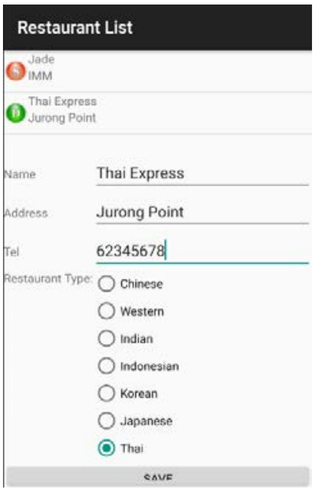
Practical 2: List and Tab View

At the end of the session, you will learn to create a List View for the restaurant list with a basic customization and to create a Tab View to split the restaurant list and detail form.



Jade
IMM

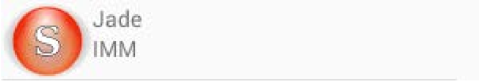
Thai Express
Jurong Point

Name: Thai Express
Address: Jurong Point
Tel: 62345678
Restaurant Type: ○ Chinese ○ Western ○ Indian ○ Indonesian ○ Korean ○ Japanese ● Thai

Part I – Creating a Fancier List

1. Create a new project with the following information:
   - **Application Name** : *Restaurant List*
   - **Company Domain** : *sp.com*
   - **Project Location** : *C:\MAD\AndroidStudioProjects\Lab2a or D:\MAD\AndroidStudioProjects\Lab2a*
   - **Minimum SDK** : *Android 5.0 (Lollipop)*
   - **Empty Activity name** : *RestaurantList*
   - **Layout name** : *main*

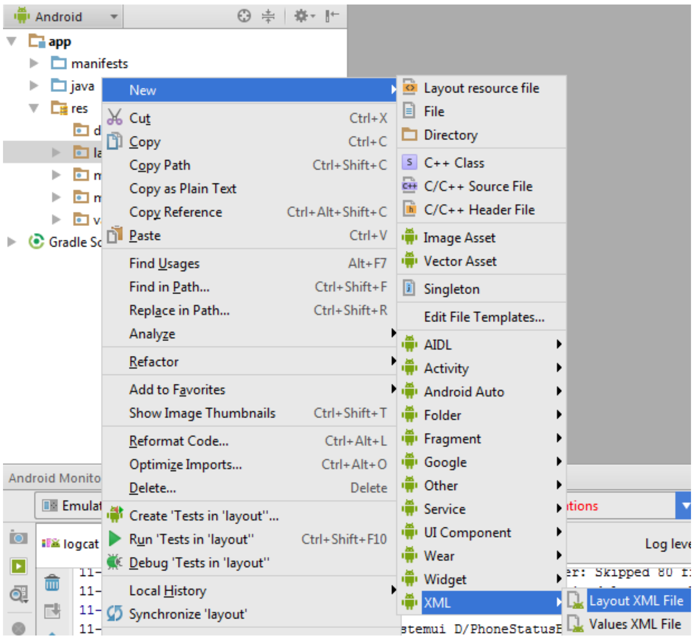
2. Close the *main.xml* and *RestaurantList.java* files in the **Editor** pane
3. Open **Windows File Explorer** and navigate to your Android Studio workspace (*C:\MAD\AndroidStudioProjects* or *D:\MAD\AndroidStudioProjects*) where all you projects are created and saved.
4. Double click to open the *Lab1b* project folder and navigate down to "**app\src\main**" folder. Copy **AndroidManifest.xml** file, **java** and **res** folders
5. Go to newly created project "*Lab2a\app\src\main*" folder and paste into it to overwrite existing folders and files
6. Go back to Android Studio. Open the *RestaurantList.java* and *main.xml* files and they should show the content from *Lab2a*
7. To improve the UI View of **ListView** created in Lab1b, a *row.xml* layout file will be created. Instead of displaying the restaurant's name only for each restaurant added to the list, the new row view will contain an image icon, restaurant name and address (example shown below)



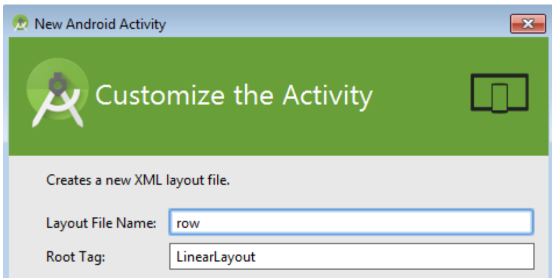
Jade
IMM

8. To achieve the customize row view, we use a nested pair of **LinearLayout** containers.

9. Right click on the **res/layout** folder and select **New > XML > Layout XML File**. Enter the layout file name as 'row'.



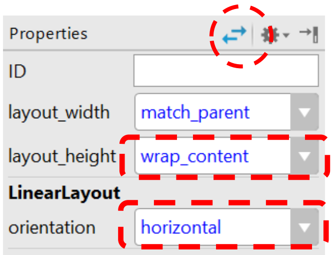
10. Set the **LinearLayout** *layout_height* to **wrap_content** and *orientation* attribute to **horizontal**



Creates a new XML layout file.

Layout File Name: row

Root Tag: LinearLayout



ID:

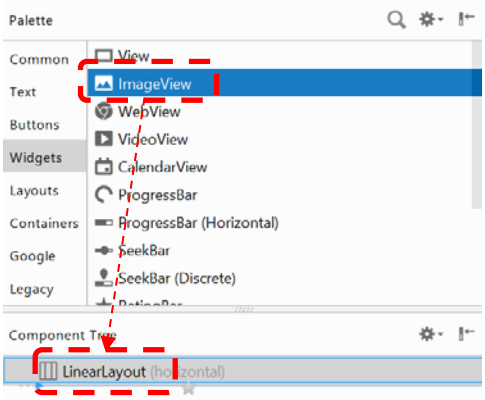
layout_width: match_parent

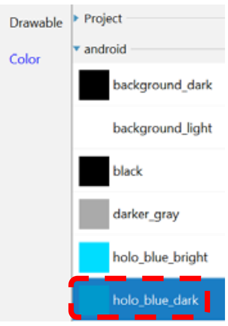
layout_height: wrap_content

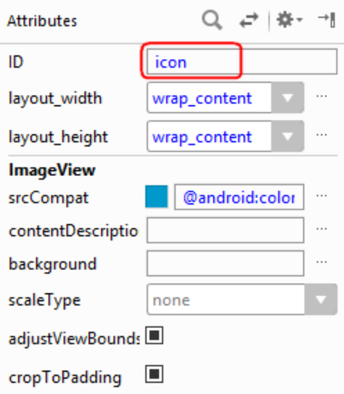
LinearLayout

orientation: horizontal

11. Drag-and-drop an **ImageView** widget from **Widgets** option into the **Horizontal LinearLayout**. Choose *Color > holo_blue_dark* icon and change the *ID* to '**icon**'







ID: icon

layout_width: wrap_content

layout_height: wrap_content

ImageView

srcCompat: @android:color

contentDescriptio:

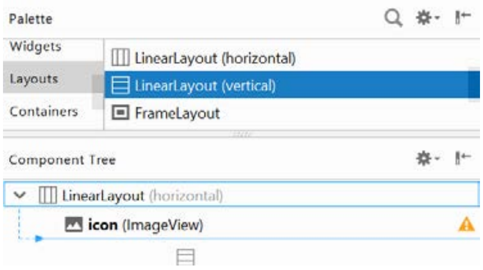
background:

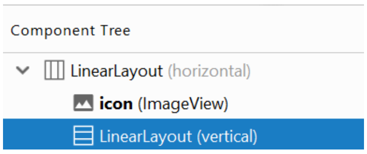
scaleType: none

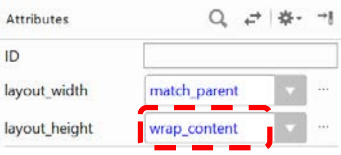
adjustViewBound: □

cropToPadding: □

12. Drag-and-drop a **LinearLayout (vertical)** from **Layouts** option into the current **LinearLayout (horizontal)** below **ImageView** widget and set the layout height to *wrap_content*





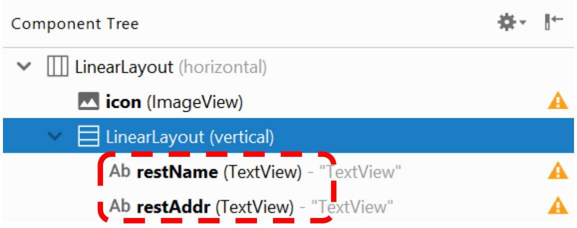


ID:

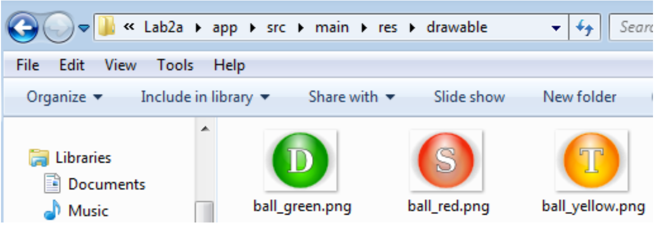
layout_width: match_parent

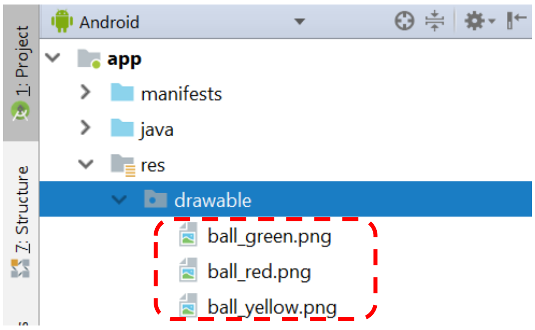
layout_height: wrap_content

13. Drag-and-drop two **TextView** widgets into the **Vertical LinearLayout.** Change the IDs of the two TextView widgets to ‘*restName*’ and ‘*restAddr*’

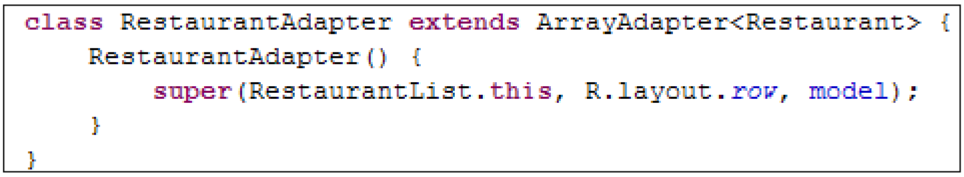

Component Tree
LinearLayout (horizontal)
icon (ImageView)
LinearLayout (vertical)
Ab restName (TextView) - "TextView"
Ab restAddr (TextView) - "TextView"

14. Download the 3 image files (*ball_red.png*, *ball_yellow.png*, and *ball_green.png*) from BlackBoard under **Learning Resources > Practical > Image Icon** folder. Right click on the image and select ‘**save link as**’ to save the image into **Lab2a\app\src\main\res\drawable** folder


« Lab2a ▸ app ▸ src ▸ main ▸ res ▸ drawable
Search
File Edit View Tools Help
Organize ▾ Include in library ▾ Share with ▾ Slide show New folder
Libraries
Documents
Music
D
S
T
ball_green.png
ball_red.png
ball_yellow.png



15. In order to make use of the new customized *row.xml* layout to display *Restaurant* Data Model in the **ListView,** a subclass of *ArrayAdapter* will be created to link with the *row.xml* layout and the Data Model



```
class RestaurantAdapter extends ArrayAdapter<Restaurant> {
    RestaurantAdapter() {
        super(RestaurantList.this, R.layout.row, model);
    }
}
```

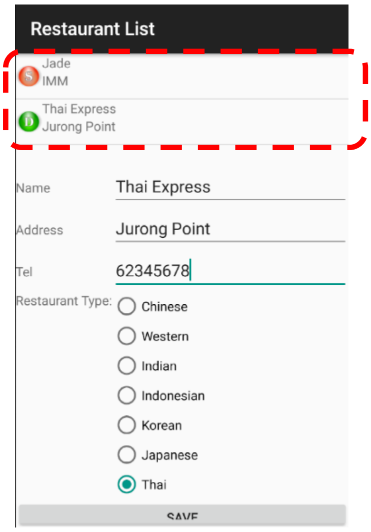
16. Open *RestaurantList.java* file and update the content:

```
package com.sp.restaurantlist;

import android.app.Activity;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.ListView;
import android.widget.RadioGroup;
import android.widget.TextView;

import java.util.ArrayList;
import java.util.List;

public class RestaurantList extends AppCompatActivity {
    private EditText restaurantName;
    private EditText restaurantAddress;
    private EditText restaurantTel;
    private RadioGroup restaurantTypes;
    private Button buttonSave;

    private List<Restaurant> model = new ArrayList<Restaurant>();
    private RestaurantAdapter adapter = null;
    private ListView list;

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

        restaurantName = (EditText) findViewById(R.id.restaurant_name);
        restaurantAddress = (EditText) findViewById(R.id.restaurant_address);
        restaurantTel = (EditText) findViewById(R.id.restaurant_tel);
        restaurantTypes = (RadioGroup) findViewById(R.id.restaurant_types);

        buttonSave = (Button) findViewById(R.id.button_save);
        buttonSave.setOnClickListener(onSave);

        list = (ListView) findViewById(R.id.restaurants);
        adapter = new RestaurantAdapter();
        list.setAdapter(adapter);
    }

    private View.OnClickListener onSave = new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            // To read date from name EditText
            String nameStr = restaurantName.getText().toString();
            String addrStr = restaurantAddress.getText().toString();
            String telStr = restaurantTel.getText().toString();
            String restType = "";
            //To read selection of restaurantTypes RadioGroup
            switch (restaurantTypes.getCheckedRadioButtonId()) {
                case R.id.chinese:
                    restType = "Chinese";
                    break;
                case R.id.western:
                    restType = "Western";
                    break;
                case R.id.indian:
                    restType = "Indian";
                    break;
                case R.id.indonesian:
                    restType = "Indonesian";
                    break;
                case R.id.korean:
                    restType = "Korean";
                    break;
                case R.id.japanese:
                    restType = "Japanese";
                    break;
                case R.id.thai:
                    restType = "Thai";
                    break;
            }

            //Toast.makeText(v.getContext(), combineStr, Toast.LENGTH_LONG).show();
            //Create Restaurant Data Model
            Restaurant restaurant = new Restaurant();
            //Update the Restaurant Data Model
            restaurant.setName(nameStr);
            restaurant.setAddress(addrStr);
            restaurant.setTelephone(telStr);
            restaurant.setRestaurantType(restType);
            //Pass the record to ArrayAdapter.
            //It will update the ListArray and the ListView
            adapter.add(restaurant);
        }
    };

    static class RestaurantHolder {
            private TextView restName = null;
            private TextView addr = null;
            private ImageView icon = null;
            RestaurantHolder(View row) {
```

```
            restName = (TextView)row.findViewById(R.id.restName);
            addr = (TextView)row.findViewById(R.id.restAddr);
            icon = (ImageView)row.findViewById(R.id.icon);
        }
        void populateFrom(Restaurant r) {
            restName.setText(r.getName());
            addr.setText(r.getAddress());
            if (r.getRestaurantType().equals("Chinese")) {
                icon.setImageResource(R.drawable.ball_red);
            } else if (r.getRestaurantType().equals("Western")) {
                icon.setImageResource(R.drawable.ball_yellow);
            } else {
                icon.setImageResource(R.drawable.ball_green);
            }
        }
    }

    class RestaurantAdapter extends ArrayAdapter<Restaurant> {
        RestaurantAdapter() {
            super(RestaurantList.this,R.layout.row, model);
        }

        @NonNull
        @Override
        public View getView(int position, @Nullable View convertView, @NonNull ViewGroup parent) {
            View row = convertView;
            RestaurantHolder holder;
            if (row == null) {
                LayoutInflater inflater = getLayoutInflater();
                row = inflater.inflate(R.layout.row, parent, false);
                holder = new RestaurantHolder(row);
                row.setTag(holder);
            } else {
                holder = (RestaurantHolder)row.getTag();
            }
            holder.populateFrom(model.get(position));
            return (row);
        }
    }
}
```

17. Click on the ▶ icon at the top menu bar to run the *Lab2a* project. If successful, an emulator will be launched as shown. Try entering one or two record and save. You will see the rows are displayed with the new customized format

18. Show your lecturer when you have completed this part of the exercise.



Restaurant List

Jade
IMM

Thai Express
Jurong Point

Name: Thai Express

Address: Jurong Point

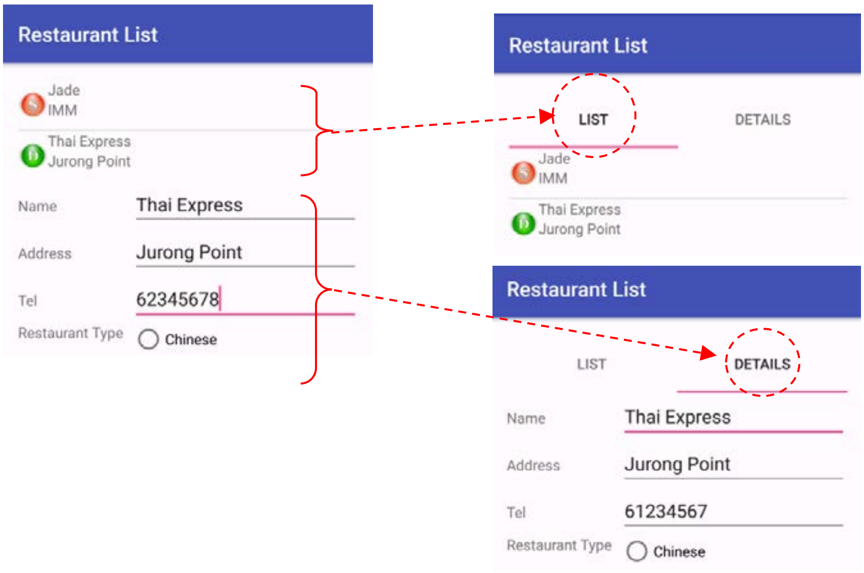
Tel: 62345678

Restaurant Type:
○ Chinese
○ Western
○ Indian
○ Indonesian
○ Korean
○ Japanese
● Thai

Lecturer Signature : ______________________________

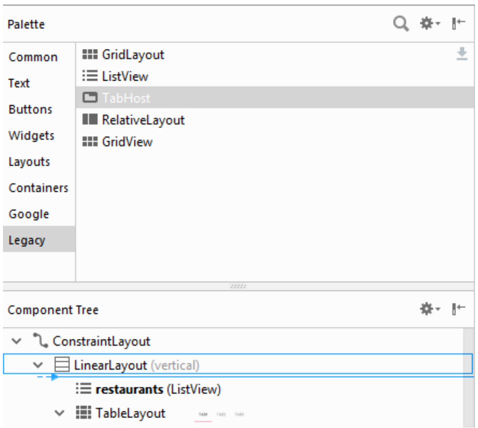
Part II – Creating Tab View

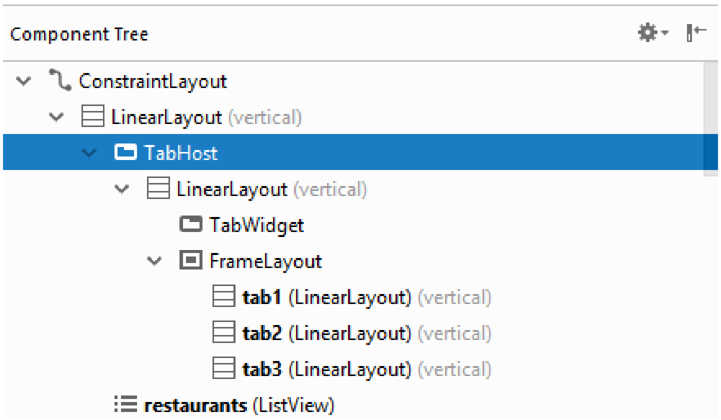
19. In this lab, we will separate our **ListView** and data entry form into two views using tabs. A **TabHost**, **TabWidget** an d **FrameLayout** ill be used to implement the new layout.
20. Whenever a new restaurant record is saved at *Details* tab, a new entry will be added to the restaurant list at *List* tab



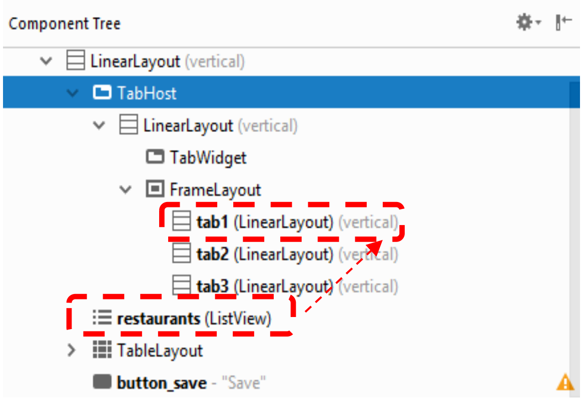
21. Create a new project with the following information:
    - **Application Name** : *Restaurant List*
    - **Company Domain** : *sp.com*
    - **Project Location** : *C:\MAD\AndroidStudioProjects\Lab2b or D:\MAD\AndroidStudioProjects\Lab2b*
    - **Minimum SDK** : *Android 5.0 (Lollipop)*
    - **Empty Activity name** : *RestaurantList*
    - **Layout name** : *main*

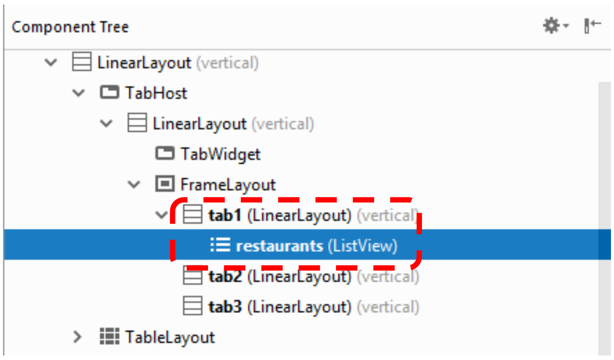
22. Close *RestaurantList.java* and *main.xml* files in the **Editor** pane
23. Open your **Windows File Explorer** and navigate to your **Android Studio** workspace where all you projects are created.
24. Copy *AndroidManifest.xml* file, **java** and **res** folders from **Lab2a\app\src\main** project folder and paste into **Lab2b\app\src\main** folder to overwrite the existing file and folder
25. At Android Studio, *Lab2b* project content will contains the newly copied files and folders
26. To create a tab View as shown below, open the *main.xml* file. Drag a **TabHost** widget from **Legacy** option in Palette and drop it to the **LinearLayout** as child tag. Update **TabHost** widget ID to *tabHost*. Set **layout_width** to matc h_parent and **layout_height** to wrap_content

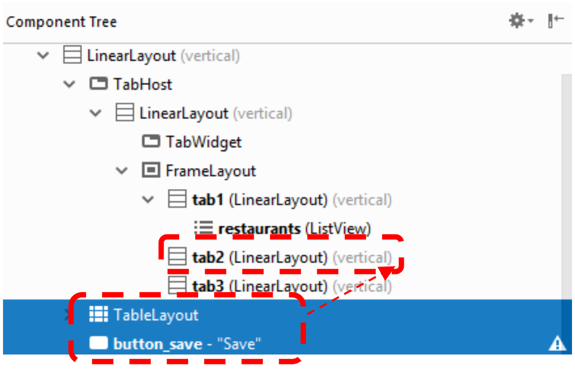


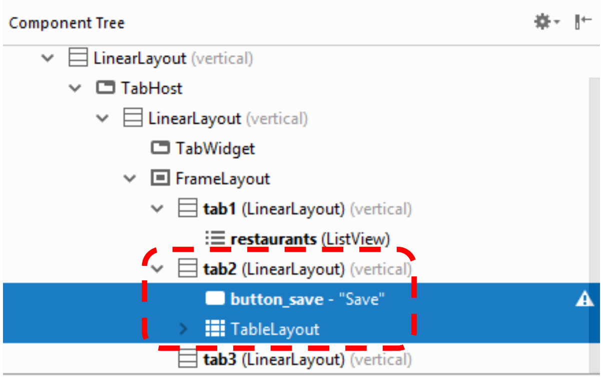


27. Drag **restaurants ListView** widget into **tab1 LinearLayout** as child tag
28. Drag both **TableLayout and button_save Button** widgets and drop into **tab2 LinearLayout** as a child tag

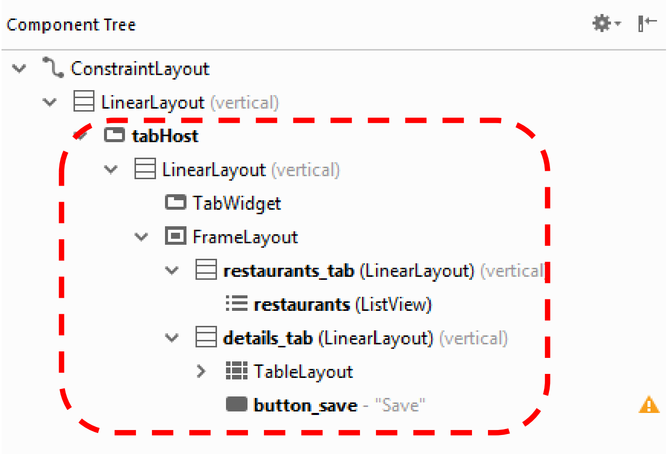






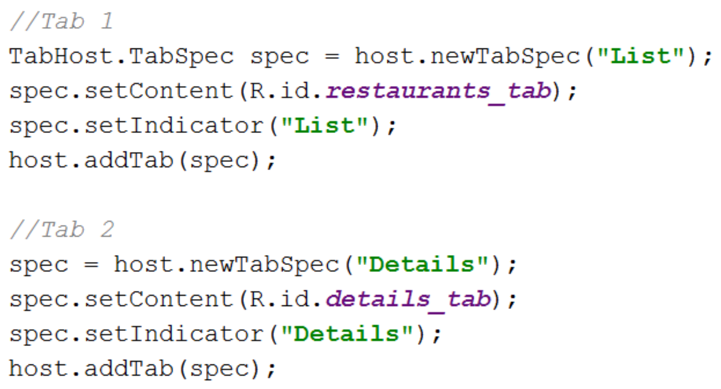


29. Update **tab1 LinearLayout** widget ID to *restaurants_tab*, **tab2 LinearLayout** widget ID to *details _tab*
30. Delete **tab3 LinearLayout** widget and the extra **linearLayout (vertical)**



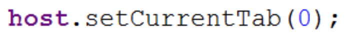
31. With the new layout created, we will learn how to create tabs and load the respective View to the each tab

32. Every tab has a tab indicator and a tag that is used to keep track it



```
//Tab 1
TabHost.TabSpec spec = host.newTabSpec("List");
spec.setContent(R.id.restaurants_tab);
spec.setIndicator("List");
host.addTab(spec);

//Tab 2
spec = host.newTabSpec("Details");
spec.setContent(R.id.details_tab);
spec.setIndicator("Details");
host.addTab(spec);
```

33. *TabSpec* is used to set Indicator, Content, Label, Icon, etc. on the particular tab. Two *TabSpec* objects created are initialized by ***newTabSpec*** method or TabHost class, which will have tag or title as "List" and "Details".
34. ***setContent*** will load the respective tab with the view contains by the LinearLayout (*restaurants_tab* and *details_tab*) defined in **FrameLayout**
35. ***setIndicator*** will indicate TabHost that particular tab is selected or not
36. **setCurrentTab** will activate the current tab view to the tab number specified. The first tab ('List' for *List* tab) created will be having an index number 0



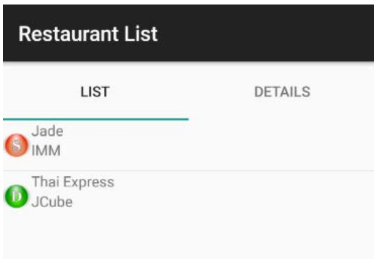
```
host.setCurrentTab(0);
```

37. Open the *RestaurantList.java* file, update the content and save

```
package com.sp.restaurantlist;

import android.support.annotation.NonNull;
import android.support.annotation.Nullable;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.ListView;
import android.widget.RadioGroup;
import android.widget.TabHost;
import android.widget.TextView;

import java.util.ArrayList;
import java.util.List;

public class RestaurantList extends AppCompatActivity {
    private EditText restaurantName;
    private RadioGroup restaurantTypes;
    private Button buttonSave;
    private EditText restaurantAddress;
    private EditText restaurantTel;

    private List<Restaurant> model = new ArrayList<Restaurant>();
    private RestaurantAdapter adapter = null;
    private ListView list;
    private TabHost host;

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

        restaurantName = (EditText)findViewById(R.id.restaurant_name);
        restaurantTypes = (RadioGroup)findViewById(R.id.restaurant_types);

        buttonSave = (Button)findViewById(R.id.button_save);
        buttonSave.setOnClickListener(onSave);

        restaurantAddress = (EditText)findViewById(R.id.restaurant_address);
        restaurantTel = (EditText)findViewById(R.id.restaurant_tel);

        list = (ListView)findViewById(R.id.restaurants);
        adapter = new RestaurantAdapter();
        list.setAdapter(adapter);

        host = (TabHost)findViewById(R.id.tabHost);
        host.setup();

        //Tab 1
        TabHost.TabSpec spec = host.newTabSpec("List");
        spec.setContent(R.id.restaurants_tab);
        spec.setIndicator("List");
        host.addTab(spec);

        //Tab 2
        spec = host.newTabSpec("Details");
        spec.setContent(R.id.details_tab);
        spec.setIndicator("Details");
        host.addTab(spec);

        host.setCurrentTab(0);

    }

    private View.OnClickListener onSave = new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            // To read data from restaurantName EditText
            String nameStr = restaurantName.getText().toString();

            // To read data from restaurantAddress EditText
            String addressStr = restaurantAddress.getText().toString();

            // To read data from restaurantTel EditText
            String telStr = restaurantTel.getText().toString();

            String restType = "";
            //To read selection of restaurantTypes RadioGroup
            switch (restaurantTypes.getCheckedRadioButtonId()) {
                case R.id.chinese:
                    restType = "Chinese";
                    break;
                case R.id.western:
                    restType = "Western";
                    break;
                case R.id.indian:
                    restType = "Indian";
                    break;
                case R.id.indonesian:
                    restType = "Indonesian";
                    break;
                case R.id.korean:
                    restType = "Korean";
                    break;
                case R.id.japanese:
                    restType = "Japanese";
                    break;
                case R.id.thai:
                    restType = "Thai";
                    break;
            }
            //String combineStr = nameStr + "\n" + addressStr + "\n" + telStr + "\n" +restType;
```

```
                //Toast.makeText(v.getContext(), combineStr, Toast.LENGTH_LONG).show();
                Restaurant restaurant = new Restaurant();
                restaurant.setName(nameStr);
                restaurant.setAddress(addressStr);
                restaurant.setTelephone(telStr);
                restaurant.setRestaurantType(restType);

                adapter.add(restaurant);
            }
        };

        static class RestaurantHolder {
            private TextView restName = null;
            private TextView addr = null;
            private ImageView icon = null;
            RestaurantHolder(View row) {
                restName = (TextView)row.findViewById(R.id.restName);
                addr = (TextView)row.findViewById(R.id.restAddr);
                icon = (ImageView)row.findViewById(R.id.icon);
            }
            void populateFrom(Restaurant r) {
                restName.setText(r.getName());
                addr.setText(r.getAddress());
                if (r.getRestaurantType().equals("Chinese")) {
                    icon.setImageResource(R.drawable.ball_red);
                } else if (r.getRestaurantType().equals("Western")) {
                    icon.setImageResource(R.drawable.ball_yellow);
                } else {
                    icon.setImageResource(R.drawable.ball_green);
                }
            }
        }
        class RestaurantAdapter extends ArrayAdapter<Restaurant> {
            RestaurantAdapter() {
                super(RestaurantList.this,R.layout.row, model);
            }

            @NonNull
            @Override
            public View getView(int position, @Nullable View convertView, @NonNull ViewGroup parent) {
                View row = convertView;
                RestaurantHolder holder;
                if (row == null) {
                    LayoutInflater inflater = getLayoutInflater();
                    row = inflater.inflate(R.layout.row, parent, false);
                    holder = new RestaurantHolder(row);
                    row.setTag(holder);
                } else {
                    holder = (RestaurantHolder)row.getTag();
                }
                holder.populateFrom(model.get(position));
                return (row);
            }
        }
    }
```

38. Click on the ▶ icon to run *Lab2b* project. If successful, an emulator will be launched and display the **List** tab. Try entering two new restaurant records and save. Click on the **List** tab, you will see two rows have been added to the **ListView**



Restaurant List

LIST DETAILS

Jade
IMM

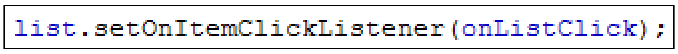
Thai Express
JCube

39. Show your lecturer when you have completed this section of exercise

Lecturer Signature : ______________________________

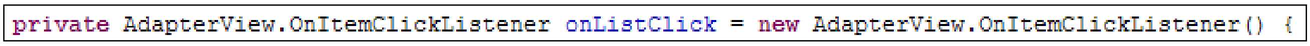
Part III – Detecting List Click

40. In previous part of the work, we have successful create tabs to separate Restaurant form and **ListView** with tabs
41. Try to click on any one of the records listed in the List tab. Nothing will happen! This is because to capture the List item click, we need to activate item click listener of **ListView** (same concept as capturing Button click)



```
list.setOnItemClickListener(onListClick);
```

42. When an item from the **ListView** is clicked on, the Controller will pass the event to the onListClick which is an **AdapterView** item click listener created to handle the event



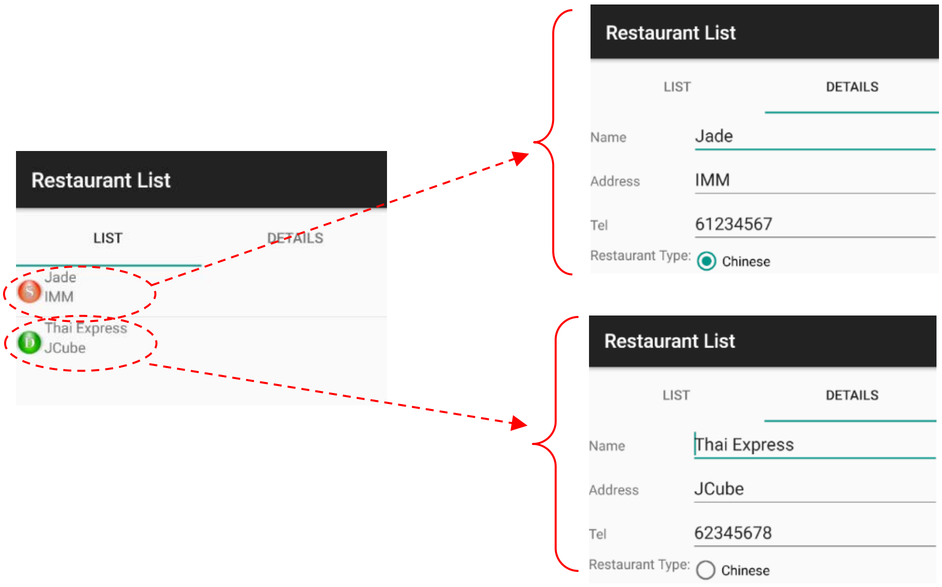
```
private AdapterView.OnItemClickListener onListClick = new AdapterView.OnItemClickListener() {
```

43. Open the *RestaurantList.java* file, update with the following content and save

```
package com.sp.restaurantlist;

import android.support.annotation.NonNull;
import android.support.annotation.Nullable;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.ListView;
import android.widget.RadioGroup;
import android.widget.TabHost;
import android.widget.TextView;

import java.util.ArrayList;
import java.util.List;

public class RestaurantList extends AppCompatActivity {
    private EditText restaurantName;
    private RadioGroup restaurantTypes;
    private Button buttonSave;
    private EditText restaurantAddress;
    private EditText restaurantTel;

    private List<Restaurant> model = new ArrayList<Restaurant>();
    private RestaurantAdapter adapter = null;
    private ListView list;
    private TabHost host;

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

        restaurantName = (EditText)findViewById(R.id.restaurant_name);
        restaurantTypes = (RadioGroup)findViewById(R.id.restaurant_types);

        buttonSave = (Button)findViewById(R.id.button_save);
        buttonSave.setOnClickListener(onSave);

        restaurantAddress = (EditText)findViewById(R.id.restaurant_address);
        restaurantTel = (EditText)findViewById(R.id.restaurant_tel);

        list = (ListView)findViewById(R.id.restaurants);
        adapter = new RestaurantAdapter();
        list.setAdapter(adapter);

        host = (TabHost)findViewById(R.id.tabHost);
        host.setup();


        //Tab 1
        TabHost.TabSpec spec = host.newTabSpec("List");
        spec.setContent(R.id.restaurants_tab);
        spec.setIndicator("List");
        host.addTab(spec);

        //Tab 2
        spec = host.newTabSpec("Details");
        spec.setContent(R.id.details_tab);
        spec.setIndicator("Details");
        host.addTab(spec);

        host.setCurrentTab(0);

        list.setOnItemClickListener(onListClick);

    }

    private View.OnClickListener onSave = new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            // To read data from restaurantName EditText
            String nameStr = restaurantName.getText().toString();

            // To read data from restaurantAddress EditText
            String addressStr = restaurantAddress.getText().toString();

            // To read data from restaurantTel EditText
            String telStr = restaurantTel.getText().toString();

            String restType = "";
            //To read selection of restaurantTypes RadioGroup
            switch (restaurantTypes.getCheckedRadioButtonId()) {
                case R.id.chinese:
                    restType = "Chinese";
                    break;
                case R.id.western:
                    restType = "Western";
                    break;
                case R.id.indian:
                    restType = "Indian";
                    break;
                case R.id.indonesian:
                           restType = "Indonesian";
                           break;
                       case R.id.korean:
                           restType = "Korean";
                           break;
                       case R.id.japanese:
                           restType = "Japanese";
                           break;
                       case R.id.thai:
                           restType = "Thai";
                           break;
                   }
                   //String combineStr = nameStr + "\n" + addressStr + "\n" + telStr +
"\n" +restType;
                   //Toast.makeText(v.getContext(), combineStr,
Toast.LENGTH_LONG).show();
                   Restaurant restaurant = new Restaurant();
                   restaurant.setName(nameStr);
                   restaurant.setAddress(addressStr);
                   restaurant.setTelephone(telStr);
                   restaurant.setRestaurantType(restType);

                   adapter.add(restaurant);
               }
           };

           AdapterView.OnItemClickListener onListClick = new AdapterView.OnItemClickListener() {
               @Override
               public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
                   Restaurant r = model.get(position);

                   restaurantName.setText(r.getName());
                   restaurantAddress.setText(r.getAddress());
                   restaurantTel.setText(r.getTelephone());

                   if (r.getRestaurantType().equals("Chinese")) {
                       restaurantTypes.check(R.id.chinese);
                   } else if (r.getRestaurantType().equals("Western")) {
                       restaurantTypes.check(R.id.western);
                   } else if (r.getRestaurantType().equals("Indian")) {
                       restaurantTypes.check(R.id.indian);
                   } else if (r.getRestaurantType().equals("Indonesia")) {
                       restaurantTypes.check(R.id.indonesian);
                   } else if (r.getRestaurantType().equals("Korean")) {
                       restaurantTypes.check(R.id.korean);
                   } else if (r.getRestaurantType().equals("Japanese")) {
                       restaurantTypes.check(R.id.japanese);
                   } else {
                       restaurantTypes.check(R.id.thai);
                   }
                   host.setCurrentTab(1);
               }
           };

           static class RestaurantHolder {
               private TextView restName = null;
               private TextView addr = null;
               private ImageView icon = null;
               RestaurantHolder(View row) {
                   restName = (TextView)row.findViewById(R.id.restName);
                   addr = (TextView)row.findViewById(R.id.restAddr);
                   icon = (ImageView)row.findViewById(R.id.icon);
               }
               void populateFrom(Restaurant r) {
                   restName.setText(r.getName());
                   addr.setText(r.getAddress());
                   if (r.getRestaurantType().equals("Chinese")) {
                       icon.setImageResource(R.drawable.ball_red);
                   } else if (r.getRestaurantType().equals("Western")) {
                       icon.setImageResource(R.drawable.ball_yellow);
                   } else {
                       icon.setImageResource(R.drawable.ball_green);
                   }
               }
           }
           class RestaurantAdapter extends ArrayAdapter<Restaurant> {
               RestaurantAdapter() {
                   super(RestaurantList.this,R.layout.row, model);
               }

               @NonNull
               @Override
               public View getView(int position, @Nullable View convertView, @NonNull ViewGroup parent) {
                   View row = convertView;
                   RestaurantHolder holder;
                   if (row == null) {
                       LayoutInflater inflater = getLayoutInflater();
                       row = inflater.inflate(R.layout.row, parent, false);
                       holder = new RestaurantHolder(row);
                       row.setTag(holder);
                   } else {
                       holder = (RestaurantHolder)row.getTag();
                   }
                   holder.populateFrom(model.get(position));
```

```
                    return (row);
                }
            }
        }
```

44. Run *Lab2b* project. If successful, an emulator will be launched and display the **List** tab. Enter two new restaurant data and save. Click on the **List** tab, select the first record in the list. The view will switch to *Details* tab and populate with the restaurant data of the record selected



Restaurant List

LIST DETAILS

Jade
IMM

Thai Express
JCube

Restaurant List

LIST DETAILS

Name: Jade

Address: IMM

Tel: 61234567

Restaurant Type: ● Chinese

Restaurant List

LIST DETAILS

Name: Thai Express

Address: JCube

Tel: 62345678

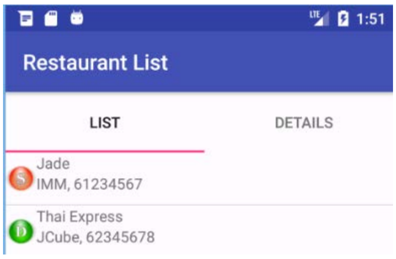
Restaurant Type: ○ Chinese

45. Show your lecturer when you have completed this section of exercise

Lecturer Signature : ____

Extra Credit

46. Modify the application
    a. to display the Details tab by default whenever the app is launched and improve the row of the **List** display to include telephone number as shown (**Hint**: Combine the address and telephone number as string before displaying on view)
    b. to switch the view to ‘LIST’ display automatically when the ‘Save’ button is pressed



Restaurant List

LIST DETAILS

Jade
IMM, 61234567

Thai Express
JCube, 62345678

47. Show your lecturer when you have completed the extra credit

Lecturer Signature : ____

-END-