UCS1711 -MOBILE APPLICATION DEVELOPMENT LAB

EX - 1: KEYBOARD DESIGN

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AIM :

Develop an application to simulate a keyboard

CODE :

MainActivity.java:

```
package com.example.keyboard;
import android.annotation.SuppressLint;
import android.content.Context;
import android.os.Bundle;
import android.text.InputType;
import android.text.TextUtils;
import android.util.AttributeSet;
import android.util.SparseArray;
import android.view.LayoutInflater;
import android.view.View;
import android.view.inputmethod.EditorInfo;
import android.view.inputmethod.InputConnection;
import android.widget.Button;
```

```
import android.widget.EditText;
import android.widget.LinearLayout;
import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.view.menu.MenuPresenter;
public class MyKeyboard extends LinearLayout implements View.OnClickListener
{
  public MyKeyboard(Context context) {
     this(context, null, 0);
  }

  public MyKeyboard(Context context, AttributeSet attrs) {
     this(context, attrs, 0);
  }
  // keyboard keys (buttons)
  private Button mButton1;
  private Button mButton2;
  private Button mButton3;
  private Button mButton4;
  private Button mButton5;
  private Button mButton6;
  private Button mButton7;
  private Button mButton8;
  private Button mButton9;
  private Button mButton0;
  private Button mButtonDelete;
  private Button mButtonEnter;

  public MyKeyboard(Context context, AttributeSet attrs, int defStyleAttr) {
     super(context, attrs, defStyleAttr);
     init(context, attrs);
  }
  SparseArray<String> keyValues = new SparseArray<>();

  // Our communication link to the EditText
private void init(Context context, AttributeSet attrs) {
```

```
LayoutInflater.from(context).inflate(R.layout.keyboard, this, true);
mButton1 = (Button) findViewById(R.id.button_1);
mButton2 = (Button) findViewById(R.id.button_2);
mButton3 = (Button) findViewById(R.id.button_3);
mButton4 = (Button) findViewById(R.id.button_4);
mButton5 = (Button) findViewById(R.id.button_5);
mButton6 = (Button) findViewById(R.id.button_6);
mButton7 = (Button) findViewById(R.id.button_7);
mButton8 = (Button) findViewById(R.id.button_8);
mButton9 = (Button) findViewById(R.id.button_9);
mButton0 = (Button) findViewById(R.id.button_0);
mButtonDelete = (Button) findViewById(R.id.button_delete);
mButtonEnter = (Button) findViewById(R.id.button_enter);
// set button click listeners
mButton1.setOnClickListener(this);
mButton2.setOnClickListener(this);
mButton3.setOnClickListener(this);
mButton4.setOnClickListener(this);
mButton5.setOnClickListener(this);
mButton6.setOnClickListener(this);
mButton7.setOnClickListener(this);
mButton8.setOnClickListener(this);
mButton9.setOnClickListener(this);
mButton0.setOnClickListener(this);
mButtonDelete.setOnClickListener(this);
mButtonEnter.setOnClickListener(this);
// map buttons IDs to input strings
keyValues.put(R.id.button_1, "1");
keyValues.put(R.id.button_2, "2");
keyValues.put(R.id.button_3, "3");
keyValues.put(R.id.button_4, "4");
keyValues.put(R.id.button_5, "5");
keyValues.put(R.id.button_6, "6");
keyValues.put(R.id.button_7, "7");
```

```
        keyValues.put(R.id.button_8, "8");
        keyValues.put(R.id.button_9, "9");
        keyValues.put(R.id.button_0, "0");
        keyValues.put(R.id.button_enter, "\n");
    }
    InputConnection ic;
    public void onCreate(View v) {
        EditText editText = (EditText) findViewById(R.id.editText);
        @SuppressLint("WrongViewCast") MyKeyboard keyboard = (MyKeyboard)
findViewById(R.id.keyboard);
        ic = editText.onCreateInputConnection(new EditorInfo());
        keyboard.setInputConnection(ic);
    }
    @Override
    public void onClick(View v) {
        // do nothing if the InputConnection has not been set yet
        if (ic == null) return;
        // Delete text or input key value
        // All communication goes through the InputConnection
        if (v.getId() == R.id.button_delete) {
            CharSequence selectedText = ic.getSelectedText(0);
            if (TextUtils.isEmpty(selectedText)) {
                // no selection, so delete previous character
                ic.deleteSurroundingText(1, 0);
            } else {
                // delete the selection
                ic.commitText("", 1);
            }
        } else {
            String value = keyValues.get(v.getId());
            ic.commitText(value, 1);
        }
    }

    // The activity (or some parent or controller) must give us
```

```
  // a reference to the current EditText's InputConnection
  public void setInputConnection(InputConnection ic) {
     this.ic = ic;
  }
}
```

Activity_main.xml:

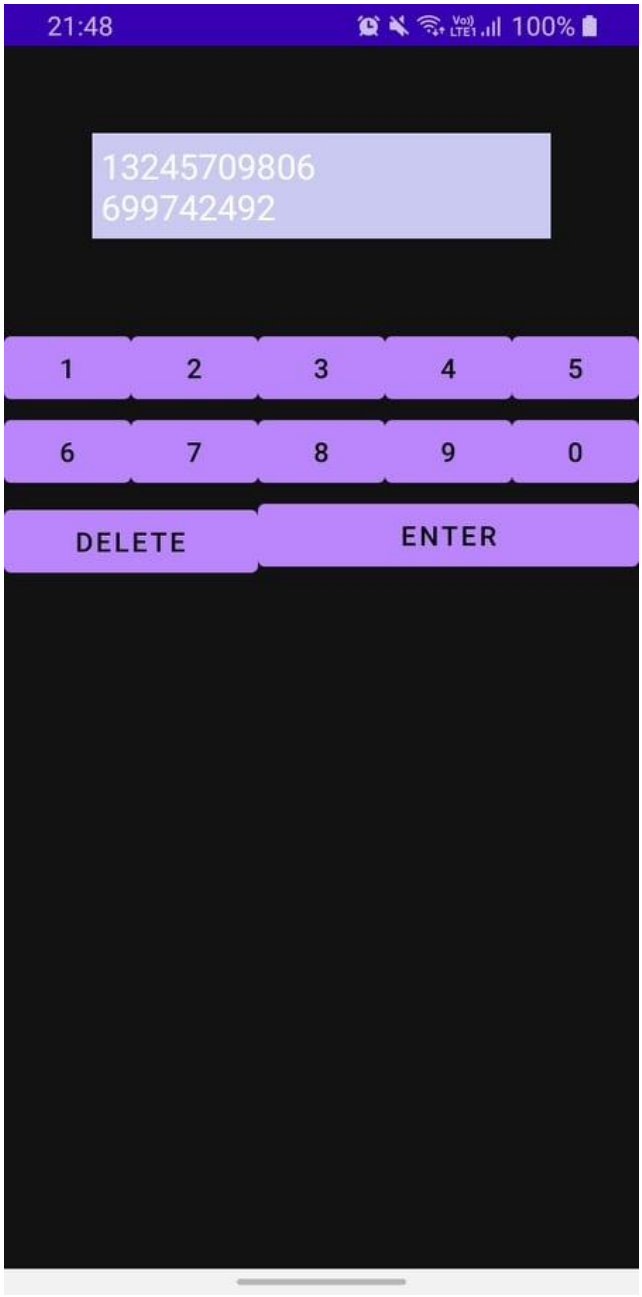
```
<merge xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:tools="http://schemas.android.com/tools">
  <LinearLayout
     android:layout_width="match_parent"
     android:layout_height="wrap_content"
     android:orientation="vertical">
     <EditText
        android:id="@+id/editText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_margin="50dp"
        android:background="#c9c9f1"
        android:padding="5dp"
        tools:ignore="MissingConstraints"
        tools:layout_editor_absoluteX="37dp"
        tools:layout_editor_absoluteY="79dp" />
  <LinearLayout
     android:id="@+id/keyboard"
     android:layout_width="match_parent"
     android:layout_height="wrap_content"
     android:orientation="vertical">
     <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">
```

```
    <Button
        android:id="@+id/button_1"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="1"/>
    <Button
        android:id="@+id/button_2"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="2"/>
    <Button
        android:id="@+id/button_3"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="3"/>
    <Button
        android:id="@+id/button_4"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="4"/>
    <Button
        android:id="@+id/button_5"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="5"/>
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal">
```

```
    <Button
        android:id="@+id/button_6"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="6"/>
    <Button
        android:id="@+id/button_7"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="7"/>
    <Button
        android:id="@+id/button_8"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="8"/>
    <Button
        android:id="@+id/button_9"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="9"/>
    <Button
        android:id="@+id/button_0"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="0"/>
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
```

```
        android:orientation="horizontal">
        <Button
            android:id="@+id/button_delete"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="2"
            android:text="Delete"/>
        <Button
            android:id="@+id/button_enter"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="3"
            android:text="Enter"/>
      </LinearLayout>
  </LinearLayout>
  </LinearLayout>
</merge>
```

OUTPUT :



RESULT :

Thus we have successfully developed an android application with a custom number keyboard.