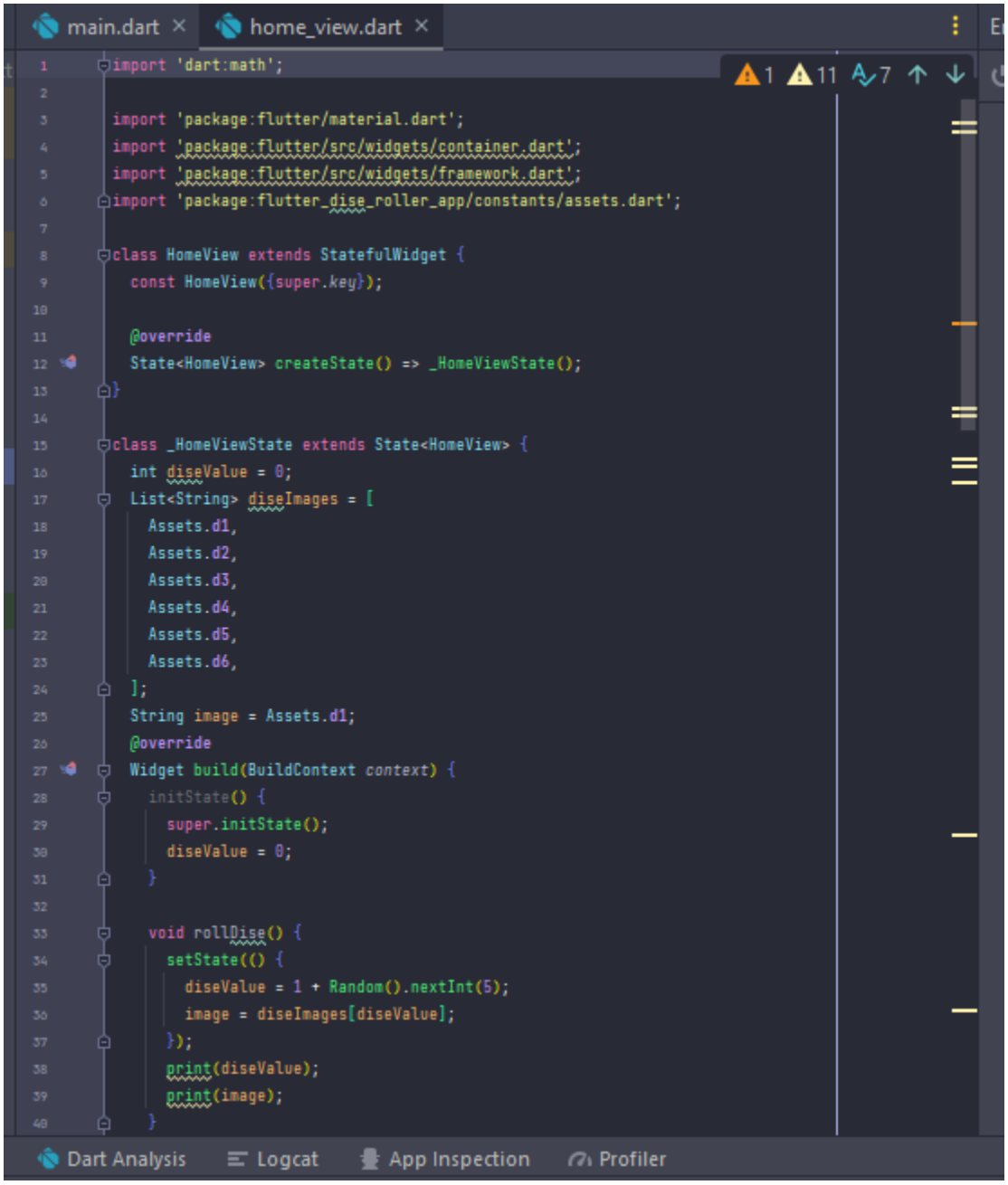
App 1 Image App

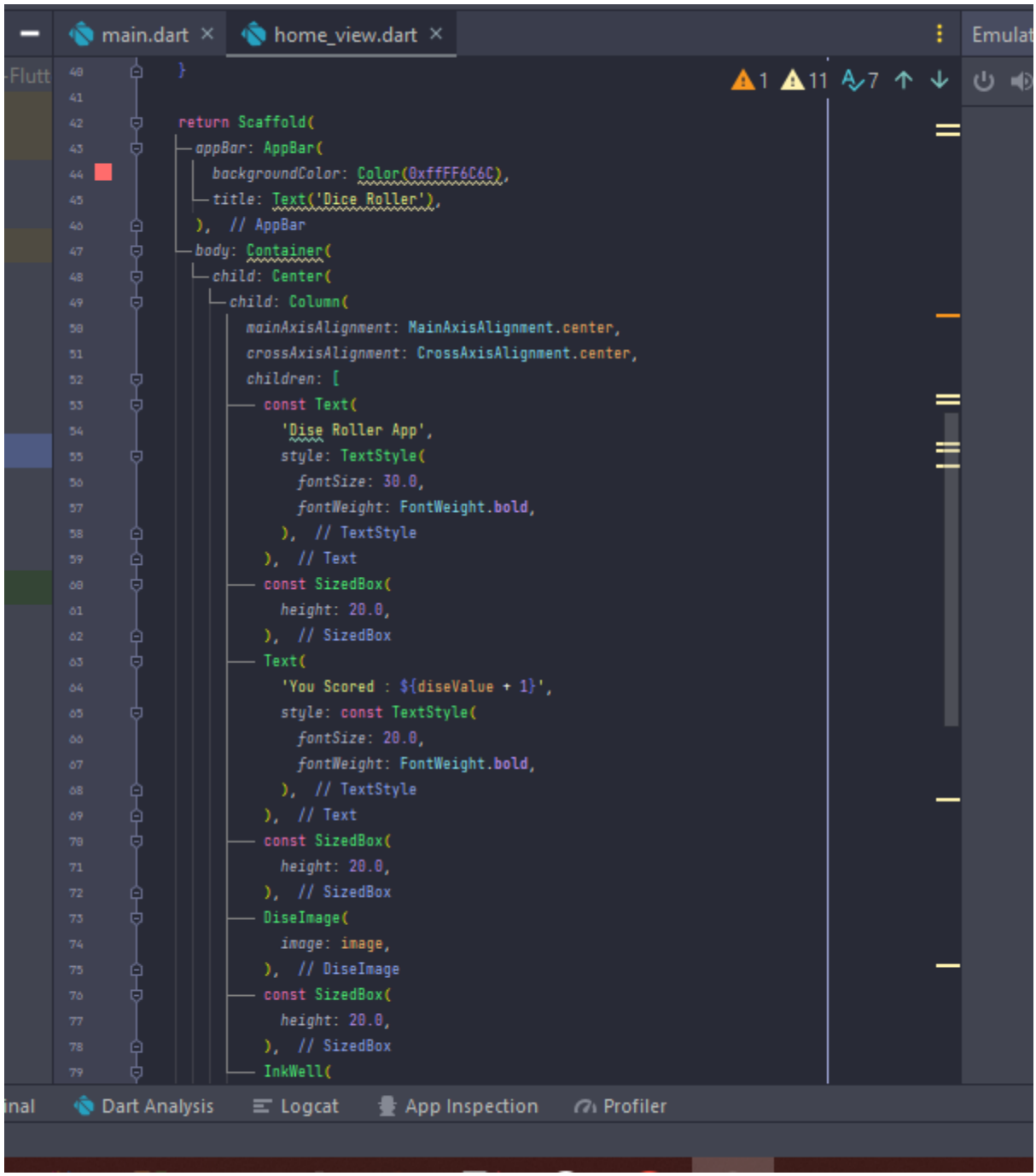

main.dart
HomeScreen.dart
import 'package:flutter/cupertino.dart';
import 'package:flutter/material.dart';
import 'package:flutter/src/widgets/container.dart';
import 'package:flutter/src/widgets/framework.dart';
class HomeScreen extends StatelessWidget {
const HomeScreen({super.key});
@override
Widget build(BuildContext context) {
return Scaffold(
appBar: AppBar(
title: Text('Flutter Image App'),
), // AppBar
body: Column(
mainAxisAlignment: MainAxisAlignment.center,
children: [
Center(
child: Text(
'Hello, World!',
style: TextStyle(
fontSize: 24,
color: Colors.red,
fontWeight: FontWeight.bold,
), // TextStyle
), // Text
), // Center
Center(
child: Image.asset(
'assets/Images/Entity.jpg',
width: 300,
height: 300,
alignment: Alignment.center,
), // Image.asset
), // Center
],
), // Column
); // Scaffold
}
}
Dart Analysis
Logcat
App Inspection
Profiler

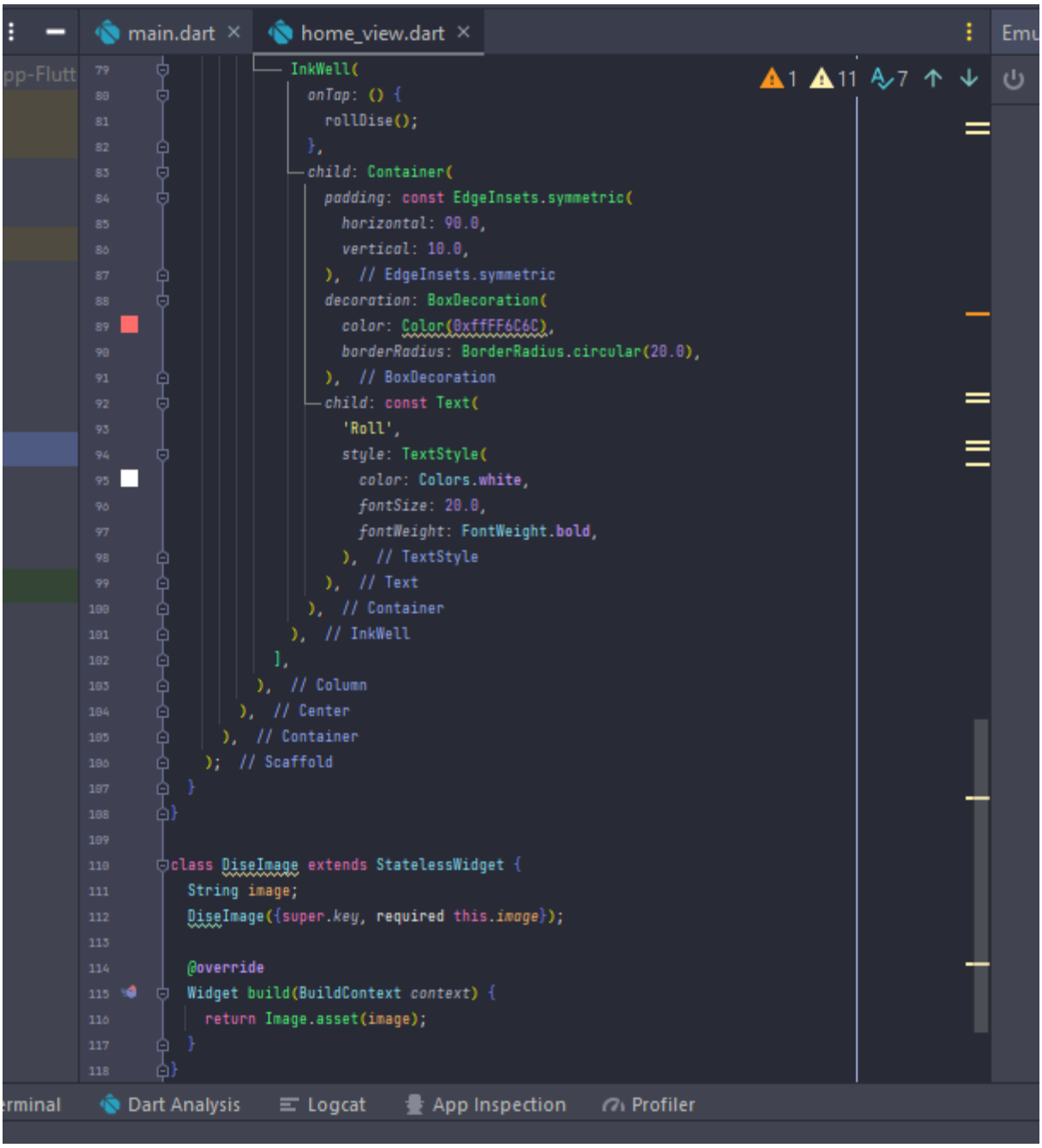
import ...
void main(List<String> args) {
runApp(MyApp());
}
class MyApp extends StatelessWidget {
const MyApp({super.key});
@override
Widget build(BuildContext context) {
return MaterialApp(
debugShowCheckedModeBanner: false,
home: HomeScreen(),
); // MaterialApp
}
}

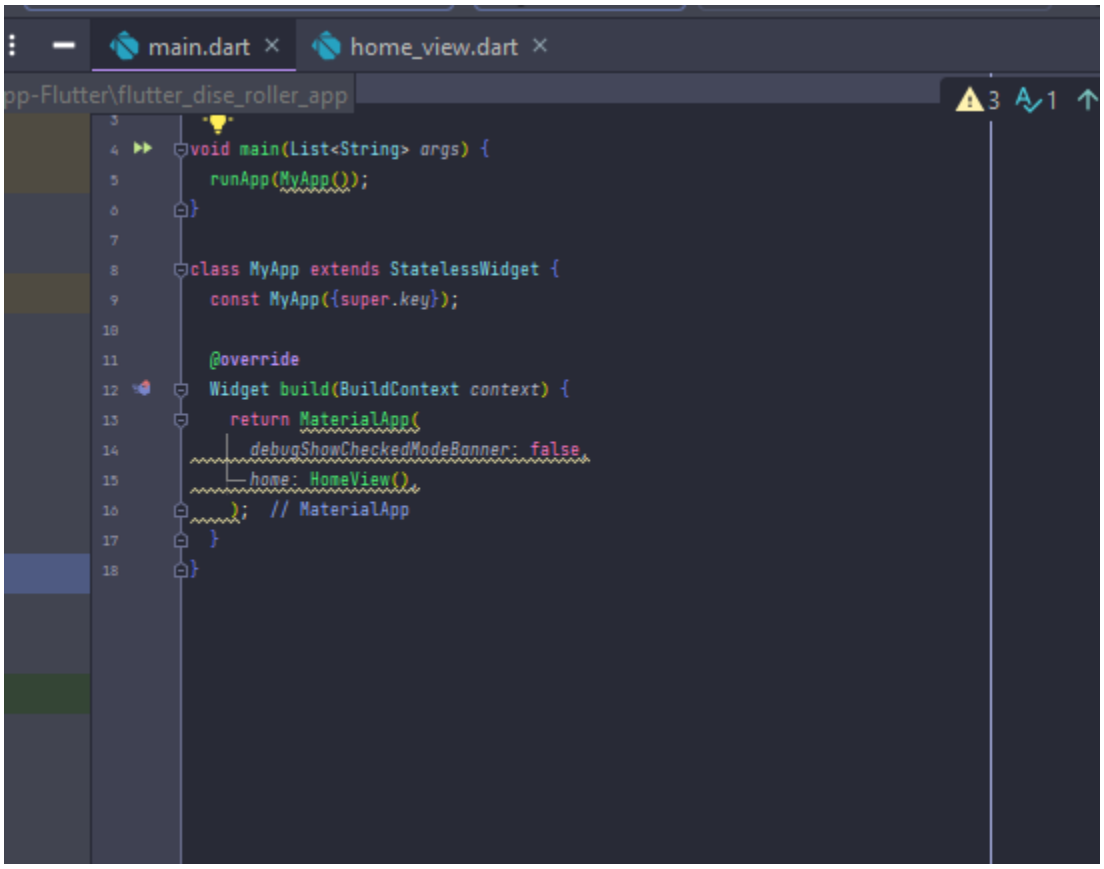
App 2 (Dice Roller App)

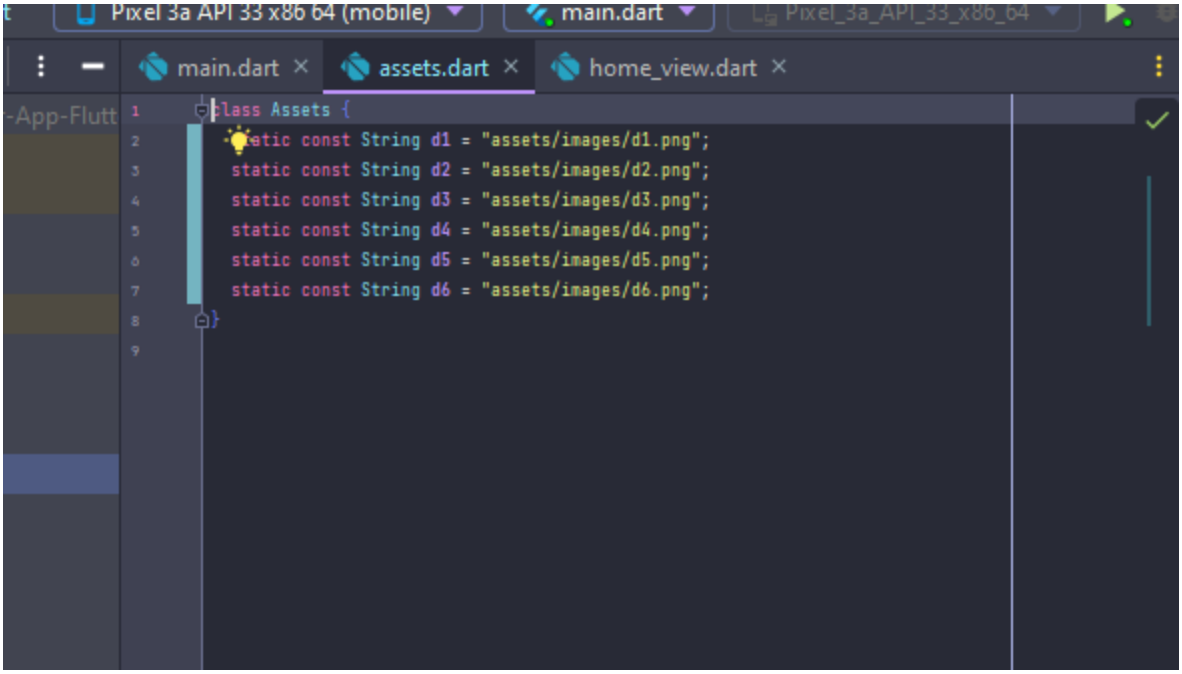



main.dart
home_view.dart
1
11
7
import 'dart:math';
import 'package:flutter/material.dart';
import 'package:flutter/src/widgets/container.dart';
import 'package:flutter/src/widgets/framework.dart';
import 'package:flutter_dise_roller_app/constants/assets.dart';
class HomeView extends StatefulWidget {
const HomeView({super.key});
@override
State<HomeView> createState() => _HomeViewState();
}
class _HomeViewState extends State<HomeView> {
int diseValue = 0;
List<String> diseImages = [
Assets.d1,
Assets.d2,
Assets.d3,
Assets.d4,
Assets.d5,
Assets.d6,
];
String image = Assets.d1;
@override
Widget build(BuildContext context) {
initState() {
super.initState();
diseValue = 0;
}
void rollDise() {
setState(() {
diseValue = 1 + Random().nextInt(5);
image = diseImages[diseValue];
});
print(diseValue);
print(image);
}
Dart Analysis
Logcat
App Inspection
Profiler

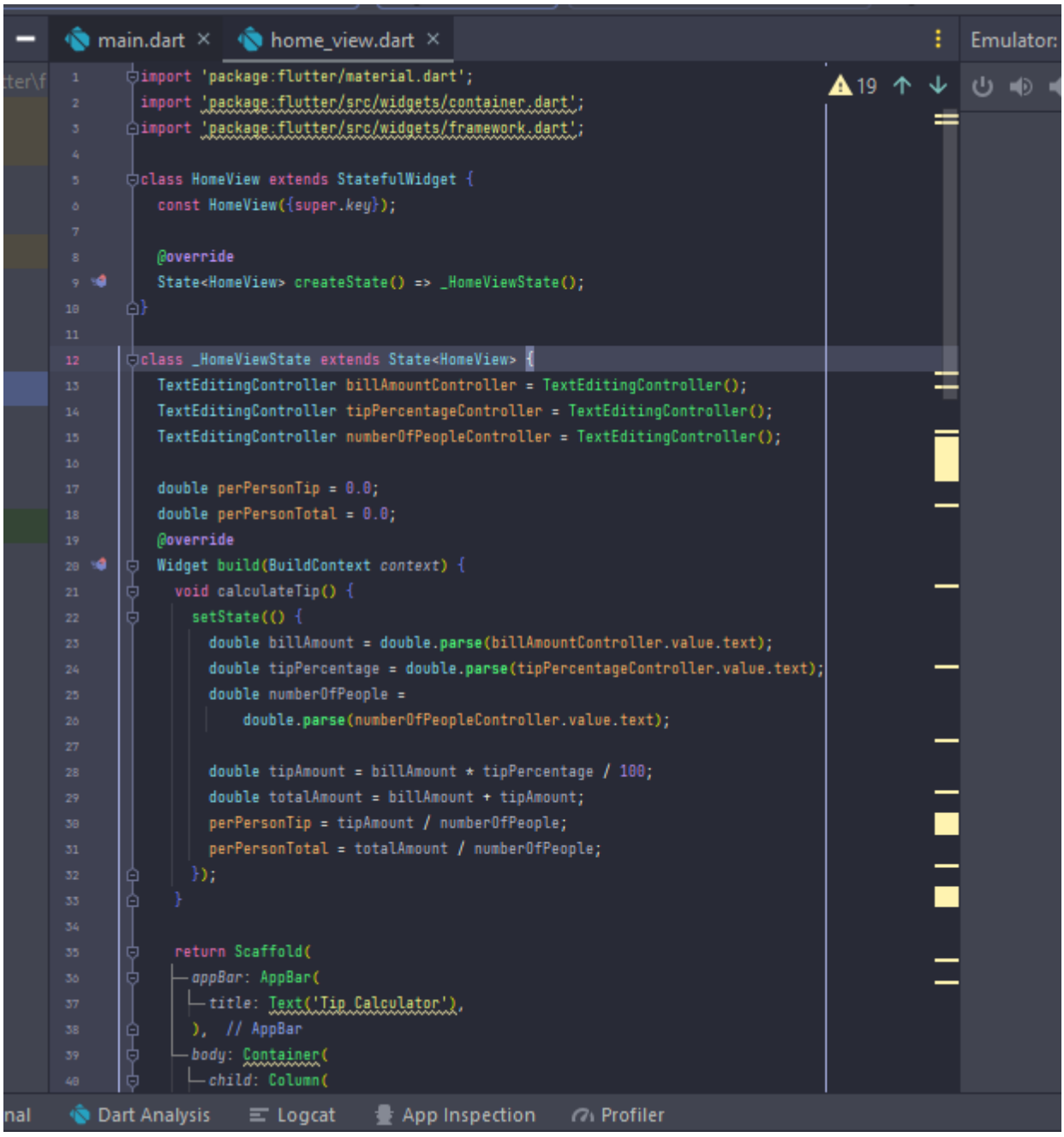

main.dart
home_view.dart
Emulat
1
11
7
}
return Scaffold(
appBar: AppBar(
backgroundColor: Color(0xffFF6C6C),
title: Text('Dice Roller'),
), // AppBar
body: Container(
child: Center(
child: Column(
mainAxisAlignment: MainAxisAlignment.center,
crossAxisAlignment: CrossAxisAlignment.center,
children: [
const Text(
'Dise Roller App',
style: TextStyle(
fontSize: 30.0,
fontWeight: FontWeight.bold,
), // TextStyle
), // Text
const SizedBox(
height: 20.0,
), // SizedBox
Text(
'You Scored : ${diseValue + 1}',
style: const TextStyle(
fontSize: 20.0,
fontWeight: FontWeight.bold,
), // TextStyle
), // Text
const SizedBox(
height: 20.0,
), // SizedBox
DiseImage(
image: image,
), // DiseImage
const SizedBox(
height: 20.0,
), // SizedBox
InkWell(
Dart Analysis
Logcat
App Inspection
Profiler

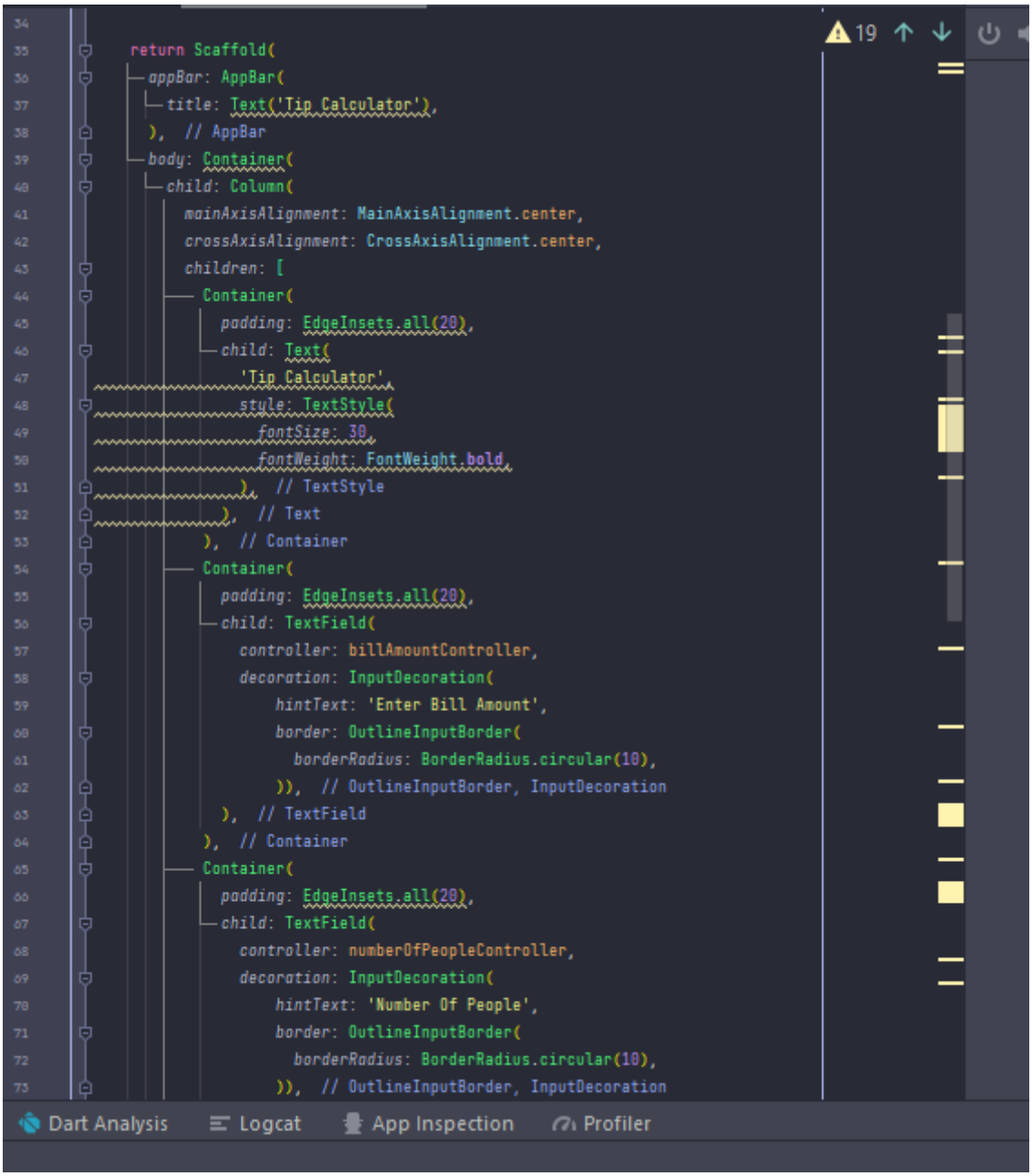

main.dart
home_view.dart
InkWell(
onTap: () {
rollDise();
},
child: Container(
padding: const EdgeInsets.symmetric(
horizontal: 90.0,
vertical: 10.0,
), // EdgeInsets.symmetric
decoration: BoxDecoration(
color: Color(0xffFF6C6C),
borderRadius: BorderRadius.circular(20.0),
), // BoxDecoration
child: const Text(
'Roll',
style: TextStyle(
color: Colors.white,
fontSize: 20.0,
fontWeight: FontWeight.bold,
), // TextStyle
), // Text
), // Container
), // InkWell
], // Column
), // Center
), // Container
); // Scaffold
}
}
class DiseImage extends StatelessWidget {
String image;
DiseImage({super.key, required this.image});
@override
Widget build(BuildContext context) {
return Image.asset(image);
}
}
Dart Analysis
Logcat
App Inspection
Profiler

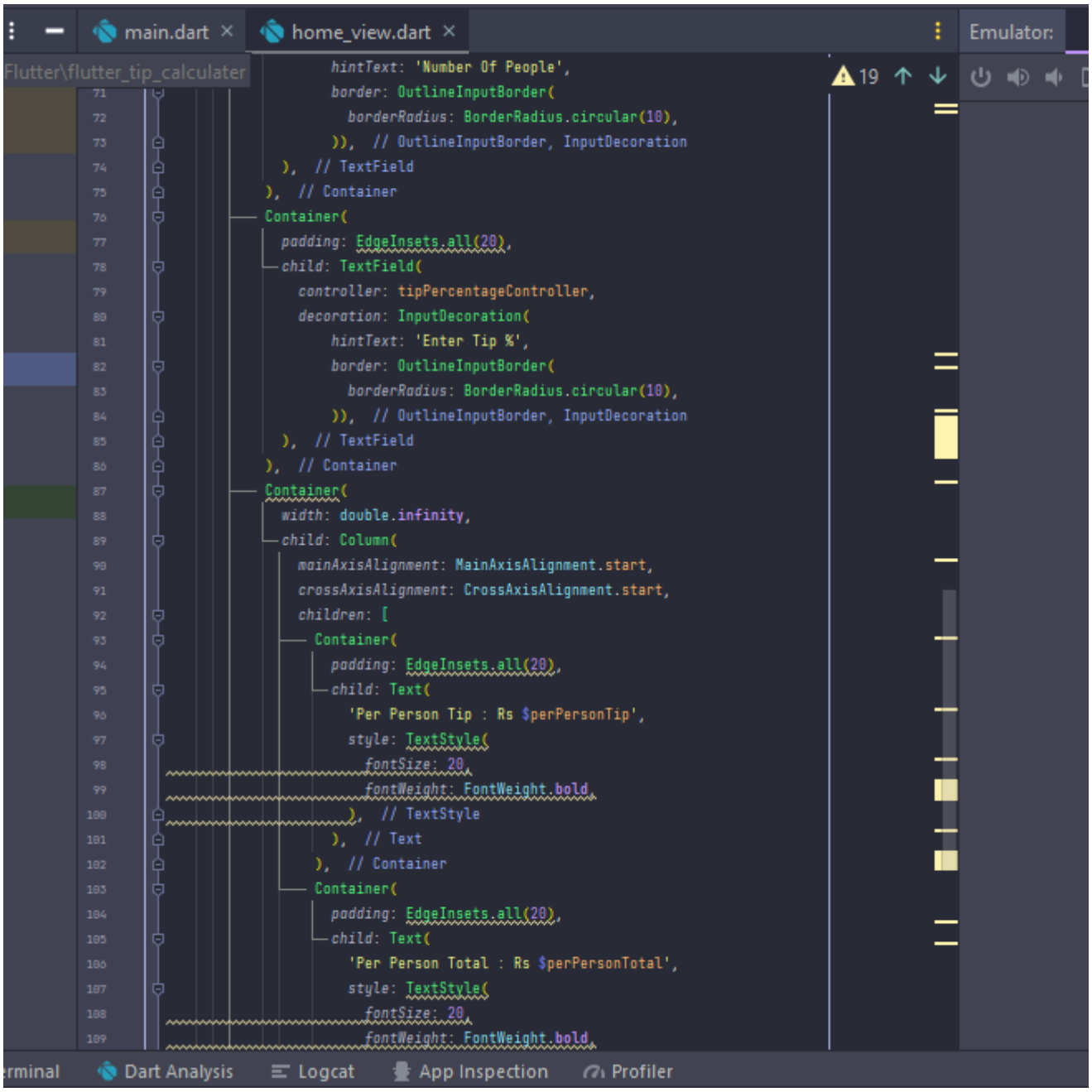

main.dart
home_view.dart
pp-Flutter\flutter_dise_roller_app
3
1
void main(List<String> args) {
runApp(MyApp());
}
class MyApp extends StatelessWidget {
const MyApp({super.key});
@override
Widget build(BuildContext context) {
return MaterialApp(
debugShowCheckedModeBanner: false,
home: HomeView(),
); // MaterialApp
}
}


Pixel 3a API 33 x86 64 (mobile)
main.dart
main.dart
assets.dart
home_view.dart
class Assets {
static const String d1 = "assets/images/d1.png";
static const String d2 = "assets/images/d2.png";
static const String d3 = "assets/images/d3.png";
static const String d4 = "assets/images/d4.png";
static const String d5 = "assets/images/d5.png";
static const String d6 = "assets/images/d6.png";
}

App 3 (Tip Calculator App)


main.dart
home_view.dart
Emulator:
19
import 'package:flutter/material.dart';
import 'package:flutter/src/widgets/container.dart';
import 'package:flutter/src/widgets/framework.dart';
class HomeView extends StatefulWidget {
const HomeView({super.key});
@override
State<HomeView> createState() => _HomeViewState();
}
class _HomeViewState extends State<HomeView> {
TextEditingController billAmountController = TextEditingController();
TextEditingController tipPercentageController = TextEditingController();
TextEditingController numberOfPeopleController = TextEditingController();
double perPersonTip = 0.0;
double perPersonTotal = 0.0;
@override
Widget build(BuildContext context) {
void calculateTip() {
setState(() {
double billAmount = double.parse(billAmountController.value.text);
double tipPercentage = double.parse(tipPercentageController.value.text);
double numberOfPeople =
double.parse(numberOfPeopleController.value.text);
double tipAmount = billAmount * tipPercentage / 100;
double totalAmount = billAmount + tipAmount;
perPersonTip = tipAmount / numberOfPeople;
perPersonTotal = totalAmount / numberOfPeople;
});
}
return Scaffold(
appBar: AppBar(
title: Text('Tip Calculator'),
), // AppBar
body: Container(
child: Column(
Dart Analysis
Logcat
App Inspection
Profiler


19
return Scaffold(
appBar: AppBar(
title: Text('Tip Calculator'),
), // AppBar
body: Container(
child: Column(
mainAxisAlignment: MainAxisAlignment.center,
crossAxisAlignment: CrossAxisAlignment.center,
children: [
Container(
padding: EdgeInsets.all(20),
child: Text(
'Tip Calculator',
style: TextStyle(
fontSize: 30,
fontWeight: FontWeight.bold,
), // TextStyle
), // Text
), // Container
Container(
padding: EdgeInsets.all(20),
child: TextField(
controller: billAmountController,
decoration: InputDecoration(
hintText: 'Enter Bill Amount',
border: OutlineInputBorder(
borderRadius: BorderRadius.circular(10),
)), // OutlineInputBorder, InputDecoration
), // TextField
), // Container
Container(
padding: EdgeInsets.all(20),
child: TextField(
controller: numberOfPeopleController,
decoration: InputDecoration(
hintText: 'Number Of People',
border: OutlineInputBorder(
borderRadius: BorderRadius.circular(10),
)), // OutlineInputBorder, InputDecoration
Dart Analysis
Logcat
App Inspection
Profiler

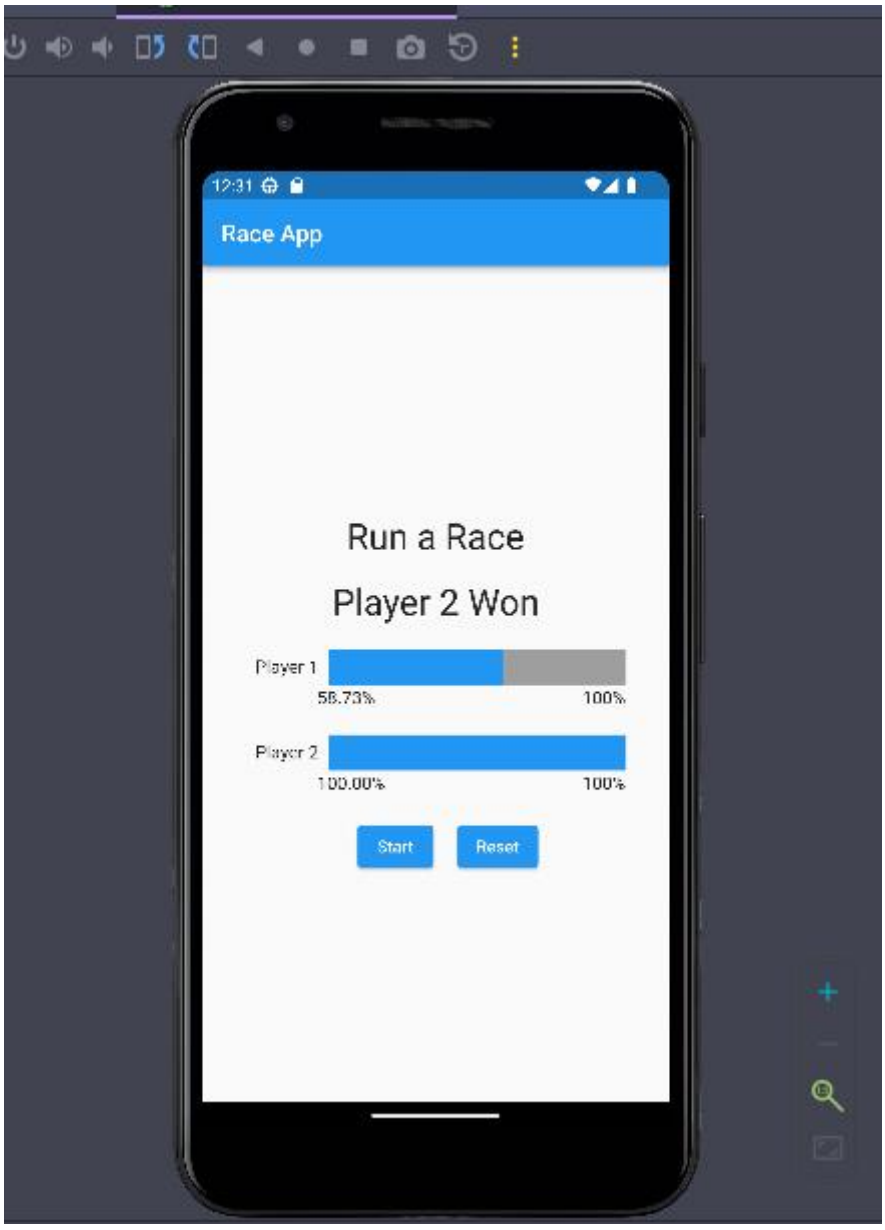

main.dart
home_view.dart
Emulator:
Flutter\flutter_tip_calculater
hintText: 'Number Of People',
border: OutlineInputBorder(
borderRadius: BorderRadius.circular(10),
)), // OutlineInputBorder, InputDecoration
), // TextField
), // Container
Container(
padding: EdgeInsets.all(20),
child: TextField(
controller: tipPercentageController,
decoration: InputDecoration(
hintText: 'Enter Tip %',
border: OutlineInputBorder(
borderRadius: BorderRadius.circular(10),
)), // OutlineInputBorder, InputDecoration
), // TextField
), // Container
Container(
width: double.infinity,
child: Column(
mainAxisAlignment: MainAxisAlignment.start,
crossAxisAlignment: CrossAxisAlignment.start,
children: [
Container(
padding: EdgeInsets.all(20),
child: Text(
'Per Person Tip : Rs $perPersonTip',
style: TextStyle(
fontSize: 20,
fontWeight: FontWeight.bold,
), // TextStyle
), // Text
), // Container
Container(
padding: EdgeInsets.all(20),
child: Text(
'Per Person Total : Rs $perPersonTotal',
style: TextStyle(
fontSize: 20,
fontWeight: FontWeight.bold,
Dart Analysis
Logcat
App Inspection
Profiler

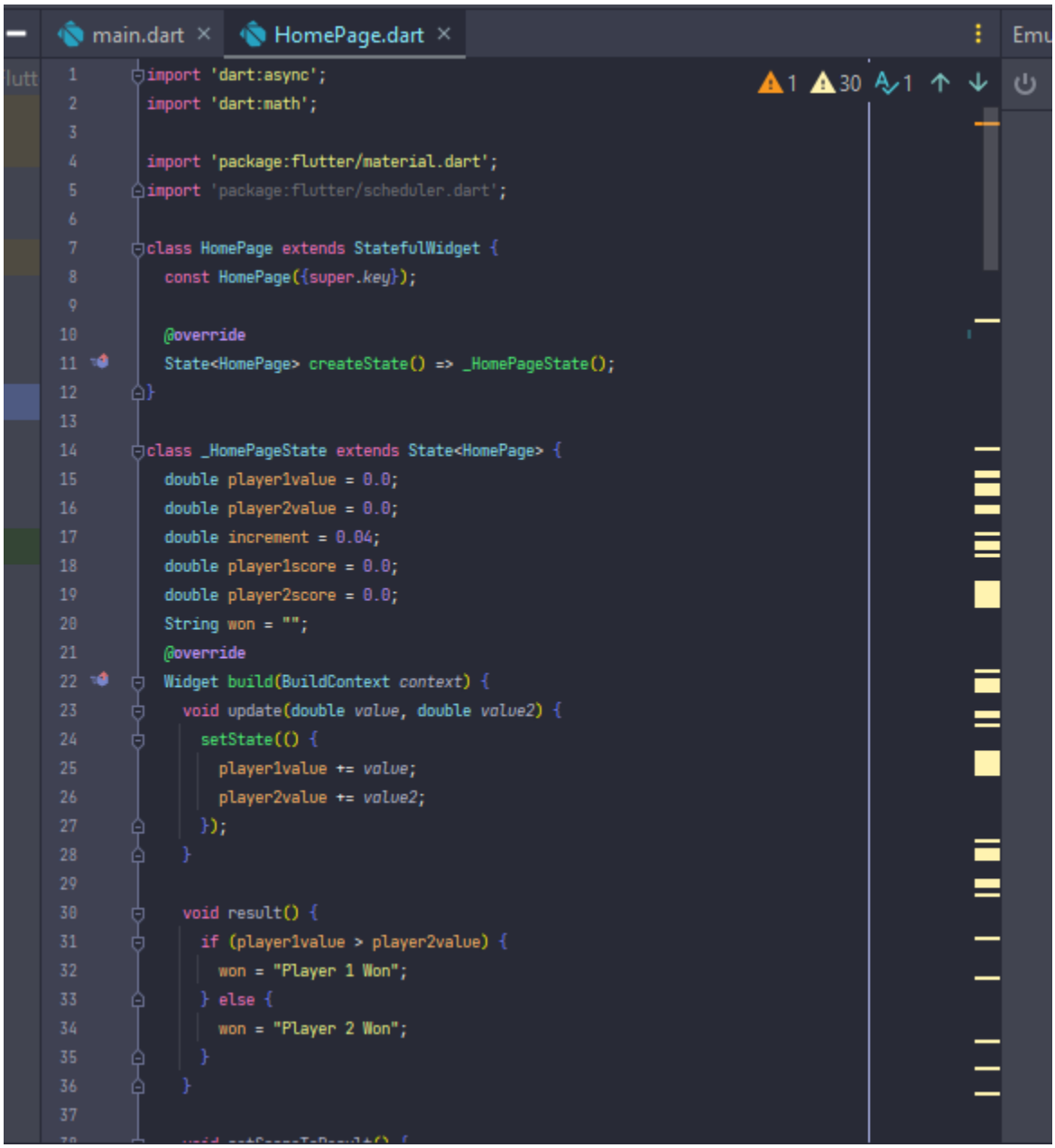
```
                    fontWeight: FontWeight.bold,
                  ),  // TextStyle
                ),  // Text
              ),  // Container
              Container(
                padding: EdgeInsets.all(20),
                child: Text(
                  'Per Person Total : Rs $perPersonTotal',
                  style: TextStyle(
                    fontSize: 20,
                    fontWeight: FontWeight.bold,
                  ),  // TextStyle
                ),  // Text
              ),  // Container
            ],
          ),  // Column
        ),  // Container
        Container(
          padding: EdgeInsets.all(20),
          child: ElevatedButton(
            onPressed: () => calculateTip(),
            child: Text('Calculate'),
          ),  // ElevatedButton
        ),  // Container
      ],
    ),  // Column
  ),  // Container
  );  // Scaffold
 }
}
```

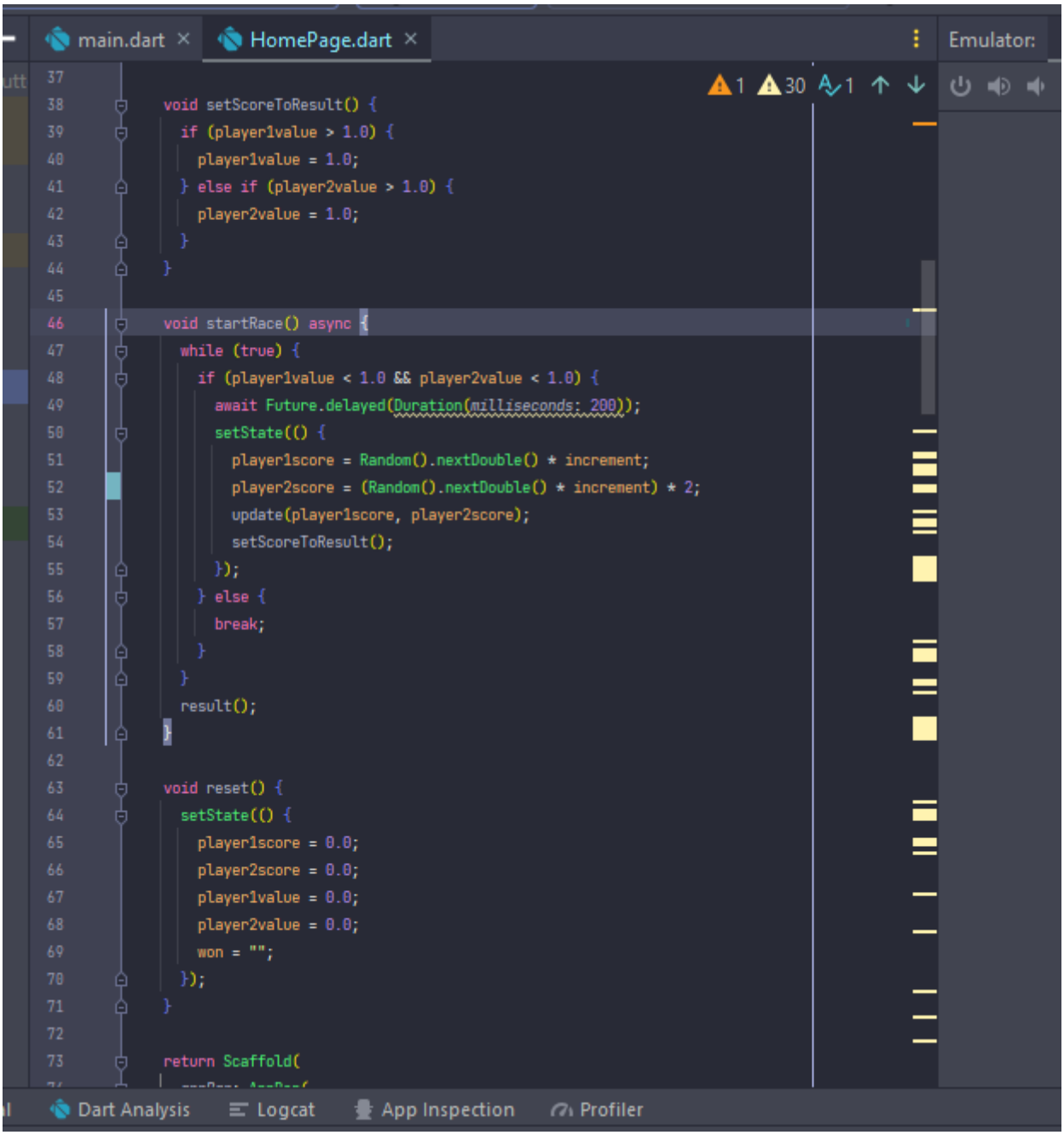
main.dart × home_view.dart ×

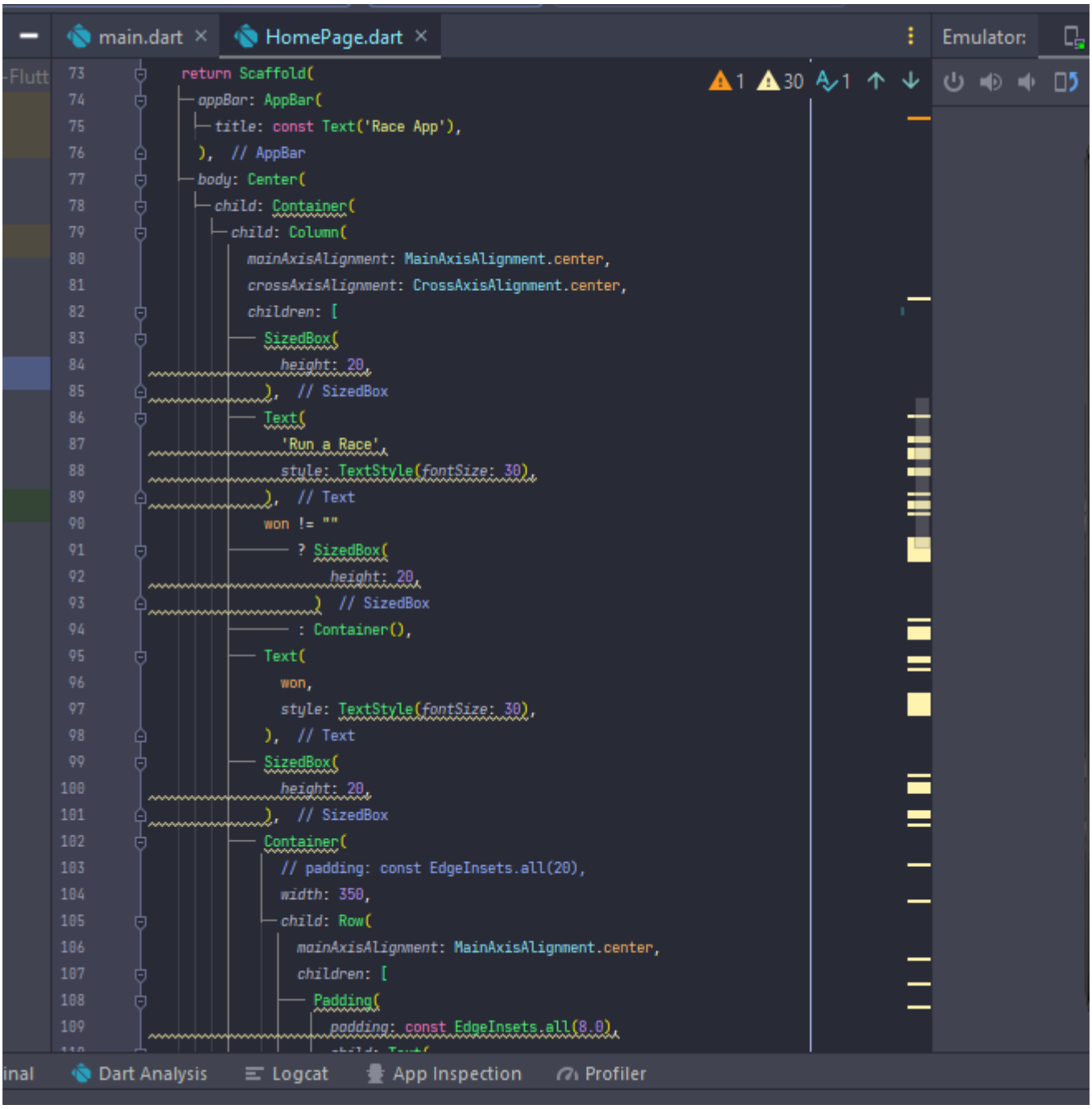
```
import ...

void main(List<String> args) {
  runApp(MyApp());
}

class MyApp extends StatelessWidget {
  const MyApp({super.key});

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      home: HomeView(),
    );  // MaterialApp
  }
}
```

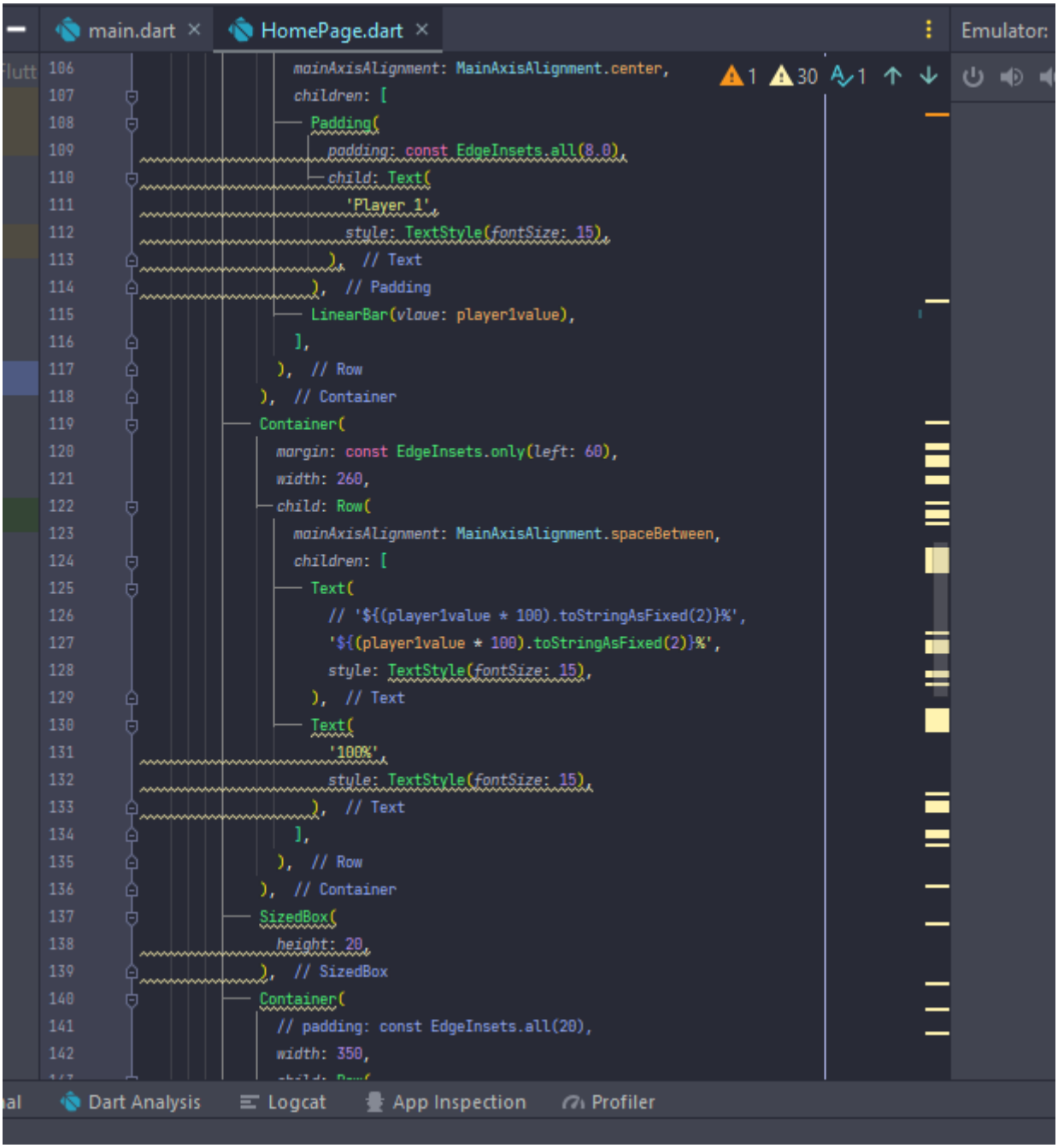
App 4 (Race Tracker App)

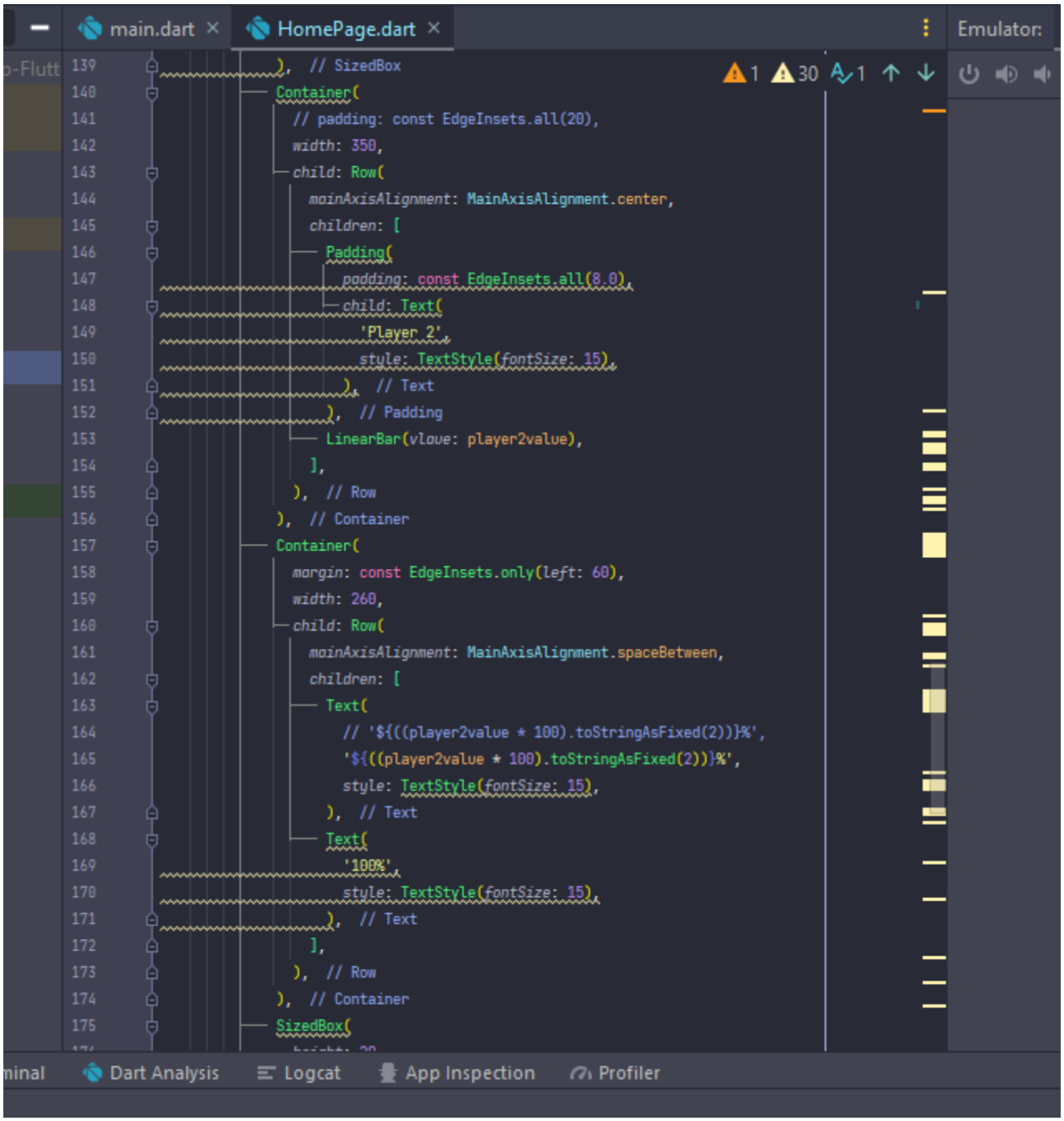


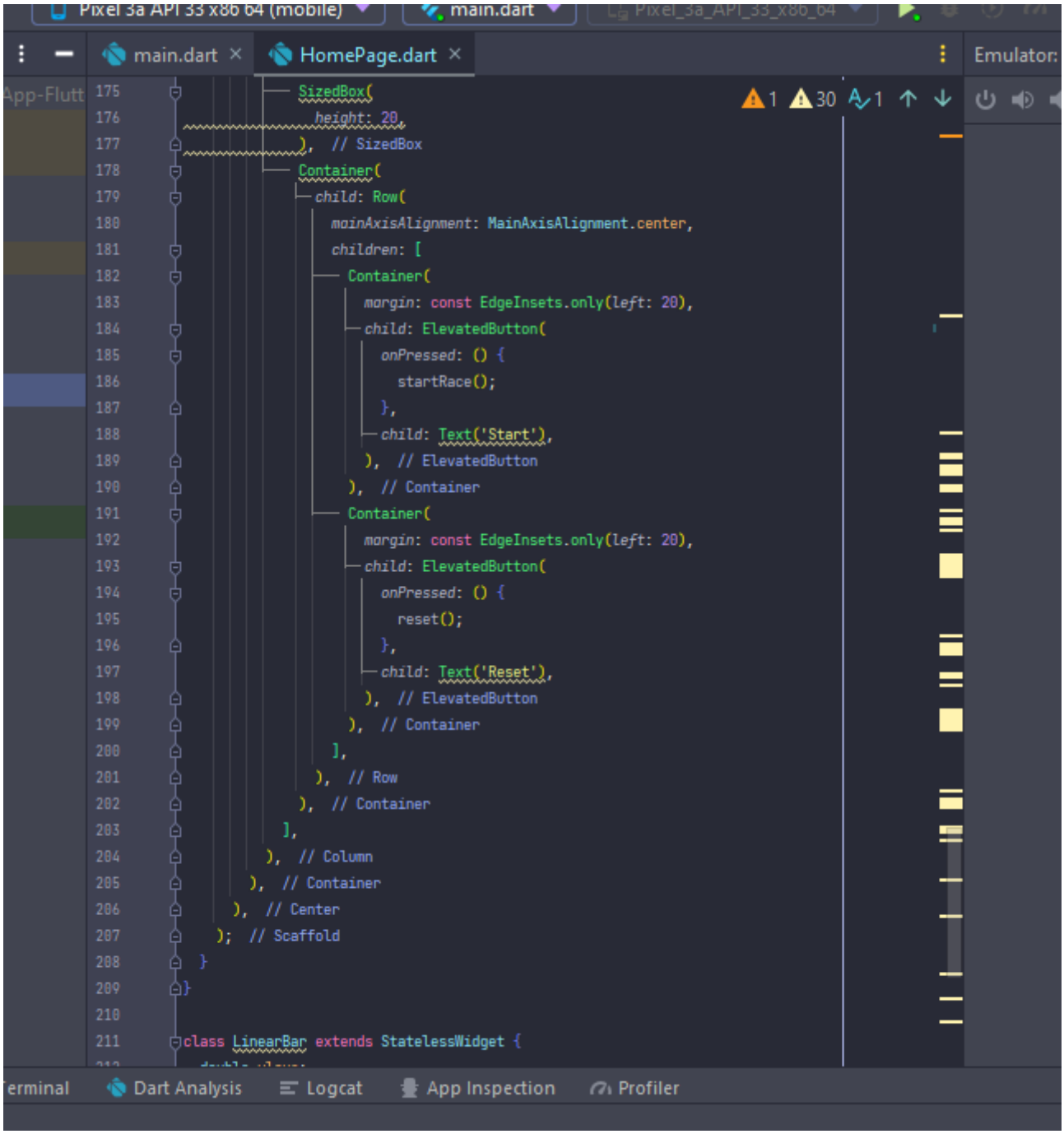

main.dart
HomePage.dart
1
30
1
import 'dart:async';
import 'dart:math';
import 'package:flutter/material.dart';
import 'package:flutter/scheduler.dart';
class HomePage extends StatefulWidget {
const HomePage({super.key});
@override
State<HomePage> createState() => _HomePageState();
}
class _HomePageState extends State<HomePage> {
double player1value = 0.0;
double player2value = 0.0;
double increment = 0.04;
double player1score = 0.0;
double player2score = 0.0;
String won = "";
@override
Widget build(BuildContext context) {
void update(double value, double value2) {
setState(() {
player1value += value;
player2value += value2;
});
}
void result() {
if (player1value > player2value) {
won = "Player 1 Won";
} else {
won = "Player 2 Won";
}
}


main.dart
HomePage.dart
Emulator:
1
30
1
void setScoreToResult() {
if (player1value > 1.0) {
player1value = 1.0;
} else if (player2value > 1.0) {
player2value = 1.0;
}
}
void startRace() async {
while (true) {
if (player1value < 1.0 && player2value < 1.0) {
await Future.delayed(Duration(milliseconds: 200));
setState(() {
player1score = Random().nextDouble() * increment;
player2score = (Random().nextDouble() * increment) * 2;
update(player1score, player2score);
setScoreToResult();
});
} else {
break;
}
}
result();
}
void reset() {
setState(() {
player1score = 0.0;
player2score = 0.0;
player1value = 0.0;
player2value = 0.0;
won = "";
});
}
return Scaffold(
Dart Analysis
Logcat
App Inspection
Profiler


main.dart
HomePage.dart
Emulator:
1
30
1
return Scaffold(
appBar: AppBar(
title: const Text('Race App'),
), // AppBar
body: Center(
child: Container(
child: Column(
mainAxisAlignment: MainAxisAlignment.center,
crossAxisAlignment: CrossAxisAlignment.center,
children: [
SizedBox(
height: 20,
), // SizedBox
Text(
'Run a Race',
style: TextStyle(fontSize: 30),
), // Text
won != ""
? SizedBox(
height: 20,
) // SizedBox
: Container(),
Text(
won,
style: TextStyle(fontSize: 30),
), // Text
SizedBox(
height: 20,
), // SizedBox
Container(
// padding: const EdgeInsets.all(20),
width: 350,
child: Row(
mainAxisAlignment: MainAxisAlignment.center,
children: [
Padding(
padding: const EdgeInsets.all(8.0),
Dart Analysis
Logcat
App Inspection
Profiler


main.dart
HomePage.dart
Emulator:
mainAxisAlignment: MainAxisAlignment.center,
children: [
Padding(
padding: const EdgeInsets.all(8.0),
child: Text(
'Player 1',
style: TextStyle(fontSize: 15),
), // Text
), // Padding
LinearBar(vlaue: player1value),
], // Row
), // Container
Container(
margin: const EdgeInsets.only(left: 60),
width: 260,
child: Row(
mainAxisAlignment: MainAxisAlignment.spaceBetween,
children: [
Text(
// '${(player1value * 100).toStringAsFixed(2)}%',
'${(player1value * 100).toStringAsFixed(2)}%',
style: TextStyle(fontSize: 15),
), // Text
Text(
'100%',
style: TextStyle(fontSize: 15),
), // Text
], // Row
), // Container
SizedBox(
height: 20,
), // SizedBox
Container(
// padding: const EdgeInsets.all(20),
width: 350,
Dart Analysis
Logcat
App Inspection
Profiler


main.dart
HomePage.dart
Emulator:
1
30
1
), // SizedBox
Container(
// padding: const EdgeInsets.all(20),
width: 350,
child: Row(
mainAxisAlignment: MainAxisAlignment.center,
children: [
Padding(
padding: const EdgeInsets.all(8.0),
child: Text(
'Player 2',
style: TextStyle(fontSize: 15),
), // Text
), // Padding
LinearBar(vlaue: player2value),
],
), // Row
), // Container
Container(
margin: const EdgeInsets.only(left: 60),
width: 260,
child: Row(
mainAxisAlignment: MainAxisAlignment.spaceBetween,
children: [
Text(
// '${((player2value * 100).toStringAsFixed(2))}%',
'${((player2value * 100).toStringAsFixed(2))}%',
style: TextStyle(fontSize: 15),
), // Text
Text(
'100%',
style: TextStyle(fontSize: 15),
), // Text
],
), // Row
), // Container
SizedBox(
Dart Analysis
Logcat
App Inspection
Profiler


Pixel 3a API 33 x86 64 (mobile)
main.dart
Pixel_3a_API_33_x86_64
main.dart
HomePage.dart
Emulator:
1
30
1
SizedBox(
height: 20,
), // SizedBox
Container(
child: Row(
mainAxisAlignment: MainAxisAlignment.center,
children: [
Container(
margin: const EdgeInsets.only(left: 20),
child: ElevatedButton(
onPressed: () {
startRace();
},
child: Text('Start'),
), // ElevatedButton
), // Container
Container(
margin: const EdgeInsets.only(left: 20),
child: ElevatedButton(
onPressed: () {
reset();
},
child: Text('Reset'),
), // ElevatedButton
), // Container
],
), // Row
), // Container
],
), // Column
), // Container
), // Center
); // Scaffold
}
}
class LinearBar extends StatelessWidget {
Terminal
Dart Analysis
Logcat
App Inspection
Profiler

```
                    ), // ElevatedButton
                  ), // Container
                ],
              ), // Row
            ), // Container
          ],
        ), // Column
      ), // Container
    ), // Center
  ); // Scaffold
 }
}

class LinearBar extends StatelessWidget {
  double vlaue;
  LinearBar({super.key, required this.vlaue});

  @override
  Widget build(BuildContext context) {
    return Container(
      width: 250,
      child: LinearProgressIndicator(
        value: vlaue, // a value between 0 and 1
        backgroundColor: Colors.grey,
        minHeight: 30,
        valueColor: AlwaysStoppedAnimation<Color>(Colors.blue),
      ), // LinearProgressIndicator
    ); // Container
  }
}
```

main.dart × HomePage.dart ×

```
import ...

void main(List<String> args) {
  runApp(const MyApp());
}

class MyApp extends StatelessWidget {
  const MyApp({super.key});

  @override
  Widget build(BuildContext context) {
    return MaterialApp(debugShowCheckedModeBanner: false, home: HomePage());
  }
}
```