

Lab program-1a. Create an application to design a Visiting Card. The Visiting card should have a company logo at the top right corner. The company name should be displayed in Capital letters, aligned to the center. Information like the name of the employee, job title, phone number, address, email, fax and the website address is to be displayed. Insert a horizontal line between the job title and the phone number.

activity_main.xml

```
<LinearLayout 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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity" >
```

```
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal">
```

```
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:gravity="center_horizontal"
            android:layout_gravity="center"
            android:text="DR.AIT"
            android:textSize="30sp" />
```

```
        <ImageView
            android:layout_width="40dp"
            android:layout_height="40dp"
            android:src="@drawable/college_Logo"/>
```

```
    </LinearLayout>
```

```
    <View
        android:layout_width="fill_parent"
        android:layout_height="1dp"
        android:background="#000000"/>
```

```
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center_vertical"
        android:orientation="vertical">
```

```
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:text="Name:Rakshith S"
            android:textSize="20sp"
```

```

        android:layout_marginTop="20dp" />

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:text="Email:1da20cs112.cs@drait.edu.in"
    android:layout_marginTop="10dp"
    android:textSize="18sp"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_marginTop="10dp"
    android:text="Address:Bengaluru,Karnataka"
    android:textSize="18sp"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_marginTop="10dp"
    android:text="Phone No.1234056789"
    android:textSize="18sp"/>

</LinearLayout>

</LinearLayout>

```

MainActivity.java

```

package com.example.visitingcard;

import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;

public class MainActivity extends Activity {

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

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

}

```

Lab program-9. Create an activity like a phone dialer with (1,2,3,4,5,6,7,8,9,0,*,#) buttons and call and save button on pressing the call button, it must call the phone number and on pressing the save button it must save the number to the phone contacts.

activity_main.xml

```
<LinearLayout 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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:orientation="vertical"
    tools:context=".MainActivity" >

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:id="@+id/txt_num"/>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:layout_marginTop="20dp"
        android:gravity="center">

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="center_horizontal"
            android:text="1"
            android:layout_marginTop="20dp"
            android:id="@+id/btn_one" />

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:text="2"
            android:id="@+id/btn_two"
            android:layout_gravity="center_horizontal"/>

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:text="3"
            android:id="@+id/btn_three"
            android:layout_gravity="center_horizontal"/>
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```

        android:layout_gravity="center_horizontal"
        android:gravity="center">

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="center_horizontal"
            android:text="4"
            android:layout_marginTop="20dp"
            android:id="@+id/btn_four" />

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:text="5"
            android:id="@+id/btn_five"
            android:layout_gravity="center_horizontal"/>

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:text="6"
            android:id="@+id/btn_six"
            android:layout_gravity="center_horizontal"/>
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:gravity="center">

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="center_horizontal"
            android:text="7"
            android:layout_marginTop="20dp"
            android:id="@+id/btn_seven" />

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:text="8"
            android:id="@+id/btn_eight"
            android:layout_gravity="center_horizontal"/>

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:text="9"
            android:id="@+id/btn_nine"
            android:layout_gravity="center_horizontal"/>
    </LinearLayout>

```

```

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal"
    android:gravity="center">

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:text="*"
        android:layout_marginTop="20dp"
        android:id="@+id/btn_star" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="0"
        android:id="@+id/btn_zero"
        android:layout_gravity="center_horizontal"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="#"
        android:id="@+id/btn_hash"
        android:layout_gravity="center_horizontal"/>
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal"
    android:gravity="center">

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:text="SAVE"
        android:layout_marginTop="20dp"
        android:id="@+id/btn_save" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="CALL"
        android:id="@+id/btn_call"
        android:layout_gravity="center_horizontal"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="DELETE"
        android:id="@+id/btn_delete"

```

```

        android:layout_gravity="center_horizontal"/>
    </LinearLayout>

</LinearLayout>

```

MainActivity.java

```

package com.example.dialpad;

import android.net.Uri;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.app.Activity;
import android.content.Intent;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends Activity implements OnClickListener {

    Button
    one,two,three,four,five,six,seven,eight,nine,zero,star,hash,save,call,delete;
    EditText number;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        number=(EditText)findViewById(R.id.txt_num);
        one=(Button)findViewById(R.id.btn_one);
        one.setOnClickListener(this);
        two=(Button)findViewById(R.id.btn_two);
        two.setOnClickListener(this);
        three=(Button)findViewById(R.id.btn_three);
        three.setOnClickListener(this);
        four=(Button)findViewById(R.id.btn_four);
        four.setOnClickListener(this);
        five=(Button)findViewById(R.id.btn_five);
        five.setOnClickListener(this);
        six=(Button)findViewById(R.id.btn_six);
        six.setOnClickListener(this);
        seven=(Button)findViewById(R.id.btn_seven);
        seven.setOnClickListener(this);
        eight=(Button)findViewById(R.id.btn_eight);
        eight.setOnClickListener(this);
        nine=(Button)findViewById(R.id.btn_nine);
        nine.setOnClickListener(this);
        zero=(Button)findViewById(R.id.btn_zero);
        zero.setOnClickListener(this);
        star=(Button)findViewById(R.id.btn_star);
        star.setOnClickListener(this);
        hash=(Button)findViewById(R.id.btn_hash);
        hash.setOnClickListener(this);
        call=(Button)findViewById(R.id.btn_call);
        call.setOnClickListener(this);
        save=(Button)findViewById(R.id.btn_save);
    }
}

```

```

        save.setOnClickListener(this);
        delete=(Button)findViewById(R.id.btn_delete);
        delete.setOnClickListener(this);
    }

```

```

@Override
public boolean onCreateOptionsMenu(Menu menu) {
    // Inflate the menu; this adds items to the action bar if it is present.
    getMenuInflater().inflate(R.menu.main, menu);
    return true;
}

```

```

@Override
public void onClick(View v) {
    // TODO Auto-generated method stub
    if(v.equals(one)){
        number.append("1");
    }
    else if(v.equals(two)){
        number.append("2");
    }
    else if(v.equals(three)){
        number.append("3");
    }
    else if(v.equals(four)){
        number.append("4");
    }
    else if(v.equals(five)){
        number.append("5");
    }
    else if(v.equals(six)){
        number.append("6");
    }
    else if(v.equals(seven)){
        number.append("7");
    }
    else if(v.equals(eight)){
        number.append("8");
    }
    else if(v.equals(nine)){
        number.append("9");
    }
    else if(v.equals(zero)){
        number.append("0");
    }
    else if(v.equals(star)){
        number.append("*");
    }
    else if(v.equals(hash)){
        number.append("#");
    }
    else if(v.equals(delete)){
        String phone=number.getText().toString();
        if(phone.length()>0){
            phone=phone.substring(0,phone.length()-1);
        }
        number.setText(phone);
    }
}

```

```

    }
    else if(v.equals(call)){
        String phone=number.getText().toString();
        Intent it=new Intent(Intent.ACTION_CALL);
        it.setData(Uri.parse("tel:"+phone));
        startActivity(it);
    }
    else if(v.equals(save)){
        String phone=number.getText().toString();
        Intent intent=new
Intent(Intent.ACTION_INSERT,ContactsContract.Contacts.CONTENT_URI);
        intent.putExtra(ContactsContract.Intents.Insert.PHONE, phone);
        startActivity(intent);
    }
}
}
}

```

Dial Pad Manifest (AndroidManifest.xml)

```

<uses-permission
    android:name="android.permission.CALL_PHONE"/>

```

(Note: A picture has been attached below which shows the place to include the above snippet)



```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.dialpad"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-permission
        android:name="android.permission.CALL_PHONE"/>

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >

        <activity
            android:name="com.example.dialpad.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

```


Lab program-5. Create a program to create an activity with two buttons start and stop. On pressing start button the program must start the counter and must keep on counting until stop button is pressed.

activity_main.xml

```
<LinearLayout 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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:orientation="vertical"
    tools:context=".MainActivity" >

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/btn_start"
        android:text="Start"
        android:layout_gravity="center"
        android:layout_marginTop="20dp"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="20dp"
        android:text="Stop"
        android:id="@+id/btn_stop"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/txt_count"
        android:layout_gravity="center"
        android:layout_marginTop="20dp"/>

</LinearLayout>
```

MainActivity.java

```
package com.example.counter;

import android.os.Bundle;
import android.os.Handler;
import android.os.Message;
import android.annotation.SuppressLint;
import android.app.Activity;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
```

```

import android.widget.TextView;

public class MainActivity extends Activity implements OnClickListener,Runnable{

    Button start,stop;
    TextView text;
    Thread th;
    boolean running=false;
    int i=0;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        text=(TextView)findViewById(R.id.txt_count);
        start=(Button)findViewById(R.id.btn_start);
        start.setOnClickListener(this);
        stop=(Button)findViewById(R.id.btn_stop);
        stop.setOnClickListener(this);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub
        if(v.equals(start)){
            running=true;
            th=new Thread(this);
            th.start();
        }
        else if(v.equals(stop)){
            running=false;
        }
    }

    @Override
    public void run() {
        // TODO Auto-generated method stub
        while(i<100 && running==true){
            try{
                Thread.sleep(100);
            }
            catch (InterruptedException e){
                e.printStackTrace();
            }
            handle.sendMessage(i);
            i++;
        }
    }
}

```

```
@SuppressWarnings("HandlerLeak")
Handler handle= new Handler(){
    public void handleMessage(Message m){
        text.setText(""+m.what);
    }
};

}
```

Lab Program-2. Write a program to create an Activity to read Employee Details (EmpId, Name, Age, Address) from user and store to database and create a menu with menu item (Show Details) on pressing menu details it must go to another activity with employee id search box and search button and display the employee details on the screen.

activity_main.xml

```
<LinearLayout 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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:orientation="vertical"
    tools:context=".MainActivity" >

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter employee ID:" />

    <EditText
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:id="@+id/txt_id"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter employee name:"
        android:layout_marginTop="20dp"/>

    <EditText
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:id="@+id/txt_name"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter employee age:"
        android:layout_marginTop="20dp"/>

    <EditText
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:id="@+id/txt_age"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter employee address:"
        android:layout_marginTop="20dp"/>
```

```

<EditText
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="20dp"
    android:id="@+id/txt_address"/>

<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal"
    android:gravity="center">

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Insert"
        android:id="@+id/btn_insert"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Search"
        android:id="@+id/btn_search"/>

</LinearLayout>
</LinearLayout>

```

MainActivity.java

```

package com.example.databaseapplication;

import android.os.Bundle;
import android.app.Activity;
import android.content.ContentValues;
import android.content.Intent;
import android.database.sqlite.SQLiteDatabase;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener {

    EditText id,name,age,address;
    Button insert,search;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        id=(EditText)findViewById(R.id.txt_id);
        name=(EditText)findViewById(R.id.txt_name);
        age=(EditText)findViewById(R.id.txt_age);
        address=(EditText)findViewById(R.id.txt_address);
        insert=(Button)findViewById(R.id.btn_insert);
    }
}

```

```

        insert.setOnClickListener(this);
        search=(Button)findViewById(R.id.btn_search);
        search.setOnClickListener(this);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub
        String eid=id.getText().toString();
        String ename=name.getText().toString();
        String eage=age.getText().toString();
        String eaddress=address.getText().toString();
        if(v.equals(insert)){
            MyDatabase dtb=new MyDatabase(this, MyDatabase.DATABASE_NAME,
null, 1);

            SQLiteDatabase sql=dtb.getWritableDatabase();
            ContentValues cv=new ContentValues();
            cv.put("id", eid);
            cv.put("name", ename);
            cv.put("age", eage);
            cv.put("address", eaddress);
            sql.insert(MyDatabase.EMPLOYEE_TABLE, null,cv);
            sql.close();
            Toast.makeText(getBaseContext(), "Data inserted successfully",
Toast.LENGTH_SHORT).show();
        }
        else if(v.equals(search)){
            Intent it=new Intent(this,SearchActivity.class);
            startActivity(it);
        }
    }
}

```

MyDatabase.java

```

package com.example.databaseapplication;

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

public class MyDatabase extends SQLiteOpenHelper{

    public static String DATABASE_NAME="Employee.db";
    public static String EMPLOYEE_TABLE="employee";

    public MyDatabase(Context context, String name, CursorFactory factory,

```

```

        int version) {
            super(context, name, factory, version);
            // TODO Auto-generated constructor stub
        }

        @Override
        public void onCreate(SQLiteDatabase db) {
            // TODO Auto-generated method stub
            db.execSQL("create table employee(id TEXT, name TEXT,age
TEXT,address TEXT)");
        }

        @Override
        public void onUpgrade(SQLiteDatabase arg0, int arg1, int arg2) {
            // TODO Auto-generated method stub
        }
    }
}

```

search.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:orientation="vertical"
    tools:context=".SearchActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter employee ID:"/>

    <EditText
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:id="@+id/txt_eid"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Retrieve Details"
        android:layout_gravity="center_horizontal"
        android:layout_marginTop="20dp"
        android:id="@+id/btn_retrieve"/>

    <TextView
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:layout_gravity="center"

```

```

        android:gravity="center"
        android:id="@+id/txt_details"/>

</LinearLayout>

```

SearchActivity.java

```

package com.example.databaseapplication;

import android.app.Activity;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class SearchActivity extends Activity implements OnClickListener{

    TextView details;
    EditText empid;
    Button retrieve;

    public void onCreate(Bundle savedInstanceState){
        super.onCreate(savedInstanceState);
        setContentView(R.layout.search);
        details=(TextView)findViewById(R.id.txt_details);
        empid=(EditText)findViewById(R.id.txt_eid);
        retrieve=(Button)findViewById(R.id.btn_retrieve);
        retrieve.setOnClickListener(this);
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub
        if(v.equals(retrieve)){
            String emplid=empid.getText().toString();
            MyDatabase db=new MyDatabase(this, MyDatabase.DATABASE_NAME,
null, 1);

            SQLiteDatabase dtb=db.getReadableDatabase();
            String[] columns=new String[] {"id","name","age","address"};
            String where="id=?";
            String[] value=new String[] {emplid};
            Cursor cu=dtb.query(MyDatabase.EMPLOYEE_TABLE, columns, where,
value, null, null, null);
            details.setText(" ");
            if(cu.moveToNext()){
                String emid=cu.getString(0);
                String emname=cu.getString(1);
                String emage=cu.getString(2);
                String emaddress=cu.getString(3);

                details.append(emid+"\n"+emname+"\n"+emage+"\n"+emaddress);
            }
            else {

```



```

        Toast.makeText(getBaseContext(), "Invalid ID",
        Toast.LENGTH_SHORT).show();
    }
}

}
}
}

```

Database Application Manifest (AndroidManifest.xml)

```

<activity
    android:name="SearchActivity">
</activity>

```

(Note: A picture has been attached below which shows the place to include the above snippet)



Lab Program-8. Create an .aidl service to do add, subtraction and multiplication and create another application with two buttons to read the inputs and three button add,subtract and multiply to call add,subtract and multiply operation on .aidl service.

For 1st android project:

calculator.aidl

```
package com.example.ca;

interface calculator
{
    int add(int a,int b);
    int sub(int a,int b);
    int mul(int a,int b);
}
```

MyServices.java

```
package com.example.calculator;

import android.app.Service;
import android.content.Intent;
import android.os.IBinder;
import android.os.RemoteException;

import com.example.ca.calculator;

public class MyService extends Service{

    @Override
    public IBinder onBind(Intent arg0) {
        // TODO Auto-generated method stub
        return stub;
    }
    calculator.Stub stub=new calculator.Stub() {

        @Override
        public int sub(int a, int b) throws RemoteException {
            // TODO Auto-generated method stub
            return a-b;
        }

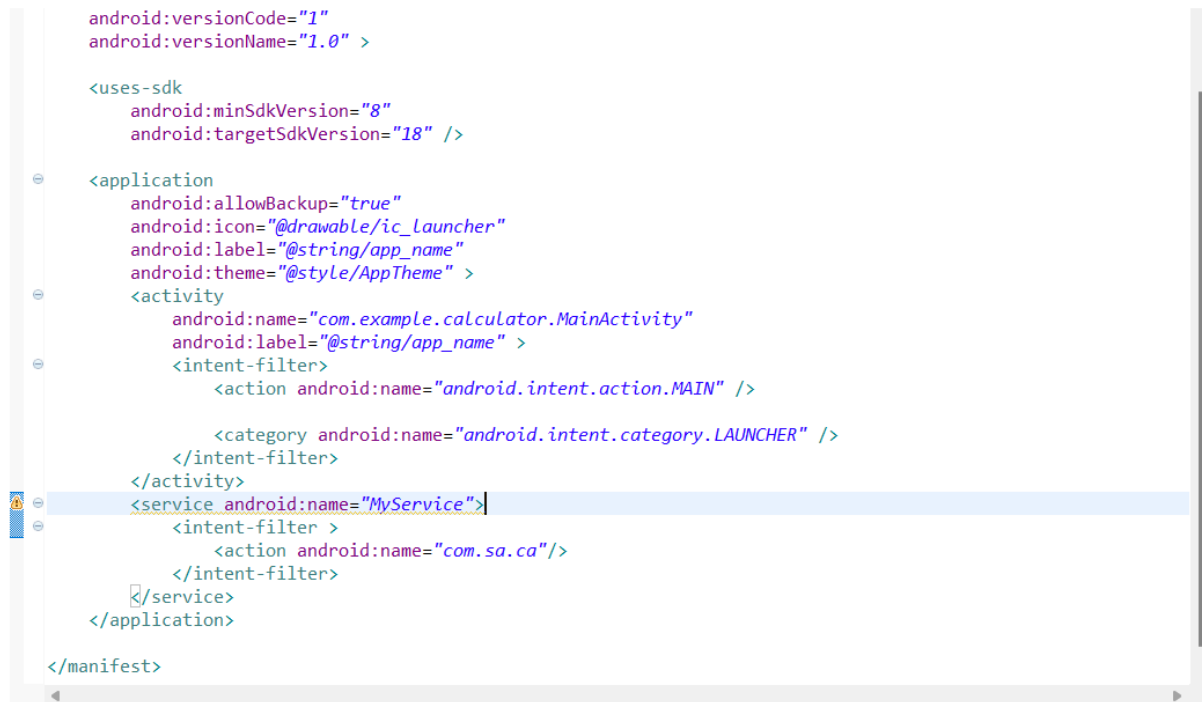
        @Override
        public int mul(int a, int b) throws RemoteException {
            // TODO Auto-generated method stub
            return a*b;
        }

        @Override
        public int add(int a, int b) throws RemoteException {
            // TODO Auto-generated method stub
            return a+b;
        }
    };
}
```

1st project manifest file(AndroidManifest.xml):

```
<service android:name="MyService">
    <intent-filter >
        <action android:name="com.sa.ca"/>
    </intent-filter>
</service>
```

(Note: A picture has been attached below which shows the place to include the above snippet)



For 2nd android project:

calculator.aidl

```
package com.example.ca;
```

```
interface calculator
{
    int add(int a,int b);
    int sub(int a,int b);
    int mul(int a,int b);
}
```

activity_main.xml

```
<LinearLayout 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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:orientation="vertical"
    tools:context=".MainActivity" >
```

```

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:text="Enter 1st number:" />

<EditText
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:id="@+id/txt_fnum"
    android:layout_marginTop="10dp"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:text="Enter 2nd number:" />

<EditText
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:id="@+id/txt_snum"
    android:layout_marginTop="10dp"/>

<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:layout_gravity="center_horizontal">

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Add"
        android:id="@+id/btn_add"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Sub"
        android:id="@+id/btn_sub"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Mul"
        android:id="@+id/btn_mul"/>
</LinearLayout>

<TextView
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:id="@+id/txt_result"/>

</LinearLayout>

```

MainActivity.java

```
package com.example.calculator1;

import com.example.ca.calculator;

import android.os.Bundle;
import android.os.IBinder;
import android.os.RemoteException;
import android.app.Activity;
import android.content.ComponentName;
import android.content.Intent;
import android.content.ServiceConnection;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends Activity implements
OnClickListener,ServiceConnection{

    Button add,sub,mul;
    EditText num1,num2;
    TextView display;
    calculator ca;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        display=(TextView)findViewById(R.id.txt_result);
        num1=(EditText)findViewById(R.id.txt_fnum);
        num2=(EditText)findViewById(R.id.txt_snum);
        add=(Button)findViewById(R.id.btn_add);
        add.setOnClickListener(this);
        sub=(Button)findViewById(R.id.btn_sub);
        sub.setOnClickListener(this);
        mul=(Button)findViewById(R.id.btn_mul);
        mul.setOnClickListener(this);
        bindService(new Intent("com.sa.ca"), this, BIND_AUTO_CREATE);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub
        int a=Integer.parseInt(num1.getText().toString());
        int b=Integer.parseInt(num2.getText().toString());
    }
}
```

```

        if(v.equals(add)){
            int res;
            try {
                res = ca.add(a, b);
                display.setText(""+res);
            } catch (RemoteException e) {
                // TODO Auto-generated catch block
                e.printStackTrace();
            }
        }
        if(v.equals(sub)){
            int res;
            try{
                res=ca.sub(a, b);
                display.setText(""+res);
            }
            catch(RemoteException e){
                e.printStackTrace();
            }
        }
        if(v.equals(mul)){
            int res;
            try {
                res=ca.mul(a, b);
                display.setText(""+res);
            } catch (RemoteException e) {
                // TODO Auto-generated catch block
                e.printStackTrace();
            }
        }
    }

    @Override
    public void onServiceConnected(ComponentName arg0, IBinder arg1) {
        // TODO Auto-generated method stub
        Toast.makeText(getBaseContext(), "Service connected",
        Toast.LENGTH_SHORT).show();
        ca=(calculator)calculator.Stub.asInterface(arg1);
    }

    @Override
    public void onServiceDisconnected(ComponentName arg0) {
        // TODO Auto-generated method stub
    }
}

```

Lab program-1b. Develop a simple application with one EditText so that the user can write some text in it. Create a button called "Convert Text to Speech" that converts the user input text into voice.

activity_main.xml

```
<LinearLayout 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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:orientation="vertical"
    tools:context=".MainActivity" >

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="TEXT TO SPEECH APPLICATION"
        android:layout_gravity="center_horizontal"
        android:textSize="20sp"
        android:layout_marginTop="20dp"/>

    <EditText
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:id="@+id/txt_text"
        android:layout_marginTop="20dp"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Convert Text To Speech"
        android:layout_gravity="center_horizontal"
        android:id="@+id/btn_convert"
        android:textSize="20sp"
        android:layout_marginTop="20dp"/>

</LinearLayout>
```

MainActivity.java

```
package com.example.texttospeech;

import java.util.Locale;

import android.os.Bundle;
import android.app.Activity;
import android.speech.tts.TextToSpeech;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
```

```

import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener{

    Button convert;
    EditText text;
    TextToSpeech t1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        text=(EditText)findViewById(R.id.txt_text);
        convert=(Button)findViewById(R.id.btn_convert);
        convert.setOnClickListener(this);

        t1=new TextToSpeech(getApplicationContext(), new
TextToSpeech.OnInitListener() {

            @Override
            public void onInit(int status) {
                // TODO Auto-generated method stub
                if(status!=TextToSpeech.ERROR){
                    t1.setLanguage(Locale.ENGLISH);
                }
            }
        });
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub
        String toSpeak=text.getText().toString();
        if(v.equals(convert)){
            Toast.makeText(getApplicationContext(), toSpeak,
Toast.LENGTH_SHORT).show();
            t1.speak(toSpeak, TextToSpeech.QUEUE_FLUSH, null);
        }
    }

    public void onPause(){
        if(t1!=null){
            t1.stop();
            t1.shutdown();
        }
        super.onPause();
    }
}

```


Lab Program-7: Write a program to create a service that will put a notification on the screen every 5 seconds.

activity_main.xml

```
<LinearLayout 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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:orientation="vertical"
    android:layout_gravity="center_horizontal"
    android:gravity="center"
    tools:context=".MainActivity" >

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Start Notification"
        android:id="@+id/btn_start"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Stop Notification"
        android:id="@+id/btn_stop"/>

</LinearLayout>
```

MainActivity.java

```
package com.example.notification;

import android.os.Bundle;
import android.app.Activity;
import android.content.Intent;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;

public class MainActivity extends Activity implements OnClickListener{

    Button start,stop;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        start=(Button)findViewById(R.id.btn_start);
        start.setOnClickListener(this);
        stop=(Button)findViewById(R.id.btn_stop);
    }
}
```

```

        stop.setOnClickListener(this);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub
        if(v.equals(start)){
            Intent it=new Intent(this,ServiceNotification.class);
            startService(it);
        }
        else if(v.equals(stop)){
            Intent it=new Intent(this,ServiceNotification.class);
            stopService(it);
        }
    }
}

```

ServiceNotification.java

```

package com.example.notification;

import android.annotation.SuppressLint;
import android.app.Notification;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.app.Service;
import android.content.Intent;
import android.os.Handler;
import android.os.IBinder;
import android.os.Message;
import android.support.v4.app.NotificationCompat;
import android.widget.Toast;

public class ServiceNotification extends Service{

    boolean running=false;
    MyThread thread;

    @Override
    public IBinder onBind(Intent arg0) {
        // TODO Auto-generated method stub
        return null;
    }
    @Override
    public void onCreate() {
        // TODO Auto-generated method stub
        super.onCreate();
        Toast.makeText(getBaseContext(), "Service Created",
        Toast.LENGTH_SHORT).show();
    }
}

```

```

        running=true;
        thread=new MyThread();
        thread.start();
    }
    @Override
    public int onStartCommand(Intent intent, int flags, int startId) {
        // TODO Auto-generated method stub
        super.onStartCommand(intent, flags, startId);
        Toast.makeText(getApplicationContext(), "Service is Started",
Toast.LENGTH_SHORT).show();
        if(thread.isAlive()){
            thread=new MyThread();
            thread.start();
        }
        return Service.START_NOT_STICKY;
    }
    @Override
    public void onDestroy() {
        // TODO Auto-generated method stub
        running=false;
        Toast.makeText(getApplicationContext(), "Service is Destroyed",
Toast.LENGTH_SHORT).show();
        super.onDestroy();
    }
    @SuppressWarnings("HandlerLeak")
    Handler handle=new Handler(){
        public void handleMessage(Message m){
            NotificationManager
manager=(NotificationManager)getSystemService(NOTIFICATION_SERVICE);
            NotificationCompat.Builder builder=new
NotificationCompat.Builder(getApplicationContext());
            builder.setContentTitle("From Service");
            builder.setContentText("Hai" +m.what);
            builder.setSmallIcon(R.drawable.ic_launcher);

            builder.setContentIntent(PendingIntent.getActivity(getApplicationContext(), 1, new
Intent(getApplicationContext(),MainActivity.class), 1));
            Notification nof=builder.build();
            manager.notify(100, nof);
        }
    };
    class MyThread extends Thread{
        @Override
        public void run() {
            // TODO Auto-generated method stub
            super.run();
            int i=0;
            while(running){
                try{
                    Thread.sleep(10000);
                }catch(InterruptedException e){
                    e.printStackTrace();
                }
                handle.sendEmptyMessage(i++);
            }
        }
    }
}
}

```

Manifest file (AndroidManifest.xml)

```
<service android:name="com.example.notification.ServiceNotification">
    </service>
```

(Note: A picture has been attached below which shows the place to include the above snippet)



```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.notification"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.notification.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <service android:name="com.example.notification.ServiceNotification">
        </service>
    </application>
</manifest>
```

Lab Program-6: Create a program to receive the incoming SMS to the phone and put a notification on screen, on clicking the notification it must display sender number and message content on screen.

activity_main.xml

```
<LinearLayout 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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:orientation="vertical"
    android:layout_gravity="center_vertical"
    android:gravity="center"
    tools:context=".MainActivity" >

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Sender Number"
        android:id="@+id/txt_number"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Message"
        android:layout_marginTop="20dp"
        android:id="@+id/txt_msg"/>

</LinearLayout>
```

MainActivity.java

```
package com.example.broadcastreceiver;

import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.widget.TextView;

public class MainActivity extends Activity {

    TextView number, text;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        number=(TextView)findViewById(R.id.txt_number);
        text=(TextView)findViewById(R.id.txt_msg);
        Bundle b=getIntent().getBundleExtra("data");

        if(b!=null){
```

```

        String numb=b.getString("num");
        String msgr=b.getString("msg");
        number.setText(numb);
        text.setText(msgr);
    }
}

@Override
public boolean onCreateOptionsMenu(Menu menu) {
    // Inflate the menu; this adds items to the action bar if it is present.
    getMenuInflater().inflate(R.menu.main, menu);
    return true;
}
}

```

MySMSReceiver.java

```

package com.example.broadcastreceiver;

import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.telephony.SmsMessage;

public class MySMSReceiver extends BroadcastReceiver{

    @Override
    public void onReceive(Context arg0, Intent arg1) {
        // TODO Auto-generated method stub
        Object[] objmessages=(Object[])arg1.getExtras().get("pdus");
        for(int i=0;i<objmessages.length;){
            SmsMessage m=SmsMessage.createFromPdu((byte[])objmessages[i]);
            Bundle b=new Bundle();
            b.putString("num", m.getOriginatingAddress());
            b.putString("msg", m.getMessageBody());
            Intent it=new Intent(arg0,MainActivity.class);
            it.putExtra("data", b);
            it.setFlags(Intent.FLAG_ACTIVITY_NEW_TASK);
            arg0.startActivity(it);
            break;
        }
    }
}
}

```

Manifest file (AndroidManifest.xml)

```

<uses-permission
    android:name="android.permission.RECEIVE_SMS"/>

<receiver
    android:name="com.example.broadcastreceiver.MySMSReceiver">
    <intent-filter >
        <action android:name="android.provider.Telephony.SMS_RECEIVED"/>
    </intent-filter>
</receiver>

```

```

    </intent-filter>
</receiver>

```

(Note: A picture has been attached below which shows the place to include the above snippets)



```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.broadstreceiver"
    android:versionCode="1"
    android:versionName="1.0" >

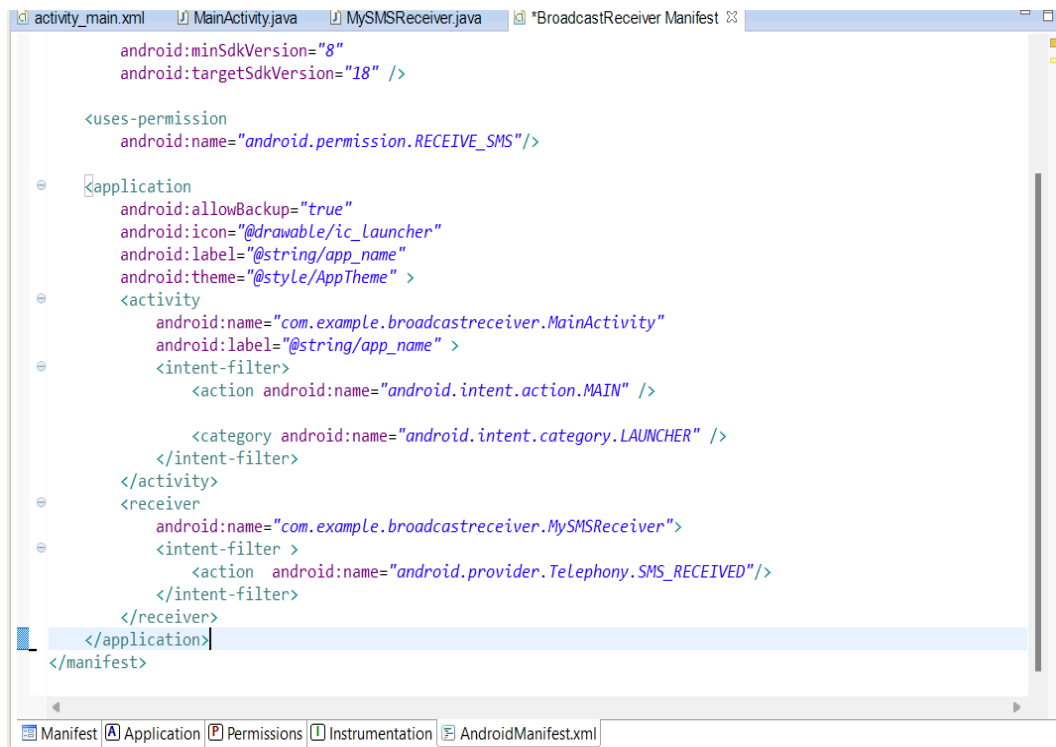
    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <uses-permission
        android:name="android.permission.RECEIVE_SMS"/>

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.broadstreceiver.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <receiver
            android:name="com.example.broadstreceiver.MySMSReceiver">

```



```

        android:minSdkVersion="8"
        android:targetSdkVersion="18" />

    <uses-permission
        android:name="android.permission.RECEIVE_SMS"/>

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.broadstreceiver.MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <receiver
            android:name="com.example.broadstreceiver.MySMSReceiver">
            <intent-filter >
                <action android:name="android.provider.Telephony.SMS_RECEIVED"/>
            </intent-filter>
        </receiver>
    </application>
</manifest>

```

Lab Program-3: Write a program to create an activity with a text box and three buttons (save, open and create) open must allow to browse the text file from sdcard and must display the contents of the file on textbox, save button must save the contents of text box to file, create button must allow file user to create a new file and save the entered contents of the textbox.

activity_main.xml

```
<LinearLayout 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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity" >

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:orientation="horizontal">

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Create new file"
            android:id="@+id/btn_create"
            android:layout_gravity="left"/>

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Open"
            android:layout_gravity="right"
            android:id="@+id/btn_open"/>
    </LinearLayout>

    <TextView
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="File: "
        android:layout_marginTop="10dp"
        android:id="@+id/txt_file"/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="200dp"
        android:id="@+id/txt_content"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```



```
        android:text="Save"
        android:layout_marginTop="10dp"
        android:layout_gravity="center"
        android:id="@+id/btn_save"/>
```

```
</LinearLayout>
```

MainActivity.java

```
package com.example.fileoperations;

import java.io.BufferedReader;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.InputStreamReader;

import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener{

    TextView lblfile;
    EditText content;
    Button create,save,open;
    String FILE_NAME="example.txt";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        lblfile=(TextView)findViewById(R.id.txt_file);
        content=(EditText)findViewById(R.id.txt_content);
        create=(Button)findViewById(R.id.bth_create);
        create.setOnClickListener(this);
        save=(Button)findViewById(R.id.btn_save);
        save.setOnClickListener(this);
        open=(Button)findViewById(R.id.btn_open);
        open.setOnClickListener(this);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }
}
```

```

@Override
public void onClick(View v) {
    // TODO Auto-generated method stub
    if(v.equals(open)){
        FileInputStream fis=null;
        try{
            fis=openFileInput(FILE_NAME);
            InputStreamReader isr=new InputStreamReader(fis);
            BufferedReader bf=new BufferedReader(isr);
            StringBuffer sb=new StringBuffer();
            String text;
            while((text=bf.readLine())!=null){
                sb.append(text).append("\n");
            }
            content.setText(sb.toString());
            fis.close();
            bf.close();
        }catch(FileNotFoundException e){
            e.printStackTrace();
        }catch(IOException e){
            e.printStackTrace();
        }
    }
    else if (v.equals(create)) {
        String text=content.getText().toString();
        FileOutputStream fos=null;
        try{
            fos=openFileOutput(FILE_NAME, MODE_PRIVATE);
            fos.write(text.getBytes());
            content.getText().clear();
            Toast.makeText(getApplicationContext(),
getFilesDir()+FILE_NAME, Toast.LENGTH_SHORT).show();
            fos.close();
        }catch(FileNotFoundException e){
            e.printStackTrace();
        }catch (IOException e) {
            // TODO: handle exception
            e.printStackTrace();
        }
    }
    else if(v.equals(save)){
        String text=content.getText().toString();
        FileOutputStream fos=null;
        try{
            fos=openFileOutput(FILE_NAME, MODE_PRIVATE);
            fos.write(text.getBytes());
            content.getText().clear();
            Toast.makeText(getApplicationContext(),
getFilesDir()+FILE_NAME, Toast.LENGTH_SHORT).show();
            fos.close();
        }catch(FileNotFoundException e){
            e.printStackTrace();
        }catch(IOException e){
            e.printStackTrace();
        }
    }
}
}
}

```

Lab Program-10: Create a file of JSON type with values for city_name, Latitude, Longitude, Temperature and Humidity. Develop an application to create an activity with button to parse the JSON file which when clicked should display the data in the textview.

activity_main.xml

```
<LinearLayout 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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity" >

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/btn_parse"
        android:text="Parse JSON File"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Display Results"
        android:layout_marginTop="10dp"
        android:id="@+id/txt_display"/>

</LinearLayout>
```

MainActivity.java

```
package com.example.jsonfile;

import java.io.IOException;
import java.io.InputStream;

import org.json.JSONArray;
import org.json.JSONException;
import org.json.JSONObject;

import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.TextView;

public class MainActivity extends Activity implements OnClickListener{

    TextView txt;
    Button parse;
```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    txt=(TextView)findViewById(R.id.txt_display);
    parse=(Button)findViewById(R.id.btn_parse);
    parse.setOnClickListener(this);
}

@Override
public boolean onCreateOptionsMenu(Menu menu) {
    // Inflate the menu; this adds items to the action bar if it is present.
    getMenuInflater().inflate(R.menu.main, menu);
    return true;
}

@Override
public void onClick(View v) {
    // TODO Auto-generated method stub
    if(v.equals(parse)){
        try {
            InputStream is=getAssets().open("sample.json");
            int size=is.available();
            byte[] buffer=new byte[size];
            is.read(buffer);
            is.close();
            String json=new String(buffer,"UTF_8");
            JSONArray jsonArray=new JSONArray(json);
            txt.setText("");

            for(int i=0;i<javascriptArray.length();i++){
                JSONObject obj=jsonArray.getJSONObject(i);
                txt.setText(txt.getText()+"\n City
Name:"+obj.getString("City")+"\nLatitude:"+obj.getString("Latitude")

                +"\nLongitude:"+obj.getString("Longitude")+"\nTemperature:"+obj.getString("
Temperature")

                +"\nHumidity:"+obj.getString("Humidity")+"\n");
            }
        } catch (IOException e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        } catch (JSONException e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        }
    }
}
}

```

sample.json

```
{  
  "City" : "Bengaluru",  
  "Latitude" : "12.9716",  
  "Longitude" : "77.5946",  
  "Temperature" : "27",  
  "Humidity" : "65"  
},
```

```
{  
  "City" : "Delhi",  
  "Latitude" : "28.7041",  
  "Longitude" : "77.1025",  
  "Temperature" : "23",  
  "Humidity" : "62"
```

```
}]
```