U18CO018
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Assignment – 9 (ST)

Question: Extend your lab assignment 8 by inserting a new table which stores messages related to the persons available in your contact list. This is to save any important information mentioned during the recent or an earlier phone call. Your new table should be named as "Message" with message_id as the primary key and contact_no (or any id which you are using as your primary key for the contact table) as your foreign key here. You will also store date and time stamp to identify the recent message stored for a particular person. A list of operations which are required to provide to the user are as follows.

        (a) Display all messages related to a person.
        (b) Display recent message of a person.
        (c) Add a new message.
        (d) Delete an existing message.
        (e) Update an existing message.

MainActivity.java

```java
package com.exmple.savecontactsandmessages;

import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.view.GravityCompat;
import androidx.drawerlayout.widget.DrawerLayout;

import android.os.Bundle;
import android.view.MenuItem;

import com.exmple.savecontactsandmessages.fragments.AddMessageFragment;
import com.exmple.savecontactsandmessages.fragments.ContactEntryFragment;
import com.exmple.savecontactsandmessages.fragments.DeleteFragment;
import com.exmple.savecontactsandmessages.fragments.SerachFragment;
import com.exmple.savecontactsandmessages.fragments.UpdateFragment;
import com.exmple.savecontactsandmessages.fragments.UpdateMessageFragment;
import com.exmple.savecontactsandmessages.fragments.ViewContactFragment;
import com.exmple.savecontactsandmessages.R;
import com.exmple.savecontactsandmessages.fragments.showMessagesFragment;
import com.google.android.material.navigation.NavigationView;

import java.util.Objects;
```

```java
public class MainActivity extends AppCompatActivity implements
NavigationView.OnNavigationItemSelectedListener {

    private DrawerLayout drawer;
    private ActionBarDrawerToggle toggle;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        drawer = findViewById(R.id.draw_layout);
        NavigationView navigationView = findViewById(R.id.nav_view);
        navigationView.setNavigationItemSelectedListener(this);

        toggle = new ActionBarDrawerToggle(this,drawer,
                R.string.navigation_drawer_open,R.string.navigation_drawer_close);
        drawer.addDrawerListener(toggle);
        toggle.syncState();


Objects.requireNonNull(getSupportActionBar()).setDisplayHomeAsUpEnabled(true);

        if(savedInstanceState == null) {

getSupportFragmentManager().beginTransaction().replace(R.id.fragment_container,new
ContactEntryFragment()).commit();
            navigationView.setCheckedItem(R.id.contactEntry);
        }

    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {

        if(toggle.onOptionsItemSelected(item)) {
            return true;
        }

        return super.onOptionsItemSelected(item);
    }

    @Override
    public void onBackPressed() {
        if(drawer.isDrawerOpen(GravityCompat.START)){
            drawer.closeDrawer(GravityCompat.START);
            return;
        }
        super.onBackPressed();
    }

    @Override
    public boolean onNavigationItemSelected(@NonNull MenuItem item) {
        switch (item.getItemId()) {
```

```java
            case R.id.contactEntry:

getSupportFragmentManager().beginTransaction().replace(R.id.fragment_container,new
ContactEntryFragment()).commit();
                break;

            case R.id.viewEntries:

getSupportFragmentManager().beginTransaction().replace(R.id.fragment_container,new
ViewContactFragment()).commit();
                break;

            case R.id.search:

getSupportFragmentManager().beginTransaction().replace(R.id.fragment_container,new
SerachFragment()).commit();
                break;

            case R.id.updateEntry:

getSupportFragmentManager().beginTransaction().replace(R.id.fragment_container,new
UpdateFragment()).commit();
                break;

            case R.id.deleteEntry:

getSupportFragmentManager().beginTransaction().replace(R.id.fragment_container,new
DeleteFragment()).commit();
                break;

            case R.id.addMessageMenu:

getSupportFragmentManager().beginTransaction().replace(R.id.fragment_container,new
AddMessageFragment()).commit();
                break;

            case R.id.updateMessageMenu:

getSupportFragmentManager().beginTransaction().replace(R.id.fragment_container,new
UpdateMessageFragment()).commit();
                break;

            case R.id.viewAllMessages:

getSupportFragmentManager().beginTransaction().replace(R.id.fragment_container,new
showMessagesFragment()).commit();
                break;
        }

        drawer.closeDrawer(GravityCompat.START);
        return true;
    }

}
```

DatabaseHandler.java

```java
package com.exmple.savecontacts;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

import androidx.annotation.Nullable;


public class DatabaseHandler extends SQLiteOpenHelper {

    public static final String DATABASE_NAME = "ContactDatabase.db";
    public static final String CONTACT_TABLE_NAME = "contact";
    public static final String CONTACT_COLUMN_ID = "id";
    public static final String CONTACT_COLUMN_NAME = "name";
    public static final String CONTACT_COLUMN_PHONE = "phone";
    public static final String CONTACT_COLUMN_EMAIL = "email";
    public static final String CONTACT_COLUMN_ADDRESS = "address";

    public DatabaseHandler(@Nullable Context context) {
        super(context,DATABASE_NAME,null,1);
    }

    @Override
    public void onCreate(SQLiteDatabase sqLiteDatabase) {
        sqLiteDatabase.execSQL("Create table contact ( id INTEGER PRIMARY KEY
AUTOINCREMENT, name text not null, phone text not null ,email text not null ,address
text not null);");
    }

    @Override
    public void onUpgrade(SQLiteDatabase sqLiteDatabase, int i, int i1) {
        sqLiteDatabase.execSQL("DROP TABLE IF EXISTS " + CONTACT_TABLE_NAME);
        onCreate(sqLiteDatabase);
    }

    public boolean insertData (String name, String phone, String email, String
address) {
        boolean isSuccess = false;
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues content = new ContentValues();
        content.put(CONTACT_COLUMN_NAME, name);
        content.put(CONTACT_COLUMN_PHONE,phone);
        content.put(CONTACT_COLUMN_EMAIL, email);
        content.put(CONTACT_COLUMN_ADDRESS,address);
        isSuccess = db.insert(CONTACT_TABLE_NAME,null,content) > 0;
        db.close();
```

```java
        return isSuccess;
    }

    public Cursor getData() {
        SQLiteDatabase sqLiteDatabase = this.getReadableDatabase();
        return sqLiteDatabase.rawQuery("select * from contact",null);
    }

    public Cursor getDataById(String s) {
        SQLiteDatabase sqLiteDatabase = this.getReadableDatabase();
        String str = "select * from contact where id = " + s;
        return sqLiteDatabase.rawQuery(str ,null);
    }

    public void updateData(int id, String name, String phone, String email, String
address) {
        SQLiteDatabase db = this.getWritableDatabase();
        db.execSQL("update contact set name = '" + name + "', phone = '" + phone +
"', email = '" + email + "', address = '" + address + "' where id = " + id);
    }

    public void deleteData(String s) {
        SQLiteDatabase db = this.getWritableDatabase();
        db.execSQL("delete from contact where id = " + s);
    }
}
```

ContactInformation.java

```java
package com.exmple.savecontacts;

public class ContactInformation {

    private int id;
    private String name;
    private String phone;
    private String email;
    private String address;

    public ContactInformation() {
    }

    public ContactInformation(int id, String name, String phone, String email, String
address) {
        this.id = id;
        this.name = name;
        this.phone = phone;
        this.email = email;
        this.address = address;
    }

    public int getId() {
```

```java
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getPhone() {
        return phone;
    }

    public void setPhone(String phone) {
        this.phone = phone;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }
}
```

ContactEntryFragment.java

```java
package com.exmple.savecontacts.fragments;

import android.os.Bundle;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;
```

```java
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import com.exmple.savecontacts.DatabaseHandler;
import com.exmple.savecontacts.MainActivity;
import com.exmple.savecontacts.R;

public class ContactEntryFragment extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        return inflater.inflate(R.layout.fragment_contact_entry, container, false);
    }

    private EditText nameEt, phoneEt, emailEt, addressEt;
    private Button submitBtn;

    @Override
    public void onViewCreated(@NonNull View view, @Nullable Bundle
savedInstanceState) {
        super.onViewCreated(view, savedInstanceState);

        nameEt = view.findViewById(R.id.nameEt);
        phoneEt = view.findViewById(R.id.phoneEt);
        emailEt = view.findViewById(R.id.emailEt);
        addressEt = view.findViewById(R.id.addressEt);

        submitBtn = view.findViewById(R.id.submitBtn);


        submitBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String phone = phoneEt.getText().toString().trim();
                String name = nameEt.getText().toString().trim();
                String email = emailEt.getText().toString().trim();
                String address = addressEt.getText().toString().trim();


                if(phone.isEmpty() || name.isEmpty() || email.isEmpty() ||
address.isEmpty()) {
                    Toast.makeText(view.getContext(), "All Fields are requierd",
Toast.LENGTH_LONG).show();
                } else {

                    try {

                        DatabaseHandler db = new DatabaseHandler(view.getContext());
                        boolean flag = db.insertData(name, phone, email, address);
```

```java
                    if (flag) {
                        Toast.makeText(view.getContext(), "Successful",
    Toast.LENGTH_SHORT).show();
                    } else {
                        Toast.makeText(view.getContext(), "Something Went
    Wrong!", Toast.LENGTH_SHORT).show();
                    }

                    nameEt.setText("");
                    phoneEt.setText("");
                    emailEt.setText("");
                    addressEt.setText("");
                } catch (Exception e) {

                }

            }

        }
    });

    }
}
```

DeleteFragment.java

```java
package com.exmple.savecontacts.fragments;

import android.database.Cursor;
import android.os.Bundle;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import com.exmple.savecontacts.ContactInformation;
import com.exmple.savecontacts.DatabaseHandler;
import com.exmple.savecontacts.R;
import com.exmple.savecontacts.RecyclerViewAdapter;

import java.util.ArrayList;

public class DeleteFragment extends Fragment {
```

```java
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_delete, container, false);
    }

    private EditText etDeleteId;
    private RecyclerView recyclerViewDelete;
    private Button btnDeleteFind,btnDeleteDelete;
    private String id;

    @Override
    public void onViewCreated(@NonNull View view, @Nullable Bundle
savedInstanceState) {
        super.onViewCreated(view, savedInstanceState);

        etDeleteId = view.findViewById(R.id.etDeleteId);
        recyclerViewDelete = view.findViewById(R.id.deleteRecyclerList);
        btnDeleteDelete = view.findViewById(R.id.deleteButton);
        btnDeleteFind = view.findViewById(R.id.deleteSearchButton);

        btnDeleteFind.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                id = etDeleteId.getText().toString().trim();

                recyclerViewDelete.setVisibility(View.INVISIBLE);
                btnDeleteDelete.setVisibility(View.INVISIBLE);

                if(id.isEmpty()) {
                    Toast.makeText(getActivity(),"Enter valid input
",Toast.LENGTH_SHORT).show();
                    recyclerViewDelete.setAdapter(null);
                    return;
                }

                DatabaseHandler db = new DatabaseHandler(getActivity());
                Cursor cursor = db.getDataById(id);
                if(cursor.getCount() == 0) {
                    Toast.makeText(getActivity(),"No record
Found",Toast.LENGTH_SHORT).show();
                    recyclerViewDelete.setAdapter(null);
                } else {

                    ArrayList<ContactInformation> arrayList = new ArrayList<>();
                    while (cursor.moveToNext()) {
                        arrayList.add(new
ContactInformation(Integer.parseInt(cursor.getString(0)), cursor.getString(1),
cursor.getString(2), cursor.getString(3),
                                cursor.getString(4)));
                    }
                    recyclerViewDelete.setAdapter(new
RecyclerViewAdapter(arrayList,getActivity()));
```

```java
                    recyclerViewDelete.setLayoutManager(new
LinearLayoutManager(getActivity()));

                    recyclerViewDelete.setVisibility(View.VISIBLE);
                    btnDeleteDelete.setVisibility(View.VISIBLE);
                }
                etDeleteId.setText("");
            }
        });

        btnDeleteDelete.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                DatabaseHandler db = new DatabaseHandler(getActivity());

                try {
                    db.deleteData(id);
                    Toast.makeText(getActivity(),"Deleted Successful
",Toast.LENGTH_SHORT).show();
                } catch (Exception e) {

Toast.makeText(getActivity(),e.getMessage(),Toast.LENGTH_SHORT).show();
                }

                recyclerViewDelete.setVisibility(View.INVISIBLE);
                btnDeleteDelete.setVisibility(View.INVISIBLE);
            }
        });

    }
}


SerachFragment.java

package com.exmple.savecontacts.fragments;

import android.database.Cursor;
import android.os.Bundle;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ListView;
import android.widget.Toast;
```

```java
import com.exmple.savecontacts.ContactInformation;
import com.exmple.savecontacts.DatabaseHandler;
import com.exmple.savecontacts.R;
import com.exmple.savecontacts.RecyclerViewAdapter;

import java.util.ArrayList;

public class SerachFragment extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_serach, container, false);
    }

    private EditText etQuery;
    private Button submitSearch;
    private RecyclerView listViewId;

    @Override
    public void onViewCreated(@NonNull View view, @Nullable Bundle
savedInstanceState) {
        super.onViewCreated(view, savedInstanceState);

        etQuery = view.findViewById(R.id.etQuery);
        submitSearch = view.findViewById(R.id.searchButton);
        listViewId = view.findViewById(R.id.listViewId);

        submitSearch.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String id = etQuery.getText().toString().trim();

                if (id.isEmpty()) {
                    Toast.makeText(getActivity(), "Enter valid input ",
Toast.LENGTH_SHORT).show();
                    listViewId.setAdapter(null);
                    return;
                }

                DatabaseHandler db = new DatabaseHandler(getActivity());
                Cursor cursor = db.getDataById(id);
                if (cursor.getCount() == 0) {
                    Toast.makeText(getActivity(), "No record Found",
Toast.LENGTH_SHORT).show();
                    listViewId.setAdapter(null);
                } else {

                    ArrayList<ContactInformation> arrayList = new ArrayList<>();
                    while (cursor.moveToNext()) {
                        arrayList.add(new
ContactInformation(Integer.parseInt(cursor.getString(0)), cursor.getString(1),
cursor.getString(2), cursor.getString(3),
                                cursor.getString(4)));
```

```java
                }
                listViewId.setAdapter(new RecyclerViewAdapter(arrayList,
getActivity()));
                listViewId.setLayoutManager(new
LinearLayoutManager(getActivity()));
            }
            etQuery.setText("");
        }
    });
    }
}
```

UpdateFragment.java

```java
package com.exmple.savecontacts.fragments;

import android.database.Cursor;
import android.os.Bundle;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import com.exmple.savecontacts.DatabaseHandler;
import com.exmple.savecontacts.R;

public class UpdateFragment extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_update, container, false);
    }

    private EditText etUpdateId, etUpdateName,etUpdatePhone,etUpdateEmail,
etUpdateAddress;
    private Button btnFind,btnUpdate;
    private TextView tvId;
    private TextView tvUpdateIdShow, tvUpdateName, tvUpdatePhone, tvUpdateEmail,
tvUpdateAddress;

    @Override
    public void onViewCreated(@NonNull View view, @Nullable Bundle
```

```java
savedInstanceState) {
        super.onViewCreated(view, savedInstanceState);

        etUpdateId = view.findViewById(R.id.etUpdateId);
        etUpdateName = view.findViewById(R.id.etUpdateName);
        etUpdatePhone = view.findViewById(R.id.etUpdatePhone);
        etUpdateEmail = view.findViewById(R.id.etUpdateEmail);
        etUpdateAddress = view.findViewById(R.id.etUpdateAddress);

        btnFind = view.findViewById(R.id.updateSearchButton);
        btnUpdate = view.findViewById(R.id.etUpdateButton);

        tvUpdateIdShow = view.findViewById(R.id.tvUpdateIdShow);
        tvId = view.findViewById(R.id.tvUpdateId);

        tvUpdateName = view.findViewById(R.id.tvUpdateName);
        tvUpdatePhone = view.findViewById(R.id.tvUpdatePhone);
        tvUpdateEmail = view.findViewById(R.id.tvUpdateEmail);
        tvUpdateAddress = view.findViewById(R.id.tvUpdateAddress);


        btnFind.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                makeInvisible();

                String id = etUpdateId.getText().toString().trim();

                if(id.isEmpty()) {
                    Toast.makeText(getActivity(),"Enter valid input
",Toast.LENGTH_SHORT).show();
                    return;
                }

                DatabaseHandler db = new DatabaseHandler(getActivity());
                Cursor cursor = db.getDataById(id);
                if(cursor.getCount() == 0) {
                    Toast.makeText(getActivity(),"No record
Found",Toast.LENGTH_SHORT).show();
                } else {
                    makeVisible();

                    while (cursor.moveToNext()) {

                        tvId.setText(cursor.getString(0));
                        etUpdateName.setText(cursor.getString(1));
                        etUpdatePhone.setText(cursor.getString(2));
                        etUpdateEmail.setText(cursor.getString(3));
                        etUpdateAddress.setText(cursor.getString(4));
                    }

                }
                etUpdateId.setText("");
            }
        });
```

```java
        btnUpdate.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String id = tvId.getText().toString().trim();
                String name = etUpdateName.getText().toString().trim();
                String phone = etUpdatePhone.getText().toString().trim();
                String email = etUpdateEmail.getText().toString().trim();
                String address = etUpdateAddress.getText().toString().trim();

                if(name.isEmpty() || phone.isEmpty() || email.isEmpty() ||
address.isEmpty()) {
                    Toast.makeText(getActivity(),"All fields Are requierd
",Toast.LENGTH_SHORT).show();
                    return;
                }

                DatabaseHandler db = new DatabaseHandler(getActivity());
                try {
                    db.updateData(Integer.parseInt(id), name, phone, email, address);
                    Toast.makeText(getActivity(), "Data Updated Successfully ",
Toast.LENGTH_SHORT).show();
                } catch (Exception e) {

Toast.makeText(getActivity(),e.getMessage(),Toast.LENGTH_SHORT).show();
                }

                makeInvisible();
            }
        });

    }

    private void makeInvisible() {
        etUpdateName.setVisibility(View.GONE);
        etUpdatePhone.setVisibility(View.GONE);
        etUpdateEmail.setVisibility(View.GONE);
        etUpdateAddress.setVisibility(View.GONE);

        btnUpdate.setVisibility(View.GONE);

        tvUpdateIdShow.setVisibility(View.GONE);
        tvId.setVisibility(View.GONE);
        tvUpdateName.setVisibility(View.GONE);
        tvUpdatePhone.setVisibility(View.GONE);
        tvUpdateEmail.setVisibility(View.GONE);
        tvUpdateAddress.setVisibility(View.GONE);
    }

    private void makeVisible() {
        etUpdateName.setVisibility(View.VISIBLE);
        etUpdatePhone.setVisibility(View.VISIBLE);
        etUpdateEmail.setVisibility(View.VISIBLE);
        etUpdateAddress.setVisibility(View.VISIBLE);
```

```java
        btnUpdate.setVisibility(View.VISIBLE);

        tvUpdateIdShow.setVisibility(View.VISIBLE);
        tvId.setVisibility(View.VISIBLE);
        tvUpdateName.setVisibility(View.VISIBLE);
        tvUpdatePhone.setVisibility(View.VISIBLE);
        tvUpdateEmail.setVisibility(View.VISIBLE);
        tvUpdateAddress.setVisibility(View.VISIBLE);
    }
}
```

ViewContactFragmetn.java

```java
package com.exmple.savecontacts.fragments;

import android.database.Cursor;
import android.os.Bundle;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Toast;

import com.exmple.savecontacts.ContactInformation;
import com.exmple.savecontacts.DatabaseHandler;
import com.exmple.savecontacts.R;
import com.exmple.savecontacts.RecyclerViewAdapter;

import java.util.ArrayList;

public class ViewContactFragment extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_view_contact, container, false);
    }
```

```java
    @Override
    public void onViewCreated(@NonNull View view, @Nullable Bundle
savedInstanceState) {
        super.onViewCreated(view, savedInstanceState);

        DatabaseHandler db = new DatabaseHandler(getActivity());
        Cursor cursor = db.getData();

        ArrayList<ContactInformation> arrayList = new ArrayList<>();

        RecyclerView recyclerView = view.findViewById(R.id.recyclerView);


        if(cursor.getCount() == 0) {
            Toast.makeText(getActivity(),"No Record
Found",Toast.LENGTH_SHORT).show();
        } else {
            while (cursor.moveToNext()) {
                arrayList.add(new
ContactInformation(Integer.parseInt(cursor.getString(0)), cursor.getString(1),
cursor.getString(2), cursor.getString(3),
                        cursor.getString(4)));
            }
        }

        RecyclerViewAdapter recyclerViewAdapter = new
RecyclerViewAdapter(arrayList,getActivity());
        recyclerView.setAdapter(recyclerViewAdapter);
        recyclerView.setLayoutManager(new LinearLayoutManager(getActivity()));
    }
}
```

RecyclerViewAdapter.java


```java
package com.exmple.savecontacts;

import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.LinearLayout;
import android.widget.TextView;

import androidx.annotation.NonNull;
import androidx.recyclerview.widget.RecyclerView;

import java.util.ArrayList;

public class RecyclerViewAdapter extends
RecyclerView.Adapter<RecyclerViewAdapter.ViewHolder> {
```

```java
    private ArrayList<ContactInformation> info;
    private Context mContext;

    public RecyclerViewAdapter(ArrayList<ContactInformation> info, Context mContext)
{
        this.info = info;
        this.mContext = mContext;
    }

    @NonNull
    @Override
    public ViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {
        View view =
LayoutInflater.from(parent.getContext()).inflate(R.layout.list_layout,parent,false);
        return new ViewHolder(view);
    }

    @Override
    public void onBindViewHolder(@NonNull ViewHolder holder, int position) {
        holder.idTv.setText("Id : " + info.get(position).getId());
        holder.nameTv.setText("Name: " + info.get(position).getName());
        holder.phoneTv.setText("Phone: " + info.get(position).getPhone());
        holder.emailTv.setText("Email: " + info.get(position).getEmail());
        holder.addressTv.setText("Address: " + info.get(position).getAddress());
    }

    @Override
    public int getItemCount() {
        return info.size();
    }

    public class ViewHolder extends RecyclerView.ViewHolder {

        TextView idTv, nameTv, phoneTv, emailTv, addressTv;
        LinearLayout parentLayout;

        public ViewHolder(@NonNull View itemView) {
            super(itemView);
            parentLayout = itemView.findViewById(R.id.parent_layout);
            idTv = itemView.findViewById(R.id.idDb);
            nameTv = itemView.findViewById(R.id.nameTv);
            phoneTv = itemView.findViewById(R.id.phoneTv);
            emailTv = itemView.findViewById(R.id.emailTv);
            addressTv = itemView.findViewById(R.id.addressTv);

        }
    }
}


AddMessageFragment.java

package com.exmple.savecontactsandmessages.fragments;

import android.content.Intent;
```

```java
import android.database.Cursor;
import android.os.Bundle;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;
import androidx.recyclerview.widget.LinearLayoutManager;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import com.exmple.savecontactsandmessages.ContactInformation;
import com.exmple.savecontactsandmessages.DatabaseHandler;
import com.exmple.savecontactsandmessages.R;
import com.exmple.savecontactsandmessages.RecyclerViewAdapter;

import java.util.ArrayList;

public class AddMessageFragment extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_add_message, container, false);
    }

    public EditText etUserId, etMessage;
    public Button addMessage;

    @Override
    public void onViewCreated(@NonNull View view, @Nullable Bundle
savedInstanceState) {
        super.onViewCreated(view, savedInstanceState);

        etUserId = view.findViewById(R.id.etUserId);
        etMessage = view.findViewById(R.id.etUserMessage);
        addMessage = view.findViewById(R.id.addMessage);


        addMessage.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String id = etUserId.getText().toString().trim();
                String message = etMessage.getText().toString().trim();

                if (id.isEmpty() || message.isEmpty()) {
                    Toast.makeText(getActivity(), "Enter valid input ",
Toast.LENGTH_SHORT).show();
                    return;
                }
```

```java
            DatabaseHandler db = new DatabaseHandler(getActivity());
            Cursor cursor = db.getDataById(id);
            if (cursor.getCount() == 0) {
                Toast.makeText(getActivity(), "No record Found",
Toast.LENGTH_SHORT).show();
            } else {
                boolean flag = db.insertMessage(message, Integer.parseInt(id));

                if (flag) {
                    Toast.makeText(view.getContext(), "Successful",
Toast.LENGTH_SHORT).show();
                } else {
                    Toast.makeText(view.getContext(), "Something Went Wrong!",
Toast.LENGTH_SHORT).show();
                }
            }

            etUserId.setText("");
            etMessage.setText("");
        }
    });


    }
}


showMessageFragment.java
package com.exmple.savecontactsandmessages.fragments;

import android.database.Cursor;
import android.os.Bundle;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextClock;
import android.widget.TextView;
import android.widget.Toast;

import com.exmple.savecontactsandmessages.DatabaseHandler;
import com.exmple.savecontactsandmessages.R;

public class showMessagesFragment extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                        Bundle savedInstanceState) {
```

```java
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_show_messages, container, false);
    }

    private EditText etShowMessages;
    private Button find;
    private TextView messages;

    @Override
    public void onViewCreated(@NonNull View view, @Nullable Bundle
savedInstanceState) {
        super.onViewCreated(view, savedInstanceState);

        etShowMessages = view.findViewById(R.id.etShowMessageId);
        find = view.findViewById(R.id.findMessages);
        messages = view.findViewById(R.id.messages);

        find.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String personId = etShowMessages.getText().toString().trim();

                if (personId.isEmpty()) {
                    Toast.makeText(getActivity(), "Enter valid input ",
Toast.LENGTH_SHORT).show();
                    return;
                }

                DatabaseHandler db = new DatabaseHandler(getActivity());
                Cursor cursor = db.getMessages(personId);

                if(cursor.getCount() == 0) {
                    Toast.makeText(getActivity(),"No Record
Found",Toast.LENGTH_SHORT).show();
                } else {
                    String t = "";

                    while(cursor.moveToNext()) {
                        t += cursor.getString(1) + "\n";
                    }
                    messages.setVisibility(View.VISIBLE);
                    messages.setText(t);
                }

                etShowMessages.setText("");
            }
        });

    }
}


UpdateMessageFragment.java
```

```java
package com.exmple.savecontactsandmessages.fragments;

import android.database.Cursor;
import android.os.Bundle;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import com.exmple.savecontactsandmessages.DatabaseHandler;
import com.exmple.savecontactsandmessages.R;

public class UpdateMessageFragment extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_update_message, container, false);
    }

    public EditText etUserId, etMessageId, etMessage;
    public Button updateMessage;

    @Override
    public void onViewCreated(@NonNull View view, @Nullable Bundle
savedInstanceState) {
        super.onViewCreated(view, savedInstanceState);

        etUserId = view.findViewById(R.id.etUserId);
        etMessageId = view.findViewById(R.id.etMessageId);
        etMessage = view.findViewById(R.id.etMessageRead);
        updateMessage = view.findViewById(R.id.updateMessage);

        updateMessage.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String id = etUserId.getText().toString().trim();
                String messageId = etMessageId.getText().toString().trim();

                if (id.isEmpty() || messageId.isEmpty()) {
                    Toast.makeText(getActivity(), "Enter valid input ",
Toast.LENGTH_SHORT).show();
                    return;
                }

                DatabaseHandler db = new DatabaseHandler(getActivity());
```

```java
                Cursor cursor = db.getDataById(id);

                if(!etMessage.getText().toString().isEmpty()) {

                    if (cursor.getCount() == 0) {
                        Toast.makeText(getActivity(), "No record Found",
Toast.LENGTH_SHORT).show();
                        etMessage.setVisibility(View.GONE);
                    } else {
                        String temp = etMessage.getText().toString();

                        try {
                            db.updateData(Integer.parseInt(messageId),temp, id);
                            Toast.makeText(getActivity(), "Data Updated Successfully
", Toast.LENGTH_SHORT).show();
                        } catch (Exception e) {

Toast.makeText(getActivity(),e.getMessage(),Toast.LENGTH_SHORT).show();
                        }
                    }

                    etMessage.setText("");
                    etUserId.setText("");
                    etMessageId.setText("");

                } else {
                    if (cursor.getCount() == 0) {
                        Toast.makeText(getActivity(), "No record Found",
Toast.LENGTH_SHORT).show();
                        etMessage.setVisibility(View.GONE);
                    } else {
                        Cursor cursor1 = db.getMessageById(messageId, id);
                        String message = cursor1.getColumnName(1);
                        etMessage.setVisibility(View.VISIBLE);
                        etMessage.setText(message);

                    }
                }

            }
        });

    }
}
```

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.drawerlayout.widget.DrawerLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/draw_layout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:openDrawer="start"
    tools:context=".MainActivity">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">
        <FrameLayout
            android:id="@+id/fragment_container"
            android:layout_width="match_parent"
            android:layout_height="match_parent" />
    </LinearLayout>

    <com.google.android.material.navigation.NavigationView
        android:id="@+id/nav_view"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_gravity="start"
        app:headerLayout="@layout/nav_header"
        app:menu="@menu/draw_menu" />

</androidx.drawerlayout.widget.DrawerLayout>
```

Fragment_contact_entry.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/name"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".fragments.ContactEntryFragment">


    <EditText
```

```xml
    android:id="@+id/nameEt"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="50dp"
    android:layout_marginTop="150dp"
    android:layout_marginEnd="50dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:gravity="center"
    android:hint="Enter name"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<EditText
    android:id="@+id/phoneEt"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="50dp"
    android:layout_marginTop="50dp"
    android:layout_marginEnd="50dp"
    android:ems="10"
    android:inputType="phone"
    android:gravity="center"
    android:hint="Enter phone Number"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/nameEt" />

<EditText
    android:id="@+id/emailEt"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="50dp"
    android:layout_marginTop="50dp"
    android:layout_marginEnd="50dp"
    android:ems="10"
    android:inputType="textEmailAddress"
    android:gravity="center"
    android:hint="Enter Email"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/phoneEt" />

<EditText
    android:id="@+id/addressEt"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="50dp"
    android:layout_marginTop="50dp"
    android:layout_marginEnd="50dp"
    android:ems="10"
    android:inputType="textPostalAddress"
    android:gravity="center"
    android:hint="Enter Address"
```

```xml
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/emailEt" />

    <Button
        android:id="@+id/submitBtn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="70dp"
        android:text="Submit"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/addressEt" />


</androidx.constraintlayout.widget.ConstraintLayout>
```

Fragment_delete.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".fragments.DeleteFragment">

    <EditText
        android:id="@+id/etDeleteId"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginHorizontal="20dp"
        android:layout_marginTop="15dp"
        android:gravity="center"
        android:hint="Enter Id"
        android:inputType="number"
        android:textSize="20sp" />

    <Button
        android:id="@+id/deleteSearchButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="Find" />

    <androidx.recyclerview.widget.RecyclerView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/deleteRecyclerList"
        android:padding="4dp"
```

```xml
        android:visibility="gone"
        android:scrollbars="vertical"/>

    <Button
        android:id="@+id/deleteButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:visibility="gone"
        android:text="Delete" />

</LinearLayout>
```

Fragment_search.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".fragments.SerachFragment">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Search By Id"
        android:textSize="24sp"
        android:layout_marginTop="50dp"
        android:gravity="center"/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/etQuery"
        android:hint="Enter Id"
        android:gravity="center"
        android:inputType="number"
        android:layout_marginTop="15dp"
        android:layout_marginHorizontal="20dp"
        android:visibility="visible"
        android:textSize="20sp"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Find"
        android:visibility="visible"
        android:layout_gravity="center"
        android:id="@+id/searchButton"/>
```

```xml
    <androidx.recyclerview.widget.RecyclerView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/listViewId"
        android:padding="4dp"
        android:scrollbars="vertical"/>

</LinearLayout>
```

Fragment_update.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".fragments.UpdateFragment">

    <EditText
        android:id="@+id/etUpdateId"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginHorizontal="20dp"
        android:layout_marginTop="15dp"
        android:gravity="center"
        android:hint="Enter Id"
        android:inputType="number"
        android:textSize="20sp" />

    <Button
        android:id="@+id/updateSearchButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="Find" />


    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp">

        <TextView
            android:id="@+id/tvUpdateIdShow"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_marginHorizontal="40dp"
```

```xml
            android:text="Id                    : "
            android:textSize="20sp"
            android:visibility="gone" />

        <TextView
            android:id="@+id/tvUpdateId"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_marginLeft="30dp"
            android:text="Id"
            android:textSize="20sp"
            android:visibility="gone" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp">

        <TextView
            android:id="@+id/tvUpdateName"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_marginLeft="40dp"
            android:text="Name : "
            android:textSize="20sp"
            android:visibility="gone" />

        <EditText
            android:id="@+id/etUpdateName"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginLeft="20dp"
            android:gravity="center"
            android:inputType="textPersonName"
            android:visibility="gone" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp">

        <TextView
            android:id="@+id/tvUpdatePhone"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_marginLeft="40dp"
            android:text="Phone : "
            android:textSize="20sp"
            android:visibility="gone" />
```

```xml
    <EditText
        android:id="@+id/etUpdatePhone"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="20dp"
        android:gravity="center"
        android:inputType="phone"
        android:visibility="gone" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp">

    <TextView
        android:id="@+id/tvUpdateEmail"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginLeft="40dp"
        android:text="Email : "
        android:textSize="20sp"
        android:visibility="gone" />

    <EditText
        android:id="@+id/etUpdateEmail"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="20dp"
        android:gravity="center"
        android:inputType="textEmailAddress"
        android:visibility="gone" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp">

    <TextView
        android:id="@+id/tvUpdateAddress"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginLeft="40dp"
        android:text="Address : "
        android:textSize="20sp"
        android:visibility="gone" />

    <EditText
        android:id="@+id/etUpdateAddress"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```xml
            android:layout_marginLeft="20dp"
            android:gravity="center"
            android:inputType="textPostalAddress"
            android:visibility="gone" />
    </LinearLayout>

    <Button
        android:id="@+id/etUpdateButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="10dp"
        android:text="Update"
        android:visibility="gone" />

</LinearLayout>
```

Fragment_view_contact.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".fragments.ViewContactFragment">

    <androidx.recyclerview.widget.RecyclerView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/recyclerView"
        android:padding="4dp"
        android:scrollbars="vertical"/>

</FrameLayout>
```

List_layout.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:padding="15dp"
    android:id="@+id/parent_layout">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```
        android:id="@+id/idDb"
        android:text="id"
        android:paddingHorizontal="10dp"
        android:paddingVertical="2dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/nameTv"
        android:text="Name"
        android:paddingHorizontal="10dp"
        android:paddingVertical="2dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/phoneTv"
        android:text="Phone"
        android:paddingHorizontal="10dp"
        android:paddingVertical="2dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/emailTv"
        android:text="Email"
        android:paddingHorizontal="10dp"
        android:paddingVertical="2dp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/addressTv"
        android:text="Address"
        android:paddingHorizontal="10dp"
        android:paddingVertical="2dp"/>

</LinearLayout>
```

Nav_header.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="170dp"
    android:background="@mipmap/ic_launcher_round"
    android:orientation="vertical">

</LinearLayout>
```

Draw_menu.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    tools:showIn="navigation_view">
    <group android:checkableBehavior="single">
        <item
            android:id="@+id/contactEntry"
            android:icon="@drawable/add"
            android:title="Contact Entry" />

        <item
            android:id="@+id/viewEntries"
            android:icon="@drawable/view"
            android:title="View Contact" />

        <item
            android:id="@+id/search"
            android:icon="@drawable/search"
            android:title="Search User" />

        <item
            android:id="@+id/updateEntry"
            android:icon="@drawable/update"
            android:title="Update User" />

        <item
            android:id="@+id/deleteEntry"
            android:icon="@drawable/delete"
            android:title="Delete User" />

        <item
            android:id="@+id/viewAllMessages"
            android:icon="@drawable/view"
            android:title="View Messages" />

        <item
            android:id="@+id/viewRecentMessages"
            android:icon="@drawable/view"
            android:title="View Recent Messages" />

        <item
```

```xml
            android:id="@+id/addMessageMenu"
            android:icon="@drawable/search"
            android:title="Add Message" />

        <item
            android:id="@+id/updateMessageMenu"
            android:icon="@drawable/update"
            android:title="Update Message" />

        <item
            android:id="@+id/deleteMessageMenu"
            android:icon="@drawable/delete"
            android:title="Delete Message" />
    </group>
</menu>
```

Fragment_add_message.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".fragments.AddMessageFragment">

    <LinearLayout
        android:layout_width="match_parent"
        android:orientation="vertical"
        android:layout_marginTop="50dp"
        android:layout_height="wrap_content">

        <EditText
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/etUserId"
            android:hint="Enter User Id"
            android:gravity="center"
            android:inputType="number"
            android:layout_marginTop="15dp"
            android:layout_marginHorizontal="20dp"
            android:visibility="visible"
            android:textSize="20sp"/>


        <EditText
            android:id="@+id/etUserMessage"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
```

```xml
            android:layout_marginHorizontal="20dp"
            android:layout_marginTop="15dp"
            android:gravity="center"
            android:hint="Enter message"
            android:inputType="text"
            android:textSize="20sp"
            android:visibility="visible" />

    </LinearLayout>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Find"
        android:visibility="visible"
        android:layout_gravity="center"
        android:id="@+id/addMessage"/>

</FrameLayout>
```

Fragment_show_messages.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".fragments.showMessagesFragment">

    <EditText
        android:id="@+id/etShowMessageId"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginHorizontal="20dp"
        android:layout_marginTop="15dp"
        android:gravity="center"
        android:hint="Enter Id"
        android:inputType="number"
        android:textSize="20sp" />

    <Button
        android:id="@+id/findMessages"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="Find" />

    <TextView
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:id="@+id/messages"
        android:layout_gravity="center"
        android:visibility="gone"
        />

</LinearLayout>
```

Fragment_update_message.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".fragments.UpdateMessageFragment">

    <LinearLayout
        android:layout_width="match_parent"
        android:orientation="vertical"
        android:layout_marginTop="50dp"
        android:layout_height="wrap_content">

        <EditText
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/etUserId"
            android:hint="Enter User Id"
            android:gravity="center"
            android:inputType="number"
            android:layout_marginTop="15dp"
            android:layout_marginHorizontal="20dp"
            android:visibility="visible"
            android:textSize="20sp"/>


        <EditText
            android:id="@+id/etMessageId"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginHorizontal="20dp"
            android:layout_marginTop="15dp"
            android:gravity="center"
            android:hint="Enter message id"
            android:inputType="number"
            android:textSize="20sp"
            android:visibility="visible" />

        <EditText
            android:id="@+id/etMessageRead"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
```

```xml
            android:layout_marginHorizontal="20dp"
            android:layout_marginTop="15dp"
            android:gravity="center"
            android:hint="Enter message"
            android:inputType="number"
            android:textSize="20sp"
            android:visibility="gone" />

    </LinearLayout>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Update"
        android:visibility="visible"
        android:layout_gravity="center"
        android:id="@+id/updateMessage"/>

</FrameLayout>
```

keyur

6464645858
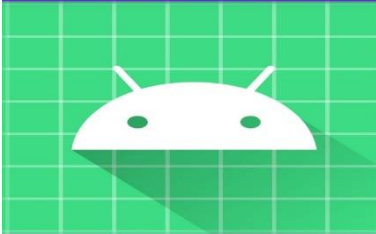
keyur@gmail.com

landmark, City

SUBMIT

+ **Contact Entry**

📁 View Contact

🔍 Search User

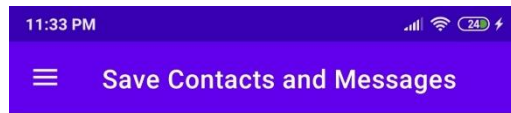↻ Update User

🗑 Delete User

📁 View Messages

📁 View Recent Messages

Successful

🔍 Add Message

↻ Update Message

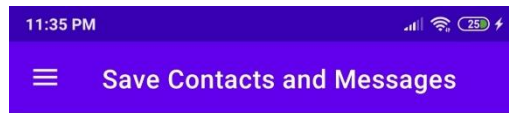🗑 Delete Message

Id : 1
Name: keyur
Phone: 8469197777
Email: keyur@gmail.com
Address: landmark, City

Id : 2
Name: keyur
Phone: 6464645858
Email: keyur@gmail.com
Address: landmark, City

Enter User Id

Enter message

FIND

Save Contacts and Messages

1

2

UPDATE