

**TUGAS PENDAHULUAN / TUGAS UNGUIDED
PEMROGRAMAN PERANGKAT BERGERAK**

**MODUL X
DATA STORAGE (BAGIAN I)**



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A. SOAL

B. JAWABAN

Sql_helper.dart

```
import 'package:sqflite/sqflite.dart';
import 'package:path/path.dart';

class SQLHelper {
  static Future<Database> db() async {
    return openDatabase(
      join(await getDatabasesPath(), 'mahasiswa.db'),
      version: 1,
      onCreate: (Database database, int version) async {
        await database.execute("""
          CREATE TABLE mahasiswa(
            id INTEGER PRIMARY KEY AUTOINCREMENT,
            nama TEXT,
            nim TEXT,
            alamat TEXT,
            hobi TEXT
          )
        """);
      },
    );
  }

  // CREATE
  static Future<int> createData(String nama, String nim, String alamat,
    String hobi) async {
    final db = await SQLHelper.db();

    final data = {
      'nama': nama,
      'nim': nim,
      'alamat': alamat,
      'hobi': hobi,
    };

    return db.insert('mahasiswa', data,
      conflictAlgorithm: ConflictAlgorithm.replace);
  }

  // READ
  static Future<List<Map<String, dynamic>>> getData() async {
    final db = await SQLHelper.db();
    return db.query('mahasiswa', orderBy: "id DESC");
  }
}
```

Tambah_mahasiswa.dart

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

class TambahMahasiswa extends StatefulWidget {
  @override
  _TambahMahasiswaState createState() => _TambahMahasiswaState();
}

class _TambahMahasiswaState extends State<TambahMahasiswa> {
  final namaController = TextEditingController();
  final nimController = TextEditingController();
  final alamatController = TextEditingController();
  final hobiController = TextEditingController();

  void simpan() async {
    await SQLHelper.createData(
      namaController.text,
      nimController.text,
      alamatController.text,
      hobiController.text,
    );

    Navigator.pop(context);
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: const Text("Tambah Biodata Mahasiswa"),
        backgroundColor: Colors.lightBlueAccent,
      ),
      body: Padding(
        padding: const EdgeInsets.all(20.0),
        child: Column(
          children: [
            TextField(
              controller: namaController,
              decoration: InputDecoration(labelText: "Nama"),
            ),
            TextField(
              controller: nimController,
              decoration: InputDecoration(labelText: "NIM"),
            ),
            TextField(
              controller: alamatController,
              decoration: InputDecoration(labelText: "Alamat"),
            ),
            TextField(
              controller: hobiController,
              decoration: InputDecoration(labelText: "Hobi"),
            ),
            const SizedBox(height: 20),
          ],
        ),
      ),
    );
  }
}
```

```

        ElevatedButton(
          onPressed: simpan,
          style: ElevatedButton.styleFrom(
            backgroundColor: Colors.lightBlueAccent,
          ),
          child: const Text("Simpan"),
        ),
      ),
    ),
  );
}
}

```

Main.dart

```

import 'package:flutter/material.dart';
import 'sql_helper.dart';
import 'tambah_mahasiswa.dart';

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

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

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

class HomePage extends StatefulWidget {
  @override
  _HomePageState createState() => _HomePageState();
}

class _HomePageState extends State<HomePage> {
  List<Map<String, dynamic>> mahasiswa = [];

  @override
  void initState() {
    super.initState();
    loadMahasiswa();
  }

  void loadMahasiswa() async {
    final data = await SQLHelper.getData();
    setState(() {

```

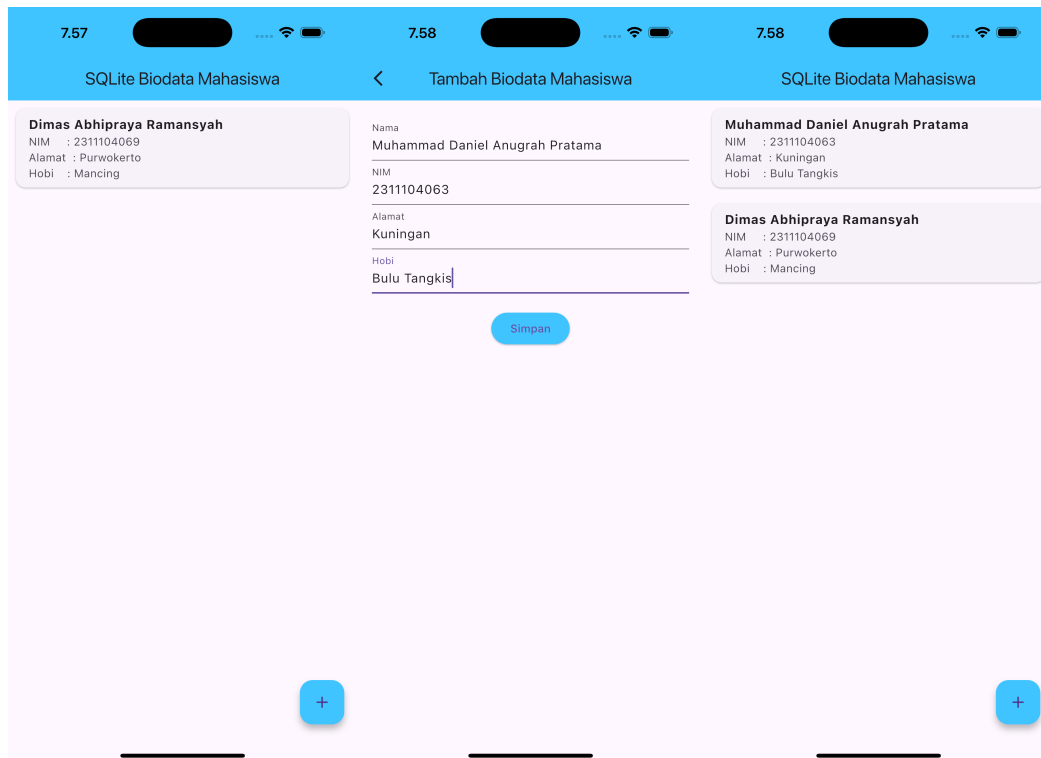
```

        mahasiswa = data;
    });
}

@override
Widget build(BuildContext context) {
    return Scaffold(
        appBar: AppBar(
            title: const Text("SQLite Biodata Mahasiswa"),
            backgroundColor: Colors.lightBlueAccent,
        ),
        body: ListView.builder(
            itemCount: mahasiswa.length,
            itemBuilder: (context, index) {
                return Card(
                    margin: const EdgeInsets.all(10),
                    child: ListTile(
                        title: Text(mahasiswa[index]['nama'],
                            style: const TextStyle(fontWeight: FontWeight.bold)),
                        subtitle: Column(
                            crossAxisAlignment: CrossAxisAlignment.start,
                            children: [
                                Text("NIM      : ${mahasiswa[index]['nim']}"),
                                Text("Alamat   : ${mahasiswa[index]['alamat']}"),
                                Text("Hobi     : ${mahasiswa[index]['hobi']}"),
                            ],
                        ),
                    ),
                );
            },
        ),
        floatingActionButton: FloatingActionButton(
            backgroundColor: Colors.lightBlueAccent,
            child: const Icon(Icons.add),
            onPressed: () async {
                await Navigator.push(
                    context,
                    MaterialPageRoute(builder: (context) => TambahMahasiswa()),
                );
                loadMahasiswa();
            },
        ),
    );
}
}

```

Screenshot Output



Deskripsi Program

Program ini adalah **aplikasi Flutter berbasis SQLite** yang digunakan untuk menyimpan dan menampilkan **biodata mahasiswa**. Aplikasi menyediakan **form input** untuk memasukkan data mahasiswa yang terdiri dari **nama, NIM, alamat, dan hobi**. Data yang sudah dimasukkan akan disimpan ke dalam database lokal SQLite, lalu langsung ditampilkan dalam bentuk **daftar pada halaman utama**.