Experiment 2.2

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Semester: 6th	**Date of Performance: 29-02-24**
Subject Name: MAD LAB	**Subject Code: 21CSH-355**

1. Aim: :- Create an Android App using various controls such TexEdit, CheckBox, RadioButton, RadioGroup, etc.

2. Objective: The objective of an Android app using various controls such as EditText, CheckBox,

RadioButton, and RadioGroup could be to create a user interface that involves user input, selection, and interaction with different types of controls. This type of app aims to showcase the usage and functionalities of these UI elements to enhance the user experience.

3.Input/Apparatus Used:

To create an Android app using various controls such as EditText, CheckBox, RadioButton, and RadioGroup, you'll need the following tools and resources:

1. **Integrated Development Environment (IDE):**
Android Studio: The official IDE for Android development. Download and install Android Studio from the official website: Android Studio.
2. **Android SDK:**
The Android Software Development Kit (SDK) is essential for developing Android applications. Android Studio usually comes bundled with the SDK, but you may need to update it through the SDK Manager within Android Studio.
3. **Java Development Kit (JDK):**
Android apps are primarily written in Java or Kotlin. Make sure you have the Java Development Kit installed. Android Studio supports JDK. You can download it from the Oracle website: Java SE Downloads.
4. **Android Virtual Device (AVD) or Physical Android Device:**
You need a device to test your Android application. You can use an emulator (AVD) that comes with Android Studio or a physical Android device connected to your computer.

4.Script and Output:

XML CODE:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textOn="ON"    android:textOff="OFF" />

<AutoCompleteTextView
android:id="@+id/autoCompleteTextViewExample"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:hint="Type here" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

JAVA CODE:-

```java
import android.support.v7.app.AppCompatActivity; import
android.os.Bundle; import android.view.View; import
android.widget.CheckBox; import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    CheckBox ch, ch1, ch2;
@Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
        ch=(CheckBox)findViewById(R.id.checkBox);

        ch1=(CheckBox)findViewById(R.id.checkBox2);

        ch2=(CheckBox)findViewById(R.id.checkBox3);
    }
    public void Check(View v)
    {
        String msg="";

        if(ch.isChecked())
            msg = msg + " Pizza ";

        if(ch1.isChecked())
            msg = msg + " Coffee ";

        if(ch2.isChecked())
            msg = msg + " Burger ";

        Toast.makeText(this, msg + "are selected",
                Toast.LENGTH_LONG).show();
```

} }
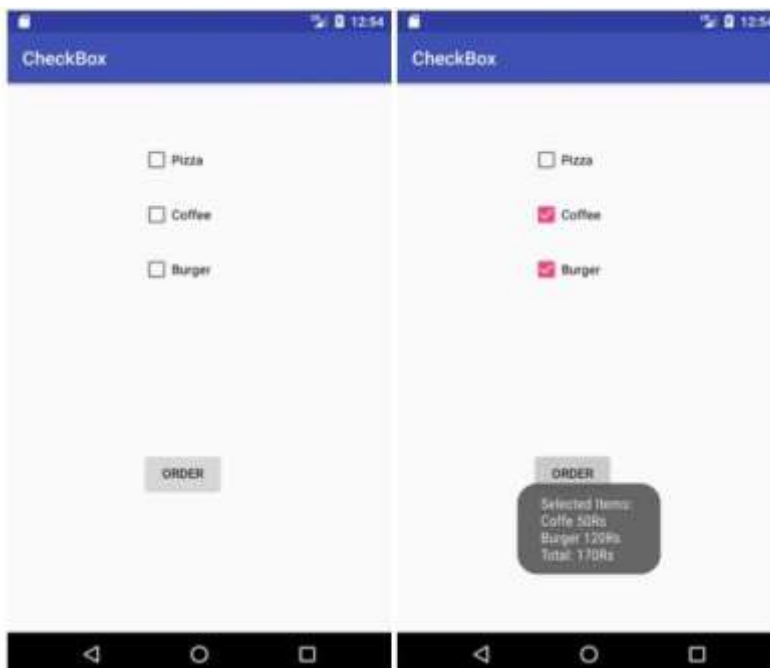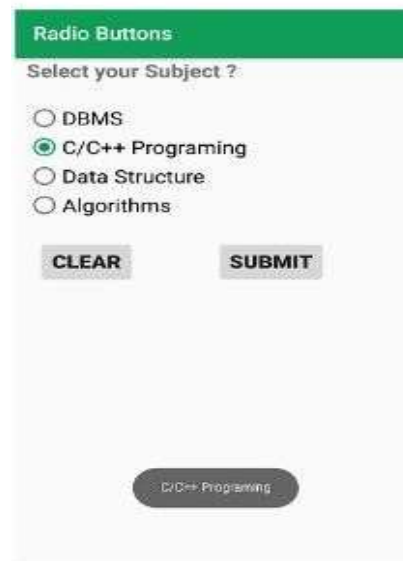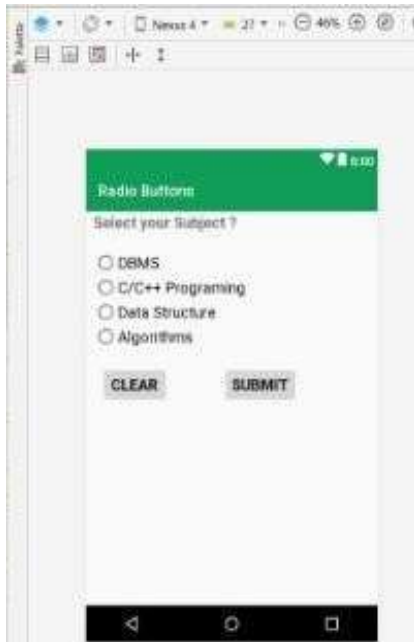
Car Comparison Application:

XML CODE:

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout

xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:app="http://schemas.android.com/apk/res-auto"
```

```java
                {{10000, 66000}, {12000, 56000}},
                {{10000, 77000}, {12000, 67000}},
                {{10000, 88000}, {12000, 78000}},
                {{10000, 99000}, {12000, 89000}},
                {{10000, 11000}, {12000, 90000}}
        },
        {
                {{10000, 13000}, {12000, 31000}}, // Prices for petrol and diesel for Model 1 of Company 1
                {{10000, 14000}, {12000, 41000}},
                {{10000, 23000}, {12000, 32000}},
                {{10000, 24000}, {12000, 42000}},
                {{10000, 33000}, {12000, 33000}},
                {{10000, 34000}, {12000, 43000}},
                {{10000, 36000}, {12000, 63000}},
                {{10000, 87000}, {12000, 69000}},
                {{10000, 99000}, {12000, 88000}} },

        {
                {{10000, 42000}, {12000, 43000}}, // Prices for petrol and diesel for Model 1 of Company 1
                {{10000, 52000}, {12000, 53000}},
                {{10000, 62000}, {12000, 73000}},
                {{10000, 72000}, {12000, 83000}},
                {{10000, 82000}, {12000, 93000}},
                {{10000, 92000}, {12000, 13000}},
                {{10000, 22000}, {12000, 63000}},
                {{10000, 12000}, {12000, 23000}},
                {{10000, 32000}, {12000, 83000}}  // Prices for petrol and diesel for Model 3 of Company 1
        },

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

        // Initialize views
        companySpinner = findViewById(R.id.companySpinner);
modelSpinner = findViewById(R.id.modelSpinner);
calculateButton = findViewById(R.id.calculateButton);
priceTextView = findViewById(R.id.priceTextView);
fuelTypeRadioGroup = findViewById(R.id.fuelTypeRadioGroup);
```

```java
petrolRadioButton = findViewById(R.id.petrolRadioButton);
dieselRadioButton = findViewById(R.id.dieselRadioButton);

    // Populate the company spinner
    ArrayAdapter<CharSequence> companyAdapter = ArrayAdapter.createFromResource(
this,
        R.array.spinner_options, // Use the appropriate array resource
android.R.layout.simple_spinner_item
    );
    companyAdapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
companySpinner.setAdapter(companyAdapter);

    // Set listener for company spinner selection change
companySpinner.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {
        @Override        public void onItemSelected(AdapterView<?> parent, View view, int position,
long id) {            populateModelSpinner(position); // Populate the model spinner based on the
selected company            @Override         public void onNothingSelected(AdapterView<?> parent) {
            // Do nothing
        }
    });

    // Set click listener for calculate button
calculateButton.setOnClickListener(new View.OnClickListener() {
        @Override          public void
onClick(View v) {
calculatePrice();
        }
    });
  }

  // Populate the model spinner based on the selected company
private void populateModelSpinner(int companyIndex) {
    ArrayAdapter<CharSequence> modelAdapter = ArrayAdapter.createFromResource(
this,
        R.array.spinner_options1, // Use the appropriate array resource
android.R.layout.simple_spinner_item
    );
    modelAdapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
modelSpinner.setAdapter(modelAdapter);
  }
```

```
    // Calculate the price based on the selected options     private void
calculatePrice() {          int companyIndex =
companySpinner.getSelectedItemPosition();          int modelIndex =
modelSpinner.getSelectedItemPosition();

        // Determine the selected fuel type
        boolean isPetrol = petrolRadioButton.isChecked();

        // Get the price for the selected car, model, and fuel type
        double price = carPrices[companyIndex][modelIndex][isPetrol ? 0 : 1][isPetrol ? 0 : 1];

        // Display the price
priceTextView.setText(String.format("Price: $%.2f", price));
    }
}
```