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SET - 3
Part a
        Count The number of A/a from a Text Field

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.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"
    tools:context=".MainActivity">
    <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        android:padding="16dp">
        <EditText
            android:id="@+id/etInput"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Type here"/>
        <TextView
            android:id="@+id/tvCount"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Count of A: 0"
            android:textSize="18sp"/>
    </LinearLayout>
</android.support.constraint.ConstraintLayout>
```

MainActivity.java

```java
package com.example.myapplication9;

import android.annotation.SuppressLint;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.text.Editable;
import android.text.TextWatcher;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    private EditText etInput;
    private TextView tvCount;

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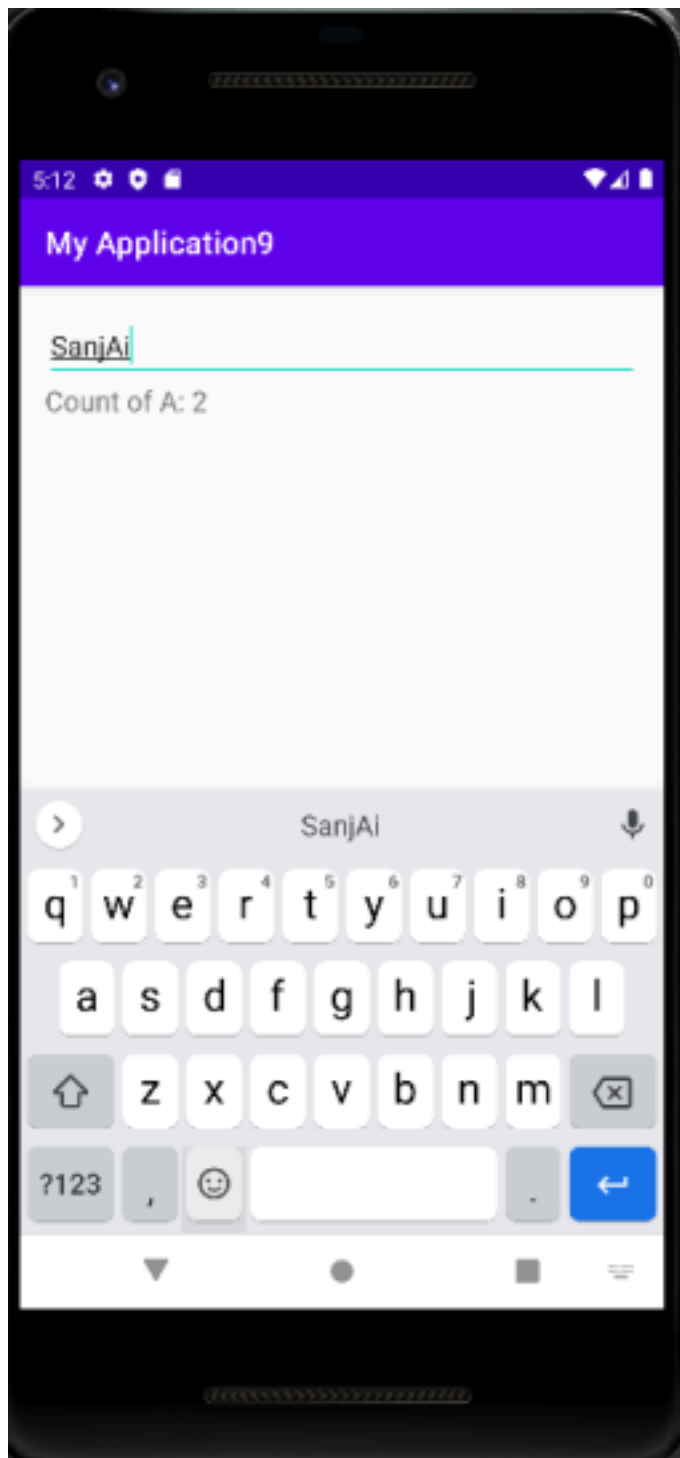
```java
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    etInput = findViewById(R.id.etInput);
    tvCount = findViewById(R.id.tvCount);

    etInput.addTextChangedListener(new TextWatcher() {
        @Override public void beforeTextChanged(CharSequence s, int start,
int count, int after) {}
        @Override public void afterTextChanged(Editable s) {}
        @SuppressLint("SetTextI18n")
        @Override
        public void onTextChanged(CharSequence s, int start, int before, int
count) {
            int aCount = 0;
            for (char c : s.toString().toLowerCase().toCharArray()) {
                if (c == 'a') aCount++;
            }
            tvCount.setText("Count of A: " + aCount);
        }
    });
}
}
```

Output

Part b
Employee Leave registration Form with SQLite DATABASE

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.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"
```

```xml
    tools:context=".MainActivity">

    <ScrollView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:layout_editor_absoluteX="0dp"
        tools:layout_editor_absoluteY="76dp">

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

            <EditText
                android:id="@+id/etName"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:hint="Name" />

            <EditText
                android:id="@+id/etEmpId"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:hint="Employee ID"
                android:inputType="number" />

            <TextView
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:text="From Date" />

            <DatePicker
                android:id="@+id/dateFrom"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content" />
            <TextView
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:text="To Date" />

            <DatePicker
                android:id="@+id/dateTo"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content" />

            <Spinner
                android:id="@+id/spinnerType"
                android:layout_width="match_parent"
                android:layout_height="wrap_content" />

            <EditText
                android:id="@+id/etReason"
                android:layout_width="match_parent"
```

```xml
                        android:layout_height="wrap_content"
                        android:hint="Reason" />

            <Button
                android:id="@+id/btnSubmit"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Apply" />
        </LinearLayout>
    </ScrollView>
</android.support.constraint.ConstraintLayout>
```

LeaveDBHelper.java

```java
package com.example.myapplication12;

import android.content.Context;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

public class LeaveDbHelper extends SQLiteOpenHelper {
    private static final String DB_NAME = "LeaveApp.db";
    private static final int DB_VER = 1;
    public static final String TABLE = "leave_applications";
    public static final String COL_ID = "_id";
    public static final String COL_NAME = "name";
    public static final String COL_EMP_ID = "emp_id";
    public static final String COL_FROM = "from_date";
    public static final String COL_TO = "to_date";
    public static final String COL_TYPE = "leave_type";
    public static final String COL_REASON = "reason";

    public LeaveDbHelper(Context context) {
        super(context, DB_NAME, null, DB_VER);
    }
    @Override
    public void onCreate(SQLiteDatabase db) {
        String CREATE = "CREATE TABLE " + TABLE + " (" +
                COL_ID + " INTEGER PRIMARY KEY AUTOINCREMENT, " +
                COL_NAME + " TEXT, " +
                COL_EMP_ID + " INTEGER, " +
                COL_FROM + " TEXT, " +
                COL_TO + " TEXT, " +
                COL_TYPE + " TEXT, " +
                COL_REASON + " TEXT)";
        db.execSQL(CREATE);
    }
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVer, int newVer) {
        db.execSQL("DROP TABLE IF EXISTS " + TABLE);
        onCreate(db);
```

```
    }
}
```

MainActivity.java

```java
package com.example.myapplication12;

import android.content.ContentValues;
import android.content.Intent;
import android.database.sqlite.SQLiteDatabase;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity<intent> extends AppCompatActivity {
    private EditText etName, etEmpId, etReason;
    private DatePicker dateFrom, dateTo;
    private Spinner spinnerType;
    private Button btnSubmit;
    private LeaveDbHelper dbHelper;

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

        etName = findViewById(R.id.etName);
        etEmpId = findViewById(R.id.etEmpId);
        dateFrom = findViewById(R.id.dateFrom);
        dateTo = findViewById(R.id.dateTo);
        spinnerType = findViewById(R.id.spinnerType);
        etReason = findViewById(R.id.etReason);
        btnSubmit = findViewById(R.id.btnSubmit);

        ArrayAdapter<String> typeAdapter = new ArrayAdapter<>(this,
                android.R.layout.simple_spinner_item,
            new String[]{"OD","Sick Leave","Casual"});
        spinnerType.setAdapter(typeAdapter);

        dbHelper = new LeaveDbHelper(this);

        btnSubmit.setOnClickListener(v -> {
            String name = etName.getText().toString().trim();
            String empId = etEmpId.getText().toString().trim();
            int dayF = dateFrom.getDayOfMonth();
            int monthF = dateFrom.getMonth() + 1;
            int yearF = dateFrom.getYear();
            String fromDate = dayF + "/" + monthF + "/" + yearF;
```

```java
int dayT = dateTo.getDayOfMonth();
int monthT = dateTo.getMonth() + 1;
int yearT = dateTo.getYear();
String toDate = dayT + "/" + monthT + "/" + yearT;
String type = spinnerType.getSelectedItem().toString();
String reason = etReason.getText().toString().trim();

if (name.isEmpty() || empId.isEmpty()) {
    Toast.makeText(this, "Name and Employee ID required",
Toast.LENGTH_SHORT).show();
    return;
}
ContentValues cv = new ContentValues();
cv.put(LeaveDbHelper.COL_NAME, name);
cv.put(LeaveDbHelper.COL_EMP_ID, empId);
cv.put(LeaveDbHelper.COL_FROM, fromDate);
cv.put(LeaveDbHelper.COL_TO, toDate);
cv.put(LeaveDbHelper.COL_TYPE, type);
cv.put(LeaveDbHelper.COL_REASON, reason);

SQLiteDatabase db = dbHelper.getWritableDatabase();
long id = db.insert(LeaveDbHelper.TABLE, null, cv);
if (id != -1) {
    Toast.makeText(this, "Application submitted",
Toast.LENGTH_SHORT).show();
    finish();
}
});
}
}
```