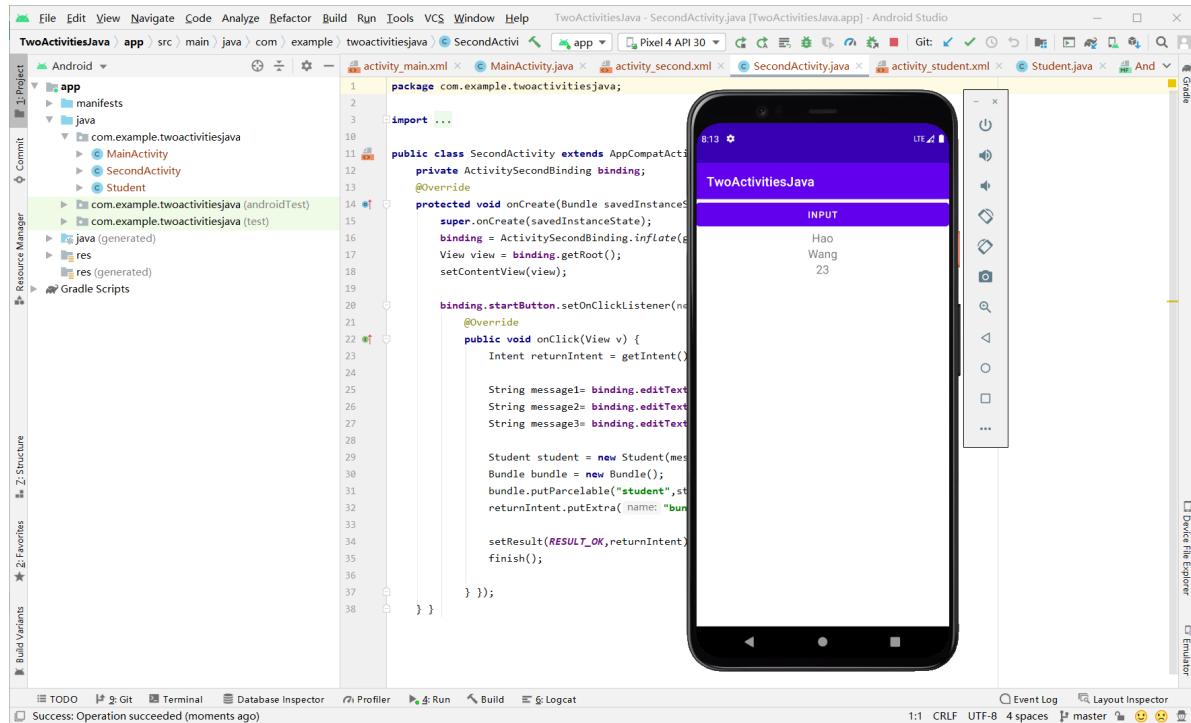
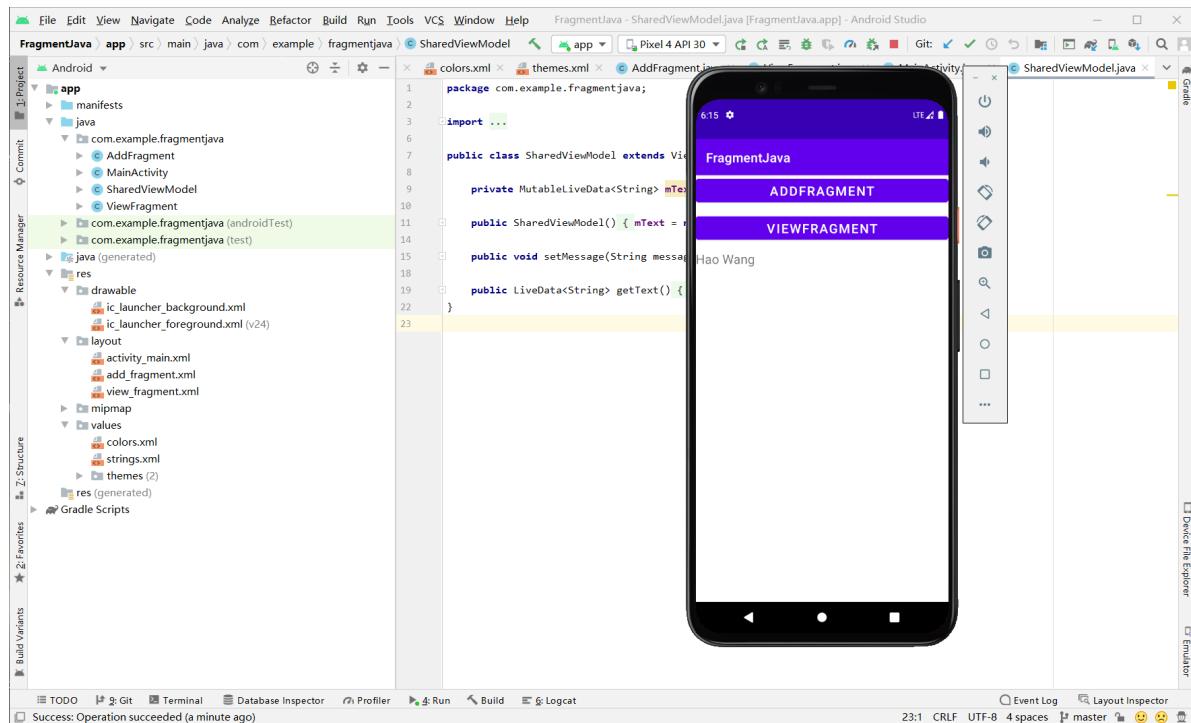


## Lab 1 Multiple activities & Parcelable (TASK 7)



## Lab 2 Fragments with LiveData (TASK 7)



## Lab 3 Navigation (TASK 10)

The screenshot shows the Android Studio interface with the project 'NavigationJava' open. The code editor displays the file 'AddFragment.java' which contains the implementation for a navigation fragment. The preview window shows a smartphone screen with the title 'ViewFragment' and the name 'Hao Wang'. The bottom status bar indicates the time is 8:15.

```
package com.example.navigationjava.fragment;

import ...

public class AddFragment extends Fragment {
    private AddFragmentBinding addBinding;
    public AddFragment(){}
    @Override
    public View onCreateView(LayoutInflater inflater, Bundle savedInstanceState) {
        addBinding = AddFragmentBinding.inflate(inflater, null, false);
        View view = addBinding.getRoot();
        SharedViewModel model = new SharedViewModelProvider(getViewModelFactory());
        addBinding.addButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String message = addBinding.messageInput.getText().toString();
                if (!message.isEmpty())
                    model.setMessage(message);
            }
        });
        addBinding.clearButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                return view;
            }
        });
        @Override
        public void onDestroyView() {
            super.onDestroyView();
            addBinding = null;
        }
    }
}
```

## Lab 4 Room (TASK 14)

The screenshot shows the Android Studio interface with the project 'RoomTutorial' open. The code editor displays the file 'MainActivity.java' which contains the main activity logic for a Room database application. The preview window shows a smartphone screen with the title 'RoomTutorial' and a UI for managing customer data. The bottom status bar indicates the time is 8:08.

```
package com.example.roomtutorial;

import ...

public class MainActivity extends AppCompatActivity {
    CustomerDatabase db = null;
    EditText editText = null;
    TextView textView_insert = null;
    TextView textView_read = null;
    TextView textView_delete = null;
    TextView textView_update = null;
    CustomerViewModel customerViewModel;
    ObservableList<Customer> observableList;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        //db = CustomerDatabase.getDatabase(getApplicationContext());
        Button addButton = findViewById(R.id.addButton);
        editText = findViewById(R.id.editText);
        textView_insert = findViewById(R.id.textView_insert);
        //Button readButton = findViewById(R.id.readButton);
        textView_read = findViewById(R.id.textView_read);
        Button deleteButton = findViewById(R.id.deleteButton);
        textView_delete = findViewById(R.id.textView_delete);
        Button updateButton = findViewById(R.id.updateButton);
        textView_update = findViewById(R.id.textView_update);
        customerViewModel = new CustomerViewModelProvider(
                new ViewModelProvider.AndroidViewModelFactory(
                        getApplication()));
        customerViewModel.initializeViewModel();
        customerViewModel.getAllCustomers().observe(this, new Observer<List<Customer>>() {
            @Override
            public void onChanged(List<Customer> customers) {
                String allCustomers = "";
                for (Customer customer : customers) {
                    allCustomers += customer.getName() + " " +
                            customer.getSurname() + " " +
                            customer.getSalary() + "\n";
                }
                textView_insert.setText(allCustomers);
            }
        });
    }
}
```