

FLUTTER MINI ASSIGNMENT


Task 1: Contact Manager App (App-4):

Code: // main.dart

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

void main() {                                     //starting point of the app.
  runApp(ContactApp());
}

class ContactApp extends StatelessWidget {         //Root widget of app
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      home: ContactListPage(),                     //First Screen
    );
  }
}
```

//  screens/contact_list_page.dart

```
import 'package:flutter/material.dart';
import 'add_contact_page.dart';                   // navigation to that page.

class ContactListPage extends StatefulWidget {     //Stateful contact list
  @override
  State<ContactListPage> createState() => _ContactListPageState();
}

class _ContactListPageState extends State<ContactListPage> { //controls UI updates
  List<Map<String, String>> contacts = [           //List of contacts.
```

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```
{ "name": "Keerthi", "phone": "9782145678"},
{ "name": "Tarun", "phone": "9123456780"},
{ "name": "Vikram", "phone": "9988776655"},
{ "name": "Priya", "phone": "9012345678"},
{ "name": "Arjun", "phone": "9090909090"},
];

void addContact(String name, String phone) {
  setState(() {
    contacts.add({"name": name, "phone": phone});
  });
}


@override
Widget build(BuildContext context) {
  return Scaffold( // Basic page structure.
    appBar: AppBar(title: Text("Contact Manager")), //Top bar
    body: ListView.builder( //List view
      itemCount: contacts.length, // Number of contacts.
      itemBuilder: (context, index) {
        return ListTile(
          leading: Icon(Icons.person), // Person icon
          title: Text(contacts[index]["name"]!), // contact name
          subtitle: Text(contacts[index]["phone"]!), // contact phone number
          onTap: () {
            showDialog(
              context: context,
              builder: (context) => AlertDialog( //alert dialog
                title: Text("Contact Details"),
                content: Text(
                  "Name: ${contacts[index]["name"]}\nPhone: ${contacts[index]["phone"]}",

```

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```
    ),
    actions: [
      TextButton(
        onPressed: () {
          Navigator.pop(context);
        },
        child: Text("OK"),
      ),
    ],
  ),
);
},
);
},
floatingActionButton: FloatingActionButton(
  child: Icon(Icons.add),
  onPressed: () async {
    final newContact = await Navigator.push(
      context,
      MaterialPageRoute(builder: (context) => AddContactPage()), // Creates route -
                                                                    AddContactPage.
    );
    if (newContact != null) {
      addContact(newContact["name"], newContact["phone"]);
    }
  },
),
);
}}
```

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//  screens/ add_contact_page.dart

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

class AddContactPage extends StatefulWidget {

  @override

  State<AddContactPage> createState() => _AddContactPageState();
}

class _AddContactPageState extends State<AddContactPage> {

  TextEditingController nameController = TextEditingController();

  TextEditingController phoneController = TextEditingController();

  @override

  Widget build(BuildContext context) { // Builds UI of this screen.

    return Scaffold( // Basic page layout.

      appBar: AppBar(title: Text("Add Contact")),

      body: Padding(

        padding: EdgeInsets.all(16), // Adds spacing around content.

        child: Column( // Arranges widgets vertically.

          children: [

            TextField( // TextField connected to controller.

              controller: nameController, // Store what user types in TextField

              decoration: InputDecoration(

                labelText: "Enter Name",

                border: OutlineInputBorder(),

              ),

            ),

            SizedBox(height: 20),

            TextField(

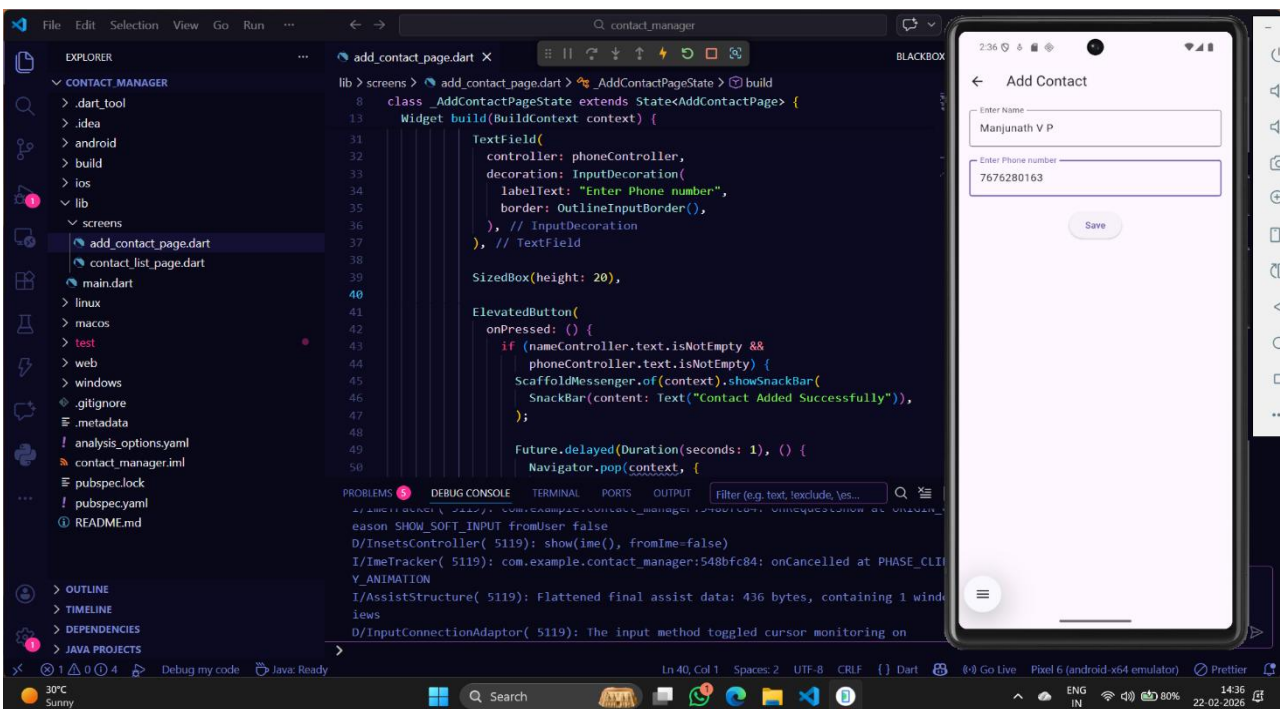
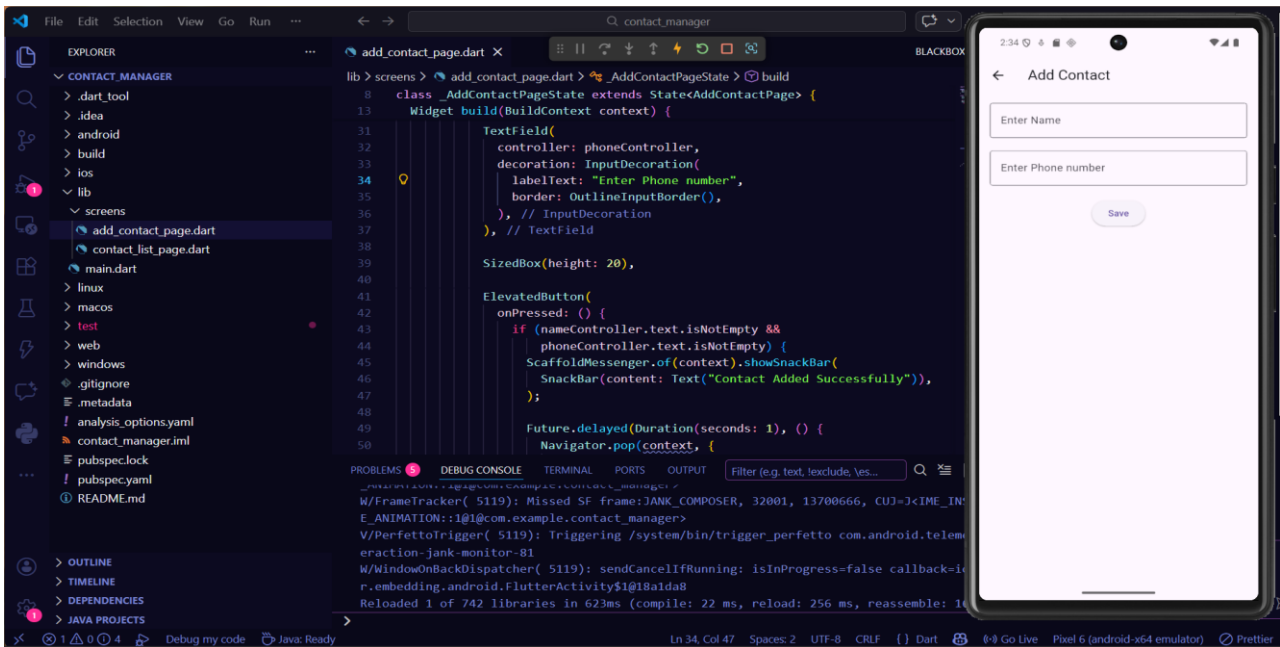
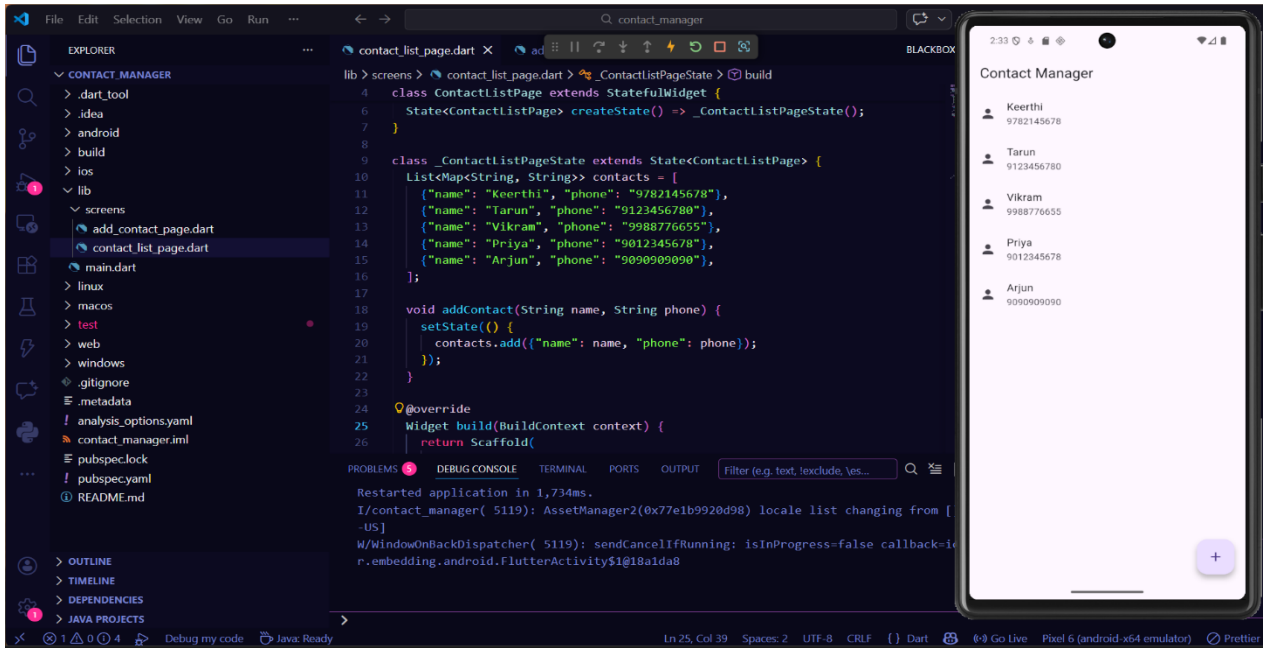
              controller: phoneController,

              decoration: InputDecoration(
```

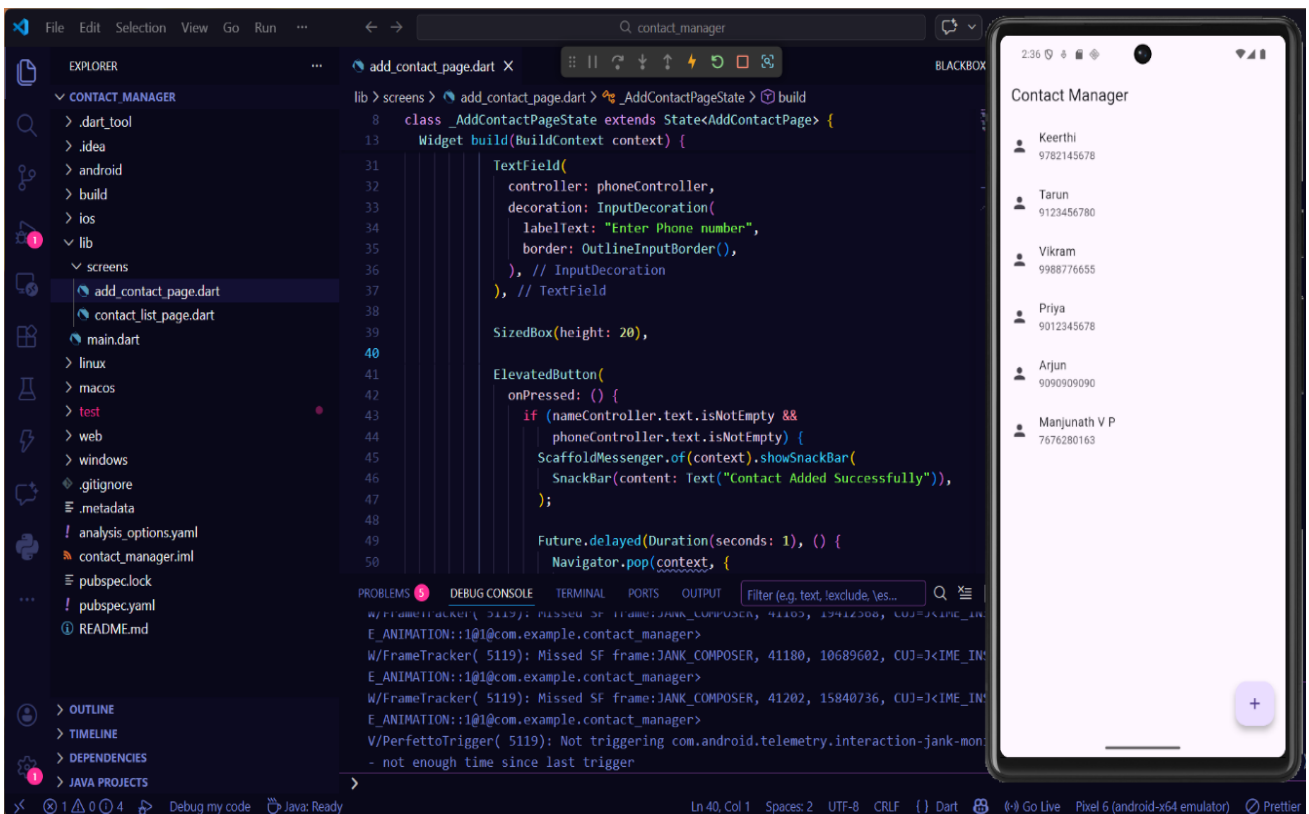
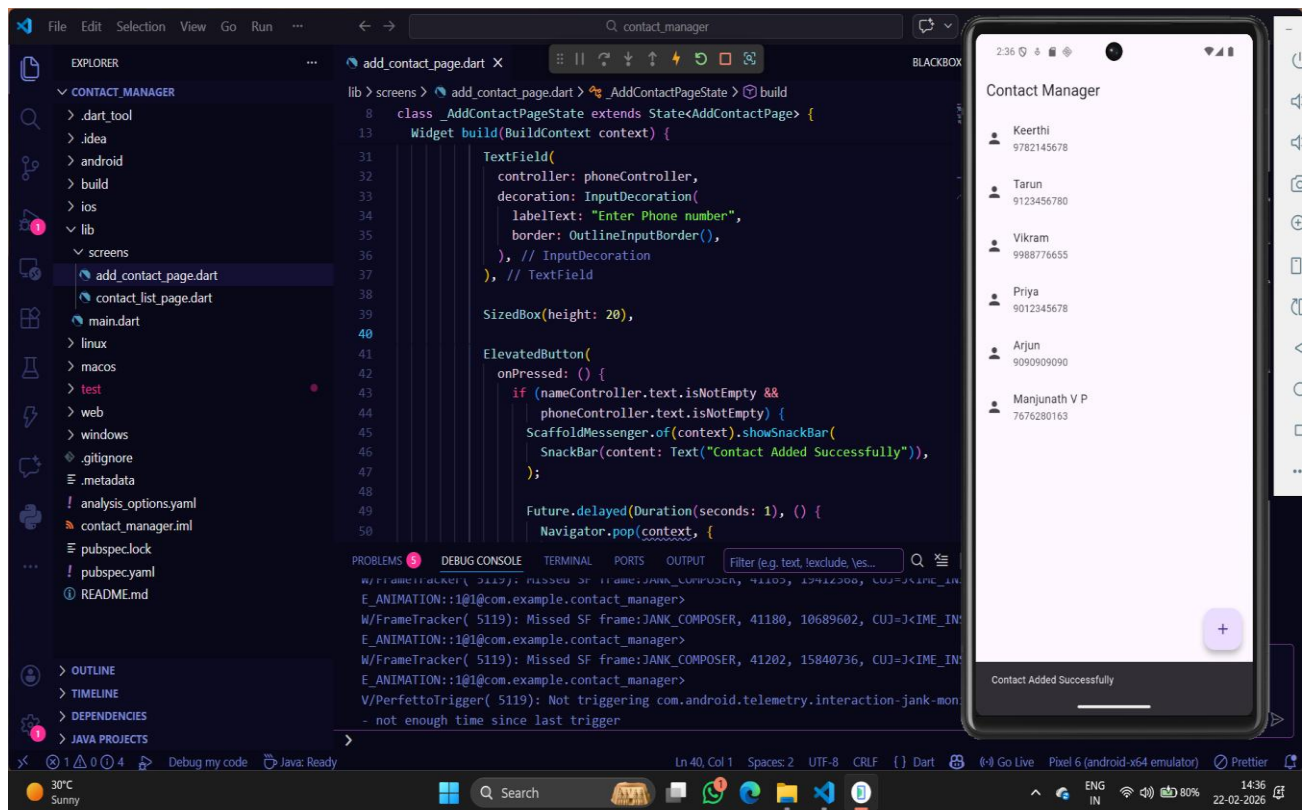
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```
        labelText: "Enter Phone number",
        border: OutlineInputBorder(),
    ),
),
    SizedBox(height: 20),
    ElevatedButton(
        onPressed: () {
            if (nameController.text.isNotEmpty && // Prevents empty contact.
                phoneController.text.isNotEmpty) {
                ScaffoldMessenger.of(context).showSnackBar(
                    SnackBar(content: Text("Contact Added Successfully")),
                );
                Future.delayed(Duration(seconds: 1), () {
// Wait 1 second so user sees snackbar.
                    Navigator.pop(context, {
                        "name": nameController.text,
                        "phone": phoneController.text,
                    });
                });
            }
        },
        child: Text("Save"),
    ),
],
),
),
);
}
```

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Task 2 : Photo Gallery App (App-5) :

Code :- // main.dart

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

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

class MyApp extends StatelessWidget {          // Root widget of the application
  @override
  Widget build(BuildContext context) {
    return MaterialApp(debugShowCheckedModeBanner: false,
    home: GalleryPage());                    // This will open GalleryPage from gallery_page.dart
  }
}
```

//  screens/gallery_page.dart

```
import 'package:flutter/material.dart';
import 'full_view_page.dart';              // import second screen for full photo view

class GalleryPage extends StatelessWidget {
  // This page shows grid of photos (colors acting as photos)

  final List<Color> colors = [              // List of colors acting like photos
    Colors.red,
    Colors.blue,
    Colors.green,
    Colors.orange,
```


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```
Colors.purple,
Colors.pink,
];

// Function to show bottom sheet options when a photo is tapped
void showOptions(BuildContext context, int index, Color color) {
// Shows bottom sheet from bottom of screen
showModalBottomSheet(
  context: context,
  builder: (context) {
    return Column(
      mainAxisAlignment: MainAxisAlignment.min,          // takes only needed height
      children: [
        ListTile(
          leading: Icon(Icons.fullscreen),
          title: Text("View Full"),
          onTap: () {
            Navigator.pop(context);                    // close bottom sheet
            Navigator.push(                             // Navigate to FullViewPage
              context,
              MaterialPageRoute(
                builder: (context) =>
                  FullViewPage(color: color, photoNumber: index + 1),
                // send color , photo number
              ),
            );
          },
        ),
      ],
    );
  },
),
ListTile(
  leading: Icon(Icons.share),
```

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```
        title: Text("Share"),
        onTap: () {
          Navigator.pop(context);

          ScaffoldMessenger.of(context).showSnackBar( // show message
            SnackBar(content: Text("Shared Photo ${index + 1}")),
          );
        },
      ),
    ListTile(
      leading: Icon(Icons.delete),
      title: Text("Delete"),
      onTap: () {
        Navigator.pop(context);


        ScaffoldMessenger.of(context).showSnackBar(
          SnackBar(content: Text("Deleted Photo ${index + 1}")),
        );
      },
    ),
  ],
);
},
);
}

@override // UI of page
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(title: Text("Photo Gallery")),
    body: GridView.count(
      crossAxisCount: 2, // 2 photos per row
```

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```
children: List.generate(6, (index) {                                // generates 6 grid items
  return GestureDetector(
    onTap: () {
      showOptions(context, index, colors[index]);
    },
    child: Stack(
      children: [ //photo color box
        Container(margin: EdgeInsets.all(8), color: colors[index]),
        Positioned(                                     // photo number text on top
          bottom: 10,
          left: 10,
          child: Text(
            "Photo ${index + 1}",
            style: TextStyle(
              color: Colors.white,
              fontWeight: FontWeight.bold,
            ),
          ),
        ),
      ],
    ),
  );
}),
);
}
```

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```
//  screens/full_view_page.dart
```

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

```
class FullViewPage extends StatelessWidget { // shows a single photo in full screen
```

```
  final Color color; // values are received from GalleryPage
```

```
  final int photoNumber;
```

```
  FullViewPage({required this.color, required this.photoNumber});
```

```
  @override
```

```
  Widget build(BuildContext context) {
```

```
    return Scaffold(
```

```
      appBar: AppBar(title: Text("Photo $photoNumber")),
```

```
      body: Container( // Full screen container showing the color
```

```
        color: color, // Set background color
```

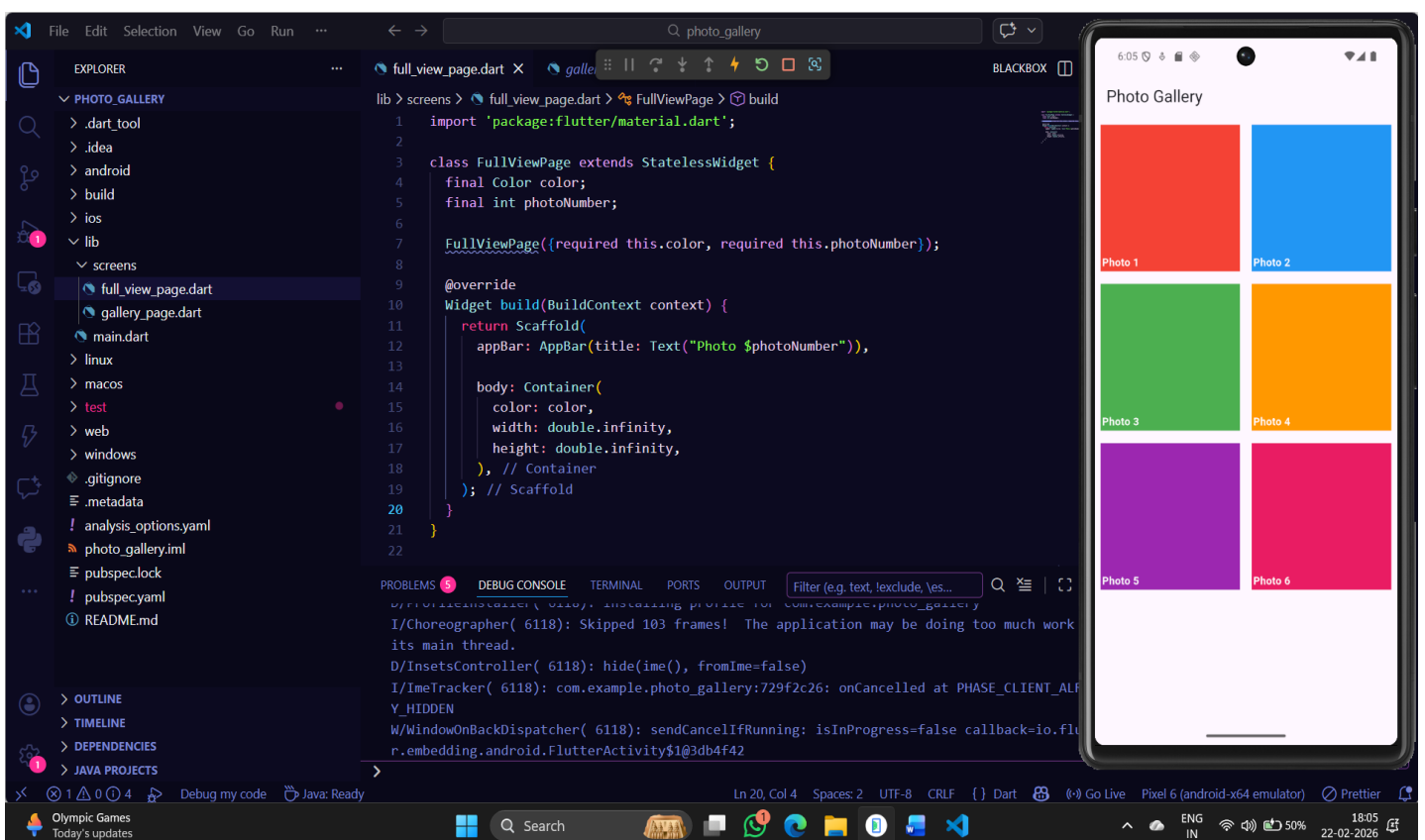
```
        width: double.infinity, // Take full screen width
```

```
        height: double.infinity, // Take full screen height
```

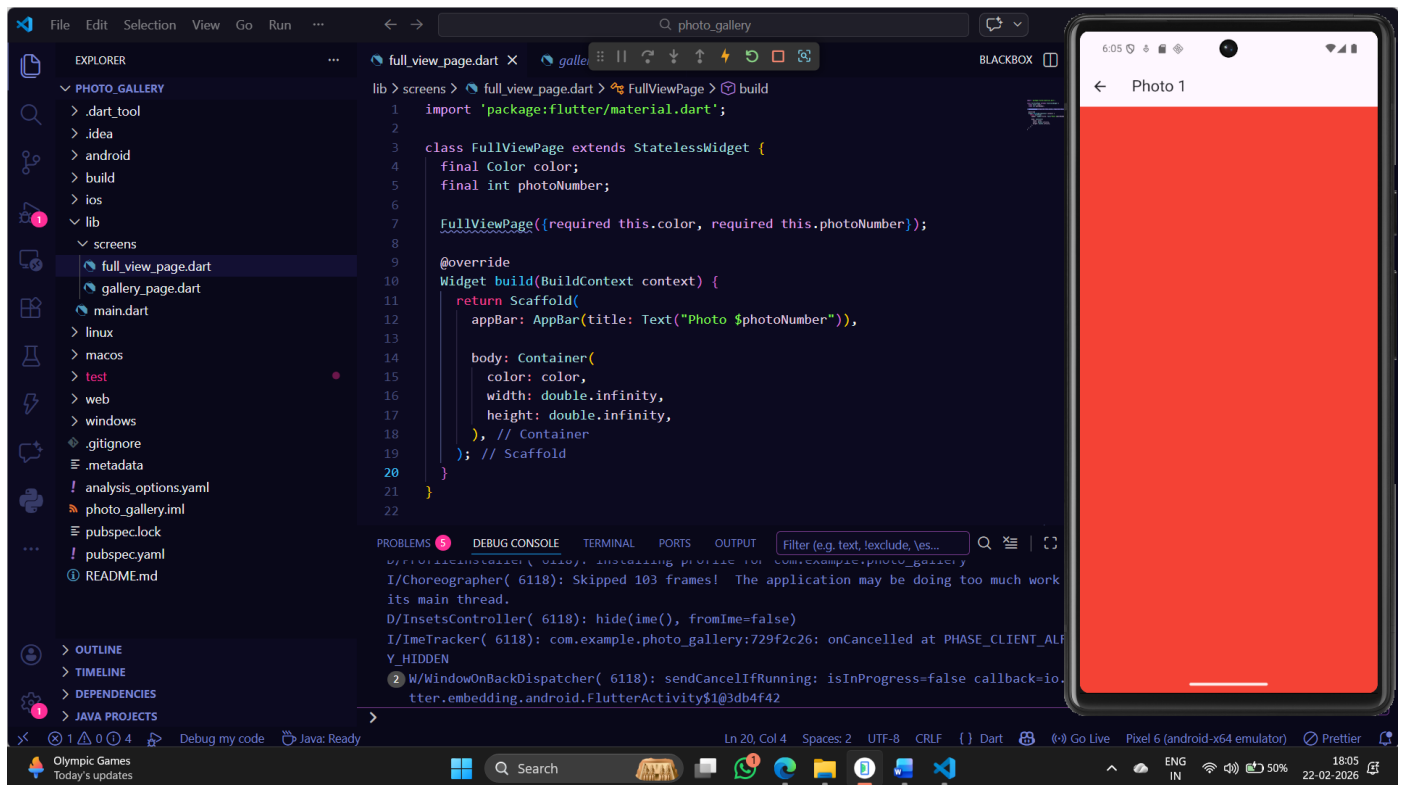
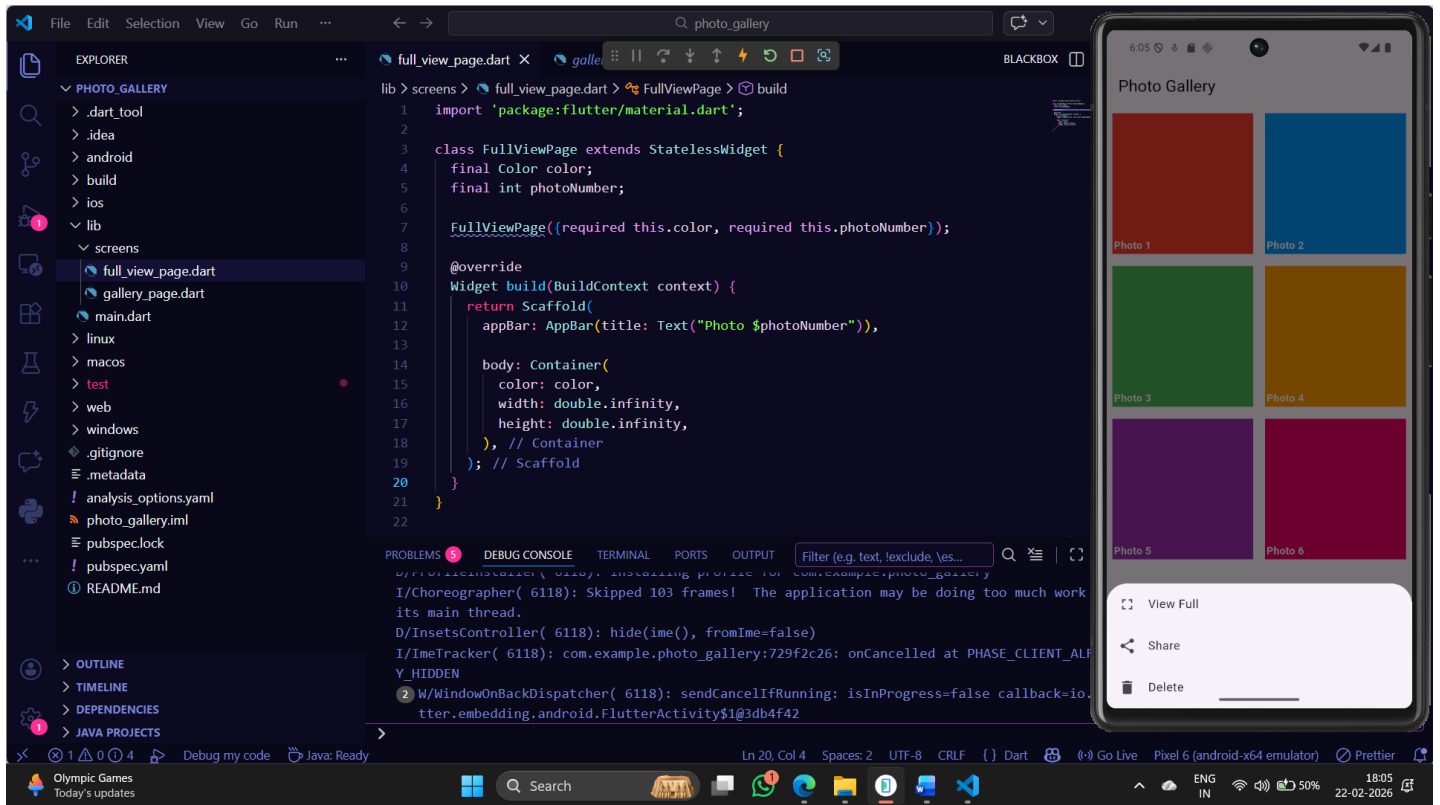
```
    ),
```

```
  );
```

```
}
```



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