```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/id"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:hint="아이디 입력" />

    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:hint="이름 입력" />

    <EditText
        android:id="@+id/phone"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:hint="전화번호 입력" />

    <EditText
        android:id="@+id/addr"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:hint="주소 입력" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">

        <Button
            android:id="@+id/button1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:layout_margin="1dp"
            android:text="저장" />

        <Button
            android:id="@+id/button2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:layout_margin="1dp"
            android:text="검색" />

        <Button
            android:id="@+id/button3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:layout_margin="1dp"
            android:text="찾기" />

        <Button
            android:id="@+id/button4"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:layout_margin="1dp"
            android:enabled="false"
            android:text="수정" />

        <Button
            android:id="@+id/button5"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:layout_margin="1dp"
            android:enabled="false"
            android:text="삭제" />
    </LinearLayout>

    <ScrollView
        android:layout_width="match_parent"
        android:layout_height="match_parent">

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

            <TextView
                android:id="@+id/result"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:textSize="16sp"/>
        </LinearLayout>
    </ScrollView>
</LinearLayout>
```

```java
public class MainActivity extends AppCompatActivity {
    EditText id, name, phone, addr;
    Button button1, button2, button3, button4, button5;
    TextView result;
    MyDB myDB = new MyDB(MainActivity.this, "mydb04.db", null, 1);;
    SQLiteDatabase database;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        button1 = findViewById(R.id.button1);
        button2 = findViewById(R.id.button2);
        button3 = findViewById(R.id.button3);

        // 저장
        button1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // myDB = new MyDB(MainActivity.this, "mydb04.db", null, 1);
                // database = myDB.getWritableDatabase();
                if(id.getText().length()>0 && name.getText().length() >0 &&
                phone.getText().length()>0 && addr.getText().length()>0) {
                    SQLiteDatabase database = myDB.getWritableDatabase();
                    String sql = "insert into p_list values(null, ?, ?, ?, ?)";
                    String[] arr = {id.getText().toString(), name.getText().toString(),
                    phone.getText().toString(), addr.getText().toString()};
                    database.execSQL(sql, arr);
                    myDB.close();

                    id.setText("");
                    name.setText("");
                    phone.setText("");
                    addr.setText("");

                    // 전체 보기
                    selectAll();
                }else {
                    Toast.makeText(MainActivity.this,
                    "모든 정보를 입력해야만 삽입이 가능합니다.",
                    Toast.LENGTH_SHORT).show();
                }
            }
        });
        // 검색
        button2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // myDB = new MyDB(MainActivity.this, "mydb04.db", null, 1);
                // database = myDB.getWritableDatabase();
                selectAll();
            }
        });
        button3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                SQLiteDatabase database = myDB.getWritableDatabase();
                String sql = "select * from p_list where id = ? ";
                String[] arr = {id.getText().toString()};
                Cursor cursor = database.rawQuery(sql, arr);
                if(cursor.getCount() == 0){
                    id.setText("");
                    Toast.makeText(MainActivity.this,
                    "찾는 정보가 없습니다.", Toast.LENGTH_SHORT).show();
                }else {
                    button4.setEnabled(true);
                    button5.setEnabled(true);

                    while (cursor.moveToNext()) {
                        name.setText(cursor.getString(2));
                        phone.setText(cursor.getString(3));
                        addr.setText(cursor.getString(4));
                    }
                    cursor.close();
                    myDB.close();
                }
            }
        });

        button4.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                SQLiteDatabase database = myDB.getWritableDatabase();
                String sql = "update p_list set name=?, phone=?, addr=? where id = ? ";
                String[] arr = {name.getText().toString(), phone.getText().toString(),
                addr.getText().toString(),id.getText().toString()};
                database.execSQL(sql, arr);
                myDB.close();
                id.setText("");
                name.setText("");
                phone.setText("");
                addr.setText("");

                selectAll();
                button4.setEnabled(false);
                button5.setEnabled(false);
            }
        });
```

```java
        button5.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                SQLiteDatabase database = myDB.getWritableDatabase();
                String sql = "delete from p_list where id = ? ";
                String[] arr = {id.getText().toString()};
                database.execSQL(sql, arr);
                myDB.close();

                id.setText("");
                name.setText("");
                phone.setText("");
                addr.setText("");

                selectAll();
                button4.setEnabled(false);
                button5.setEnabled(false);
            }
        });
    }
    public void selectAll(){
        SQLiteDatabase database = myDB.getWritableDatabase();
        String sql = "select * from p_list order by idx ";
        Cursor cursor = database.rawQuery(sql, null);
        StringBuffer sb = new StringBuffer();
        while(cursor.moveToNext()){
            String idx = cursor.getString(0);
            String id = cursor.getString(1);
            String name = cursor.getString(2);
            String phone = cursor.getString(3);
            String addr = cursor.getString(4);
            sb.append(idx+", "+ id+", "+name+", "+phone+", "+addr+"\n");
        }
        result.setText(sb.toString());
        cursor.close();
        myDB.close();
    }
}
```
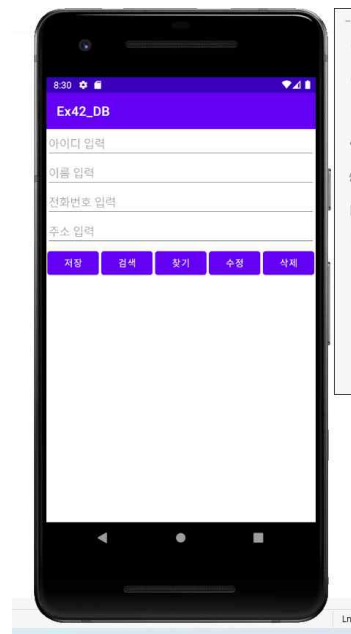


```java
public class MyDB extends SQLiteOpenHelper {

    public MyDB(@Nullable Context context, @Nullable String name, @Nullable
    SQLiteDatabase.CursorFactory factory, int version) {
        super(context, name, factory, version);
    }
    @Override
    public void onCreate(SQLiteDatabase db) {
        // Log.d("my", "onCreate()");
        String sql = " create table if not exists p_list ( "+
        " idx Integer primary key autoincrement, "+
        " id text unique, name text, phone text, addr text ) ";
        db.execSQL(sql);
    }
    @Override
    public void onOpen(SQLiteDatabase db) {
        super.onOpen(db);
        // Log.d("my", "onOpen()");
    }
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        // Log.d("my", "onUpgrade()");
    }
}
```