Thực hành 2

```java
public class MainActivity extends AppCompatActivity {

    Button create, listItem;
    EditText inputName;
    TextView name;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        create = findViewById(R.id.create);
        listItem = findViewById(R.id.listItem);
        inputName = findViewById(R.id.inputName);
        name = findViewById(R.id.name);

        SharedPreferences sharedPreferences = getSharedPreferences("tiennd", MODE_PRIVATE);
        final SharedPreferences.Editor editor = sharedPreferences.edit();
        name.setText(sharedPreferences.getString("name",""));

        create.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                editor.putString("name", inputName.getText().toString());
                editor.commit();
                Toast.makeText(MainActivity.this,"Success",Toast.LENGTH_SHORT).show();
            }
        });

        listItem.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new Intent(MainActivity.this, Main2Activity.class);
                startActivity(intent);
            }
        });
    }
}
public class Main2Activity extends AppCompatActivity {

    public ArrayList<User> readObject(){
        ArrayList<User> arrayList = new ArrayList<>();
        try {
            FileInputStream fileInputStream = openFileInput("thuchanh2");
            ObjectInputStream objectInputStream = new ObjectInputStream(fileInputStream);
            arrayList = (ArrayList<User>) objectInputStream.readObject();
            objectInputStream.close();
            fileInputStream.close();
        } catch (IOException e) {
            e.printStackTrace();
        } catch (ClassNotFoundException e) {
            e.printStackTrace();
        }
        return arrayList;
    }
    @Override
    protected void onResume() {
        super.onResume();
        setContentView(R.layout.activity_main2);
        addUser = findViewById(R.id.addUser);
        listView = findViewById(R.id.listView);
        name = findViewById(R.id.name);
        SharedPreferences sharedPreferences = getSharedPreferences("tiennd", MODE_PRIVATE);
        name.setText(sharedPreferences.getString("name", ""));
        addUser.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new Intent(Main2Activity.this,Main3Activity.class);
                startActivity(intent);
            }
        });
        listView.setAdapter(new AdapterActivity(this,readObject()));
    }
}


public class Main3Activity extends AppCompatActivity implements
AdapterView.OnItemSelectedListener {

    EditText inputName, inputOld;
    Spinner dropdown;
    Button addObject;
    String imageName;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main3);

        inputName = findViewById(R.id.inputName);
        inputOld = findViewById(R.id.inputOld);
//        Spinner dropdown;
        dropdown = findViewById(R.id.dropdown);
        addObject = findViewById(R.id.addObject);
        String listNameImg[] = {"binladen", "kimjongun", "obama", "trump"};
        ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
android.R.layout.simple_list_item_1, listNameImg);
        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        dropdown.setAdapter(adapter);
        dropdown.setOnItemSelectedListener(this);

        addObject.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                User user = new User(inputName.getText().toString(), inputOld.getText().toString(),
imageName);
                writeObject(user);
                onBackPressed();
            }
        });
    }

    @Override
    public void onItemSelected(AdapterView<?> parent, View view, int position, long id) {
        imageName = (String) parent.getItemAtPosition(position);

    }

    @Override
    public void onNothingSelected(AdapterView<?> parent) {

    }

    public void writeObject(User user){
        ArrayList<User> arrayList = new ArrayList<>();
        try {
            FileInputStream fileInputStream = openFileInput("thuchanh2");
            ObjectInputStream objectInputStream = new ObjectInputStream(fileInputStream);
            arrayList = (ArrayList<User>) objectInputStream.readObject();
            objectInputStream.close();
            fileInputStream.close();
        } catch (IOException e) {
            e.printStackTrace();
        } catch (ClassNotFoundException e) {
            e.printStackTrace();
        }
        arrayList.add(user);
        try {
            FileOutputStream fileOutputStream = openFileOutput("thuchanh2",MODE_PRIVATE);
            ObjectOutputStream objectOutputStream = new ObjectOutputStream(fileOutputStream);
            objectOutputStream.writeObject(arrayList);
            objectOutputStream.close();
            fileOutputStream.close();
        } catch (IOException e) {
            e.printStackTrace();
        }

    }
}

public class AdapterActivity extends BaseAdapter {

    Context context;
    ArrayList<User> arrayList;

    public AdapterActivity(Context context, ArrayList<User> arrayList) {
        this.context = context;
        this.arrayList = arrayList;
    }

    @Override
    public int getCount() {
        return arrayList.size();
    }

    @Override
    public Object getItem(int position) {
        return position;
    }

    @Override
    public long getItemId(int position) {
        return position;
    }

    @Override
    public View getView(int position, View convertView, ViewGroup parent) {
        LayoutInflater inflater = (LayoutInflater)
context.getSystemService(context.LAYOUT_INFLATER_SERVICE);
        View view = inflater.inflate(R.layout.activity_adapter,parent,false);

        TextView nameAdapter = view.findViewById(R.id.nameAdapter);
        TextView oldAdapter = view.findViewById(R.id.oldAdapter);
        ImageView imageAdapter = view.findViewById(R.id.imageAdapter);
        nameAdapter.setText(arrayList.get(position).getName());
        oldAdapter.setText(arrayList.get(position).getOld());
        int idImage =
context.getResources().getIdentifier(arrayList.get(position).getImageName(),"drawable",context.
getPackageName());
        imageAdapter.setImageResource(idImage);
        return view;
    }
}
```

SQLite

```
public class MainActivity extends AppCompatActivity {

    Button btnLogin, btnRegister;
    EditText userName, passWord;
    private ManagerDAO managerDAO;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnLogin = findViewById(R.id.btnLogin);
        btnRegister = findViewById(R.id.btnRegister);
        managerDAO = new ManagerDAO(this);

        userName = findViewById(R.id.userName);
        passWord = findViewById(R.id.passWord);

        btnRegister.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                showDialogRegister();
            }
        });

        btnLogin.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                User user = new User(userName.getText().toString(), passWord.getText().toString());
                if(managerDAO.checkLogin(user)){
                    Intent intent = new Intent(MainActivity.this, Main2Activity.class);
                    startActivity(intent);
                }else{
                    Toast.makeText(MainActivity.this,"Login fail", Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
    public void showDialogRegister(){
        final Dialog dialog = new Dialog(MainActivity.this);
        dialog.setTitle("Form Register");
        dialog.setContentView(R.layout.activity_register);

        dialog.getWindow().setLayout(WindowManager.LayoutParams.MATCH_PARENT,
WindowManager.LayoutParams.WRAP_CONTENT);

        Button registerBtn = dialog.findViewById(R.id.registerBtn);
        Button cancelBtn = dialog.findViewById(R.id.cancelBtn);

        final EditText inputPass = dialog.findViewById(R.id.inputPass);
        final EditText inputUser = dialog.findViewById(R.id.inputUser);

        cancelBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                dialog.dismiss();
            }
        });

        registerBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                User user = new User(inputUser.getText().toString(), inputPass.getText().toString());
                if(managerDAO.register(user)){
                    dialog.dismiss();
                    Toast.makeText(MainActivity.this,"Register success",
Toast.LENGTH_SHORT).show();
                    Intent intent = new Intent(MainActivity.this, Main2Activity.class);
                    startActivity(intent);
                }else{
                    Toast.makeText(MainActivity.this,"Account already exists",
Toast.LENGTH_SHORT).show();
                }
            }
        });
        dialog.show();
    }
}
```

```
public class Main2Activity extends AppCompatActivity {

    ListView listBook;
    List<Book> bookList;
    ManagerDAO bookDAO;
    Button btnNew, btnSearch;
    Spinner dropdown;
    String searchCondition;
    EditText inputSearch;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        listBook = findViewById(R.id.listBook);
        btnNew = findViewById(R.id.btnNew);
        btnSearch = findViewById(R.id.btnSearch);
        inputSearch = findViewById(R.id.inputSearch);
        dropdown = findViewById(R.id.dropdown);

        String listNameImg[] = {"Name book", "Book type"};
        ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
android.R.layout.simple_list_item_1, listNameImg);
        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        dropdown.setAdapter(adapter);

        dropdown.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> parent, View view, int position, long id) {
                searchCondition = (String) parent.getSelectedItem();
            }

            @Override
            public void onNothingSelected(AdapterView<?> parent) {

            }
        });

        bookDAO = new ManagerDAO(this);
        bookList = bookDAO.getAllBook();

        listBook.setAdapter(new AdapterBook(this, bookList));

        btnNew.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                showDialogNewBook();
            }
        });

        listBook.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
                showDialogBook(position);
            }
        });

        btnSearch.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                bookList = bookDAO.searchCondition(inputSearch.getText().toString(),
searchCondition);
                setAdapter(true);
            }
        });
    }

    public void showDialogNewBook(){
        final Dialog dialog = new Dialog(Main2Activity.this);
        dialog.setTitle("New");
        dialog.setContentView(R.layout.activity_new_book);

        dialog.getWindow().setLayout(WindowManager.LayoutParams.MATCH_PARENT,
WindowManager.LayoutParams.WRAP_CONTENT);

        final EditText newNameBook = dialog.findViewById(R.id.newNameBook);
        final EditText newTypeBook = dialog.findViewById(R.id.newTypeBook);
        final EditText newAuthorBook = dialog.findViewById(R.id.newAuthorBook);

        Button addNewBook = dialog.findViewById(R.id.addNewBook);
        addNewBook.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Book book = new Book(newNameBook.getText().toString(),
newTypeBook.getText().toString(), newAuthorBook.getText().toString());
                bookDAO.addBook(book);
                setAdapter(false);
                dialog.dismiss();
            }
        });
        dialog.show();
    }
    public void showDialogBook(int position){
        final Dialog dialog = new Dialog(Main2Activity.this);
        dialog.setTitle("Modify");
        dialog.setContentView(R.layout.activity_detail_book);

        dialog.getWindow().setLayout(WindowManager.LayoutParams.MATCH_PARENT,
WindowManager.LayoutParams.WRAP_CONTENT);

        final TextView newIDBook = dialog.findViewById(R.id.newIDBook);
        final EditText newNameBook = dialog.findViewById(R.id.newNameBook);
        final EditText newTypeBook = dialog.findViewById(R.id.newTypeBook);
        final EditText newAuthorBook = dialog.findViewById(R.id.newAuthorBook);

        final Book book = bookList.get(position);

        newIDBook.setText(String.valueOf(bookList.get(position).getmID()));
        newNameBook.setText(bookList.get(position).getmName());
        newTypeBook.setText(bookList.get(position).getmType());
        newAuthorBook.setText(bookList.get(position).getmAuthor());

        Button saveBook = dialog.findViewById(R.id.saveBook);
        Button delBook = dialog.findViewById(R.id.delBook);

        delBook.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                bookDAO.deleteBook(book.getmID());
                dialog.dismiss();
                setAdapter(false);
            }
        });

        saveBook.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Book bo = new Book(book.getmID(), newNameBook.getText().toString(),
newTypeBook.getText().toString(), newAuthorBook.getText().toString());
                bookDAO.updateBook(bo);
                dialog.dismiss();
                setAdapter(false);
            }
        });

        dialog.show();
    }
    public void setAdapter(Boolean yn){
        if(!yn){
            bookList = bookDAO.getAllBook();
            inputSearch.setText("");
        }
        listBook.setAdapter(new AdapterBook(this,bookList));
    }
}


public class AdapterBook extends BaseAdapter {

    Context context;
    List<Book> bookList;

    public AdapterBook(Context context, List<Book> bookList) {
        this.context = context;
        this.bookList = bookList;
    }

    @Override
    public int getCount() {
        return bookList.size();
    }

    @Override
    public Object getItem(int position) {
        return position;
    }

    @Override
    public long getItemId(int position) {
        return position;
    }

    @Override
    public View getView(int position, View convertView, ViewGroup parent) {
        LayoutInflater inflater = (LayoutInflater)
context.getSystemService(context.LAYOUT_INFLATER_SERVICE);
        View view = inflater.inflate(R.layout.activity_adapter_book, parent, false);

        TextView idBook = view.findViewById(R.id.idBook);
        TextView nameBook = view.findViewById(R.id.nameBook);
        TextView typeBook = view.findViewById(R.id.typeBook);
        TextView authorBook = view.findViewById(R.id.authorBook);
        idBook.setText(String.valueOf(bookList.get(position).getmID()));
        nameBook.setText(bookList.get(position).getmName());
        typeBook.setText(bookList.get(position).getmType());
        authorBook.setText(bookList.get(position).getmAuthor());
        return view;
    }
}


public class ManagerDAO extends SQLiteOpenHelper {

    Context context;
    private static int VERSION = 1;
    private static final String DATABASE_NAME = "sqlite_2";
    private static final String TABLE_NAME = "account";
    private static final String ID ="id";
    private static final String USER ="user";
    private static final String PASS ="pass";

    private static final String TABLE_NAME_BOOK = "book_list";
    private static final String ID_BOOK ="id";
    private static final String NAME_BOOK ="namebook";
    private static final String TYPE_BOOK ="typebook";
    private static final String AUTHOR_BOOK ="authorbook";

    public ManagerDAO(Context context) {
        super(context, DATABASE_NAME, null, VERSION);
        this.context = context;
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        String sqlQuery = "CREATE TABLE " + TABLE_NAME +" ("+
                ID +" integer primary key autoincrement, " +
                USER + " TEXT, "+
                PASS +" TEXT)";
        db.execSQL(sqlQuery);

        String sqlQueryBook = "CREATE TABLE " + TABLE_NAME_BOOK +" (" +
                ID_BOOK +" integer primary key autoincrement, " +
                NAME_BOOK + " TEXT, "+
                TYPE_BOOK +" TEXT, "+
                AUTHOR_BOOK + " TEXT)";
        db.execSQL(sqlQueryBook);
    }
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

    }

    public Boolean checkLogin(User user){
        SQLiteDatabase db = getReadableDatabase();
        Cursor cursor = db.query(TABLE_NAME, new String[]{ID, USER, PASS}, USER +"=?",
new String[]{user.getmUser()}, null, null,null);
        if(cursor.moveToFirst()){
            User us = new User(cursor.getInt(0), cursor.getString(1), cursor.getString(2));
            db.close();
            cursor.close();
            if(user.getmPass().equals(us.getmPass())){
                return true;
            }else return false;
        }else{
            db.close();
            cursor.close();
            return false;
        }
    }

    public Boolean checkRegister(User user){
        SQLiteDatabase db = getReadableDatabase();
        Cursor cursor = db.query(TABLE_NAME, new String[]{ID, USER, PASS}, USER +"=?",
new String[]{user.getmUser()}, null, null,null);
        if(cursor.moveToFirst()){
            db.close();
            cursor.close();
            return false;
        }else{
            db.close();
            cursor.close();
            return true;
        }
    }

    public Boolean register(User user){
        if(checkRegister(user)){
            SQLiteDatabase db = getWritableDatabase();
            ContentValues contentValues = new ContentValues();
            contentValues.put(USER, user.getmUser());
            contentValues.put(PASS, user.getmPass());

            db.insert(TABLE_NAME,null,contentValues);
            db.close();
            return true;
        }else{
            return false;
        }
    }

    public List<Book> getAllBook(){
        List<Book> list = new ArrayList<>();
        String sqlQuery = "SELECT * FROM " + TABLE_NAME_BOOK;
        SQLiteDatabase db = getWritableDatabase();
        Cursor cursor = db.rawQuery(sqlQuery, null);
        if(cursor.moveToFirst()){
            do{
                Book book = new Book();
                book.setmID(cursor.getInt(0));
                book.setmName(cursor.getString(1));
                book.setmType(cursor.getString(2));
                book.setmAuthor(cursor.getString(3));
                list.add(book);
            }while (cursor.moveToNext());
        }
        db.close();
        return list;
    }

    public List<Book> searchCondition(String value, String type){
        List<Book> list = new ArrayList<>();
        String sqlQuery = "SELECT * FROM " + TABLE_NAME_BOOK + " where " +
(type.equals("Name book")?NAME_BOOK:TYPE_BOOK) + " LIKE '%"+value+"%'";
        SQLiteDatabase db = getWritableDatabase();
        Cursor cursor = db.rawQuery(sqlQuery, null);
        if(cursor.moveToFirst()){
            do{
                Book book = new Book();
                book.setmID(cursor.getInt(0));
                book.setmName(cursor.getString(1));
                book.setmType(cursor.getString(2));
                book.setmAuthor(cursor.getString(3));
                list.add(book);
            }while (cursor.moveToNext());
        }
        db.close();
        return list;
    }
    public void deleteBook(int id){
        SQLiteDatabase db = getWritableDatabase();
        db.delete(TABLE_NAME_BOOK,ID_BOOK+"=?",new String[]{String.valueOf(id)});
        db.close();
    }

    public void updateBook(Book book){
        SQLiteDatabase db = getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put(NAME_BOOK, book.getmName());
        contentValues.put(TYPE_BOOK, book.getmType());
        contentValues.put(AUTHOR_BOOK, book.getmAuthor());

        db.update(TABLE_NAME_BOOK,contentValues,ID_BOOK + "=?", new
String[]{String.valueOf(book.getmID())});
        db.close();
    }

    public void addBook(Book book){
        SQLiteDatabase database = getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put(NAME_BOOK, book.getmName());
        contentValues.put(TYPE_BOOK, book.getmType());
        contentValues.put(AUTHOR_BOOK, book.getmAuthor());
        database.insert(TABLE_NAME_BOOK,null,contentValues);
        database.close();
    }
}
```

```
<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"
    android:layout_margin="10dp"
    tools:context=".adapter.AdapterBook">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">
        <TextView
            android:layout_width="60dp"
            android:layout_height="60dp"
            android:textSize="25sp"
            android:background="#2B74FF"
            android:gravity="center"
            android:textColor="#FFFFFF"
            android:textStyle="bold"
            android:text="1"
            android:id="@+id/idBook"></TextView>
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:layout_marginLeft="10dp"
            android:orientation="vertical">
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="NguyenDinhTien"
                android:textStyle="bold"
                android:textColor="#FF9900"
                android:textSize="20sp"
                android:id="@+id/nameBook"></TextView>
            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="match_parent"
                android:gravity="bottom"
                android:orientation="horizontal">
                <TextView
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:text="Tieu thuyet"
                    android:textSize="15sp"
                    android:id="@+id/typeBook"></TextView>
                <LinearLayout
                    android:layout_width="match_parent"
                    android:gravity="right"
                    android:layout_height="match_parent">
                    <TextView
                        android:layout_width="wrap_content"
                        android:layout_height="wrap_content"
                        android:layout_gravity="bottom"
                        android:text="TienND"
                        android:textSize="15sp"
                        android:id="@+id/authorBook"></TextView>
                </LinearLayout>
            </LinearLayout>
        </LinearLayout>
    </LinearLayout>
```