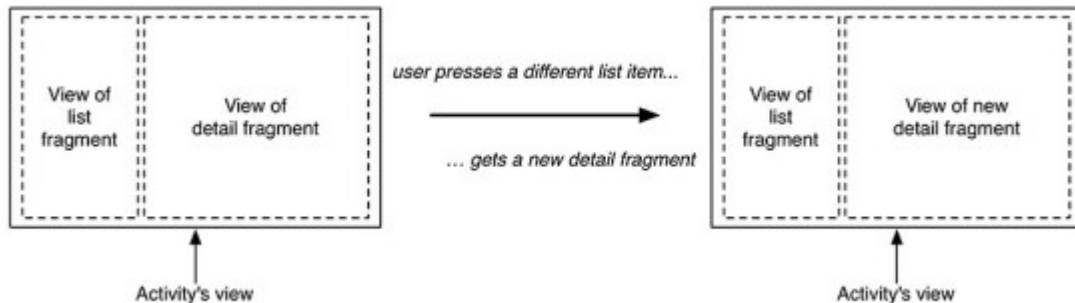


**LAB#07****INTRODUCTION TO FRAGMENT****Fragment**

A fragment is a controller object that an activity can deputize to perform tasks. Most commonly, the task is managing a UI. The UI can be an entire screen or just one part of the screen. A fragment managing a UI is known as a UI fragment. A UI fragment has a view of its own that is inflated from a layout file. The fragment's view contains the interesting UI elements that the user wants to see and interact with.

**Create First Fragments**

```
<?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=".Fragmentone"
    android:background="@android:color/holo_green_light"
    >
    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:text="Fragment one" />
</FrameLayout>
```

**Create Second Fragment**

```
<?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=".Fragmenttwo" android:background="@android:color/holo_orange_light"
    >
    <TextView android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:text="Fragment Two" />
</FrameLayout>
```

## Create Activity:

```
<?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"
    tools:context=".MainActivity"
    android:orientation="vertical"
    >
    <Button
        android:layout_width="match_parent"
        android:layout_height="50dp"
        android:layout_margin="10dp"
        android:id="@+id/fr1"
        android:gravity="center"
        android:textSize="20dp"
        android:textColor="#fff"
        android:background="#e11010"
        android:onClick="change frag"
        android:textStyle="bold"
        android:text="Fragment 1" />
    <Button
        android:layout_width="match_parent"
        android:layout_height="50dp"
        android:id="@+id/fr2"
        android:layout_margin="10dp"
        android:gravity="center"
        android:textSize="20dp"
        android:onClick="change frag2"
        android:textColor="#fff"
        android:background="#1010e1"
        android:textStyle="bold"
        android:text="Fragment 2" />
</LinearLayout>
```

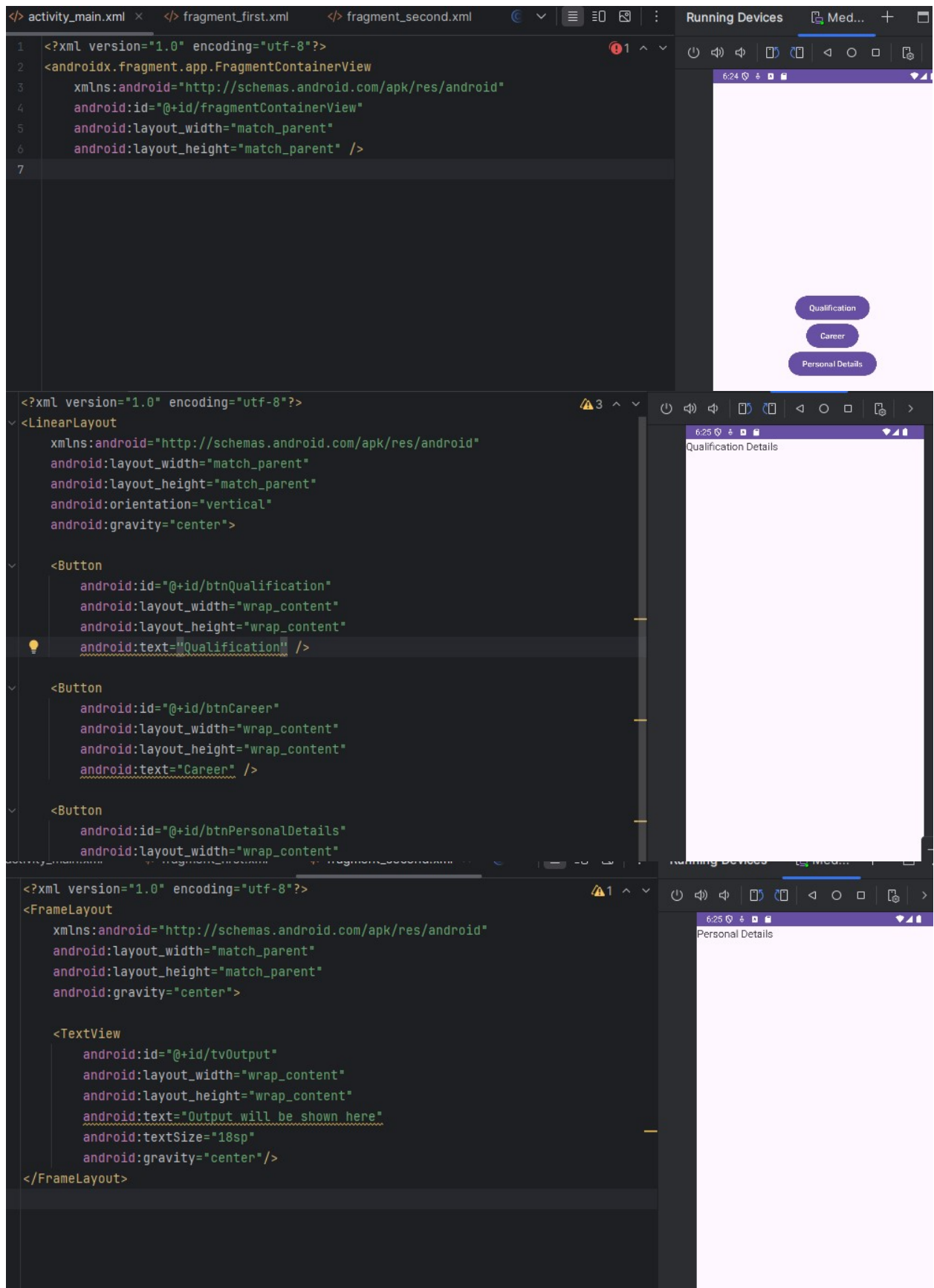
```
        android:layout_width="match_parent"  
        android:layout_height="match_parent"  
        android:id="@+id/frame_container"  
        android:layout_margin="15dp"/>  
</LinearLayout>
```

- Add the methods to call Fragments

```
public void changefrag(View view)  
{  
    Fragment fragment = null;  
    fragment = new Fragmentone();  
    FragmentManager manager = getSupportFragmentManager();  
    FragmentTransaction transaction = manager.beginTransaction();  
    transaction.replace(R.id.frame_container, fragment);  
    transaction.commit();  
}  
public void changefrag2(View view)  
{  
    Fragment fragment = null;  
    fragment = new Fragmenttwo();  
    FragmentManager manager = getSupportFragmentManager();  
    FragmentTransaction transaction = manager.beginTransaction();  
    transaction.replace(R.id.frame_container, fragment);  
    transaction.commit();  
}
```

### Lab Task:

- 1) Create two fragments, the first fragment show three button group named as qualification, career and personal details while the second fragment show the output according button's clicked respectively.



```

@Override
public View onCreateView(@NonNull LayoutInflater inflater, @Nullable ViewGroup container, @Nullable Bundle savedInstanceState) {
    View view = inflater.inflate(R.layout.fragment_first, container, attachToRoot: false);

    Button btnQualification = view.findViewById(R.id.btnQualification);
    Button btnCareer = view.findViewById(R.id.btnCareer);
    Button btnPersonalDetails = view.findViewById(R.id.btnPersonalDetails);

    btnQualification.setOnClickListener(v -> navigateToSecondFragment("Qualification Details"));
    btnCareer.setOnClickListener(v -> navigateToSecondFragment("Career Details"));
    btnPersonalDetails.setOnClickListener(v -> navigateToSecondFragment("Personal Details"));

    return view;
}

3 usages
private void navigateToSecondFragment(String message) {
    Bundle bundle = new Bundle();
    bundle.putString("key", message);

    SecondFragment secondFragment = new SecondFragment();
    secondFragment.setArguments(bundle);
}

public class SecondFragment extends Fragment {
    @Nullable
    @Override
    public View onCreateView(@NonNull LayoutInflater inflater, @Nullable ViewGroup container, @Nullable Bundle savedInstanceState) {
        View view = inflater.inflate(R.layout.fragment_second, container, attachToRoot: false);

        TextView tvOutput = view.findViewById(R.id.tvOutput);
        Bundle bundle = getArguments();

        if (bundle != null) {
            String message = bundle.getString(key: "key", defaultValue: "No data received");
            tvOutput.setText(message);
        }

        return view;
    }
}

```



```

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

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

        // Load the com.example.fragmentexample.FirstFragment when the app starts
        if (savedInstanceState == null) {
            getSupportFragmentManager().beginTransaction()
                .replace(R.id.fragmentContainerView, new FirstFragment())
                .commit();
        }
    }
}

```

- 2) Maintain grocery items list with details of individual items fragment page in single activity.

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.fragment.app.FragmentContainerView
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/fragmentContainerView"
    android:layout_width="match_parent"
    android:layout_height="match_parent" />

<?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="match_parent"
    android:orientation="vertical">

    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/recyclerView"
        android:layout_width="match_parent"
        android:layout_height="match_parent" />

</LinearLayout>

```

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

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:padding="16dp">

        <TextView
            android:id="@+id/tvItemName"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Item Name"
            android:textSize="20sp"
            android:textStyle="bold" />

        <TextView
            android:id="@+id/tvItemDescription"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Description"
            android:layout_marginTop="8dp" />

    </LinearLayout>

</ScrollView>

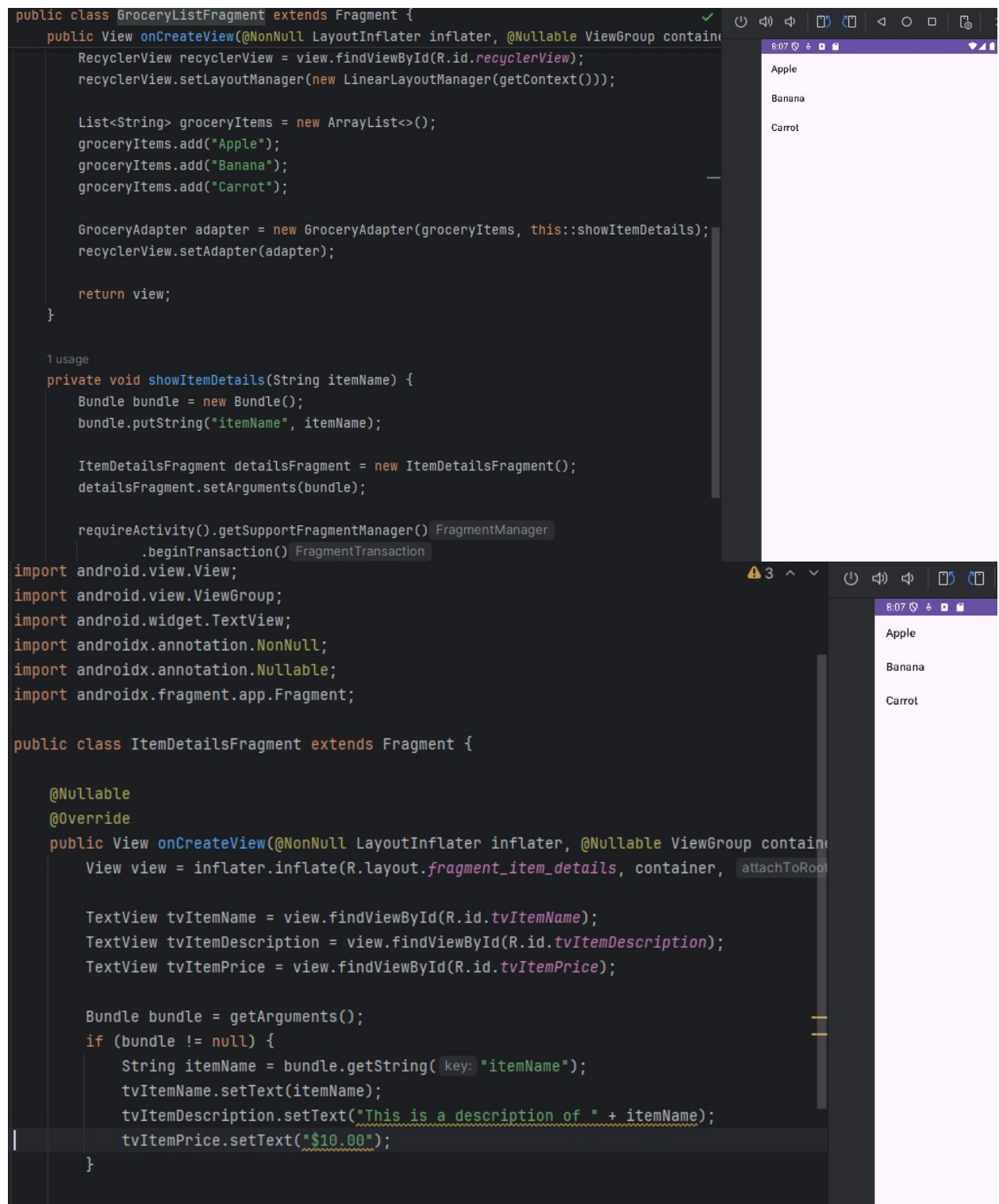
package com.example.grocerylistapp;

import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

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

        if (savedInstanceState == null) {
            getSupportFragmentManager().beginTransaction()
                .replace(R.id.fragmentContainerView, new GroceryListFragment())
                .commit();
        }
    }
}
```



```

public class GroceryListAdapter extends RecyclerView.Adapter {
    public View onCreateView(@NonNull LayoutInflater inflater, @Nullable ViewGroup container,
                             @Nullable Bundle savedInstanceState) {
        RecyclerView recyclerView = view.findViewById(R.id.recyclerView);
        recyclerView.setLayoutManager(new LinearLayoutManager(getContext()));

        List<String> groceryItems = new ArrayList<>();
        groceryItems.add("Apple");
        groceryItems.add("Banana");
        groceryItems.add("Carrot");

        GroceryAdapter adapter = new GroceryAdapter(groceryItems, this::showItemDetails);
        recyclerView.setAdapter(adapter);

        return view;
    }

    1 usage
    private void showItemDetails(String itemName) {
        Bundle bundle = new Bundle();
        bundle.putString("itemName", itemName);

        ItemDetailsFragment detailsFragment = new ItemDetailsFragment();
        detailsFragment.setArguments(bundle);

        requireActivity().getSupportFragmentManager().beginTransaction()
            .replace(R.id.container, detailsFragment, null)
            .commit();
    }
}

import android.view.View;
import android.view.ViewGroup;
import android.widget.TextView;
import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;

public class ItemDetailsFragment extends Fragment {

    @Nullable
    @Override
    public View onCreateView(@NonNull LayoutInflater inflater, @Nullable ViewGroup container,
                             @Nullable Bundle savedInstanceState) {
        View view = inflater.inflate(R.layout.fragment_item_details, container, false);

        TextView tvItemName = view.findViewById(R.id.tvItemName);
        TextView tvItemDescription = view.findViewById(R.id.tvItemDescription);
        TextView tvItemPrice = view.findViewById(R.id.tvItemPrice);

        Bundle bundle = getArguments();
        if (bundle != null) {
            String itemName = bundle.getString("itemName");
            tvItemName.setText(itemName);
            tvItemDescription.setText("This is a description of " + itemName);
            tvItemPrice.setText("$10.00");
        }
    }
}

```



```
public class GroceryAdapter extends RecyclerView.Adapter<GroceryAdapter.ViewHolder> {  
  
    3 usages  
    private final List<String> items;  
    2 usages  
    private final ItemClickListener listener;  
  
    no usages  
    public GroceryAdapter(List<String> items, ItemClickListener listener) {  
        this.items = items;  
        this.listener = listener;  
    }  
  
    @NonNull  
    @Override  
    public ViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {  
        View view = LayoutInflater.from(parent.getContext()).inflate(android.R.layout.simple_list_item_1, parent, false);  
        return new ViewHolder(view);  
    }  
  
    @Override  
    public void onBindViewHolder(@NonNull ViewHolder holder, int position) {  
        String item = items.get(position);  
        holder.textView.setText(item);  
    }  
  
    @Override  
    public int getItemCount() {  
        return items.size();  
    }  
}  
  
4 usages  
static class ViewHolder extends RecyclerView.ViewHolder {  
    2 usages  
    TextView textView;  
  
    1 usage  
    ViewHolder(View itemView) {  
        super(itemView);  
        textView = itemView.findViewById(android.R.id.text1);  
    }  
}  
  
2 usages  
public interface ItemClickListener {  
    1 usage  
    void onItemClick(String item);  
}
```