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EXPERIMENT 7

WORKING WITH SHARED PREFERENCE

AIM: To create an application using shared preference.

THEORY:

Android provides many ways of storing data of an application. One of this way is called Shared Preferences. Shared Preferences allow you to save and retrieve data in the form of key,value pair.

In order to use shared preferences, you have to call a method getSharedPreferences() that returns a SharedPreference instance pointing to the file that contains the values of preferences.

```
SharedPreferences    sharedpreferences    =    getSharedPreferences(MyPREFERENCES,
Context.MODE_PRIVATE);
```

The first parameter is the key and the second parameter is the MODE.

MODE_PRIVATE - By setting this mode, the file can only be accessed using calling application

You can save something in the sharedpreferences by using SharedPreferences.Editor class. You will call the edit method of SharedPreference instance and will receive it in an editor object. Its syntax is –

```
Editor editor = sharedpreferences.edit();
editor.putString("key", "value");
editor.commit();
```

Apart from the putString method , there are methods available in the editor class. They are listed as follows –

apply()	It is an abstract method. It will commit your changes back from editor to the sharedPreference object you are calling.
clear()	It will remove all values from the editor
remove(String key)	It will remove the value whose key has been passed as a parameter
putLong(String key, long value)	It will save a long value in a preference editor
putFloat(String key, float value)	It will save a float value in a preference editor
putInt(String key, int value)	It will save a integer value in a preference editor

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ASSIGNMENT

1. Create an application using shared preference.

   CODE

   activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="SHARED PREFERENCE"
        android:textSize="25sp"
        android:textStyle="bold"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"
        android:id="@+id/textV1"
        />
    <EditText
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:textSize="25sp"
        android:textStyle="bold"
        android:layout_below="@+id/textV1"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"
        android:id="@+id/edit1"
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="SAVE"
        android:textSize="25sp"
        android:textStyle="bold"
        android:layout_below="@+id/edit1"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"
        android:id="@+id/btn1"
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Clean"
        android:textSize="25sp"
        android:textStyle="bold"
```

```xml
            android:layout_below="@+id/btn1"
            android:layout_marginTop="40dp"
            android:layout_centerHorizontal="true"
            android:id="@+id/btn2"
            />
    <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="GET"
            android:textSize="25sp"
            android:textStyle="bold"
            android:layout_below="@+id/btn2"
            android:layout_marginTop="40dp"
            android:layout_centerHorizontal="true"
            android:id="@+id/btn3"
            />
</RelativeLayout>
```

MainActivity.java

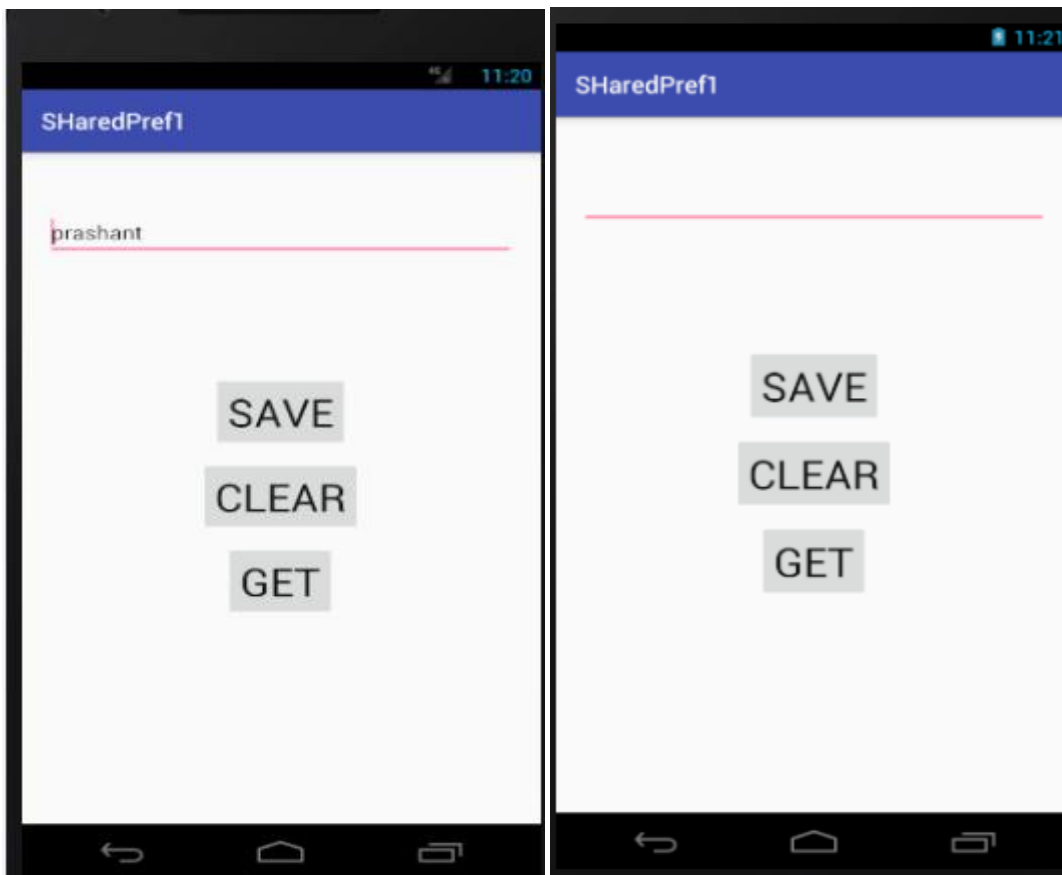## package com.example.mca1634.shared_preference_simple_1st;

```java
import android.content.Context;
import android.content.SharedPreferences;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    EditText edit;
    Button save,clear,get;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        edit=(EditText)findViewById(R.id.edit1);
        save=(Button)findViewById(R.id.btn1);
        clear=(Button)findViewById(R.id.btn2);
        get=(Button)findViewById(R.id.btn3);
        final SharedPreferences sharedPreferences=getSharedPreferences("data",
Context.MODE_PRIVATE);
        save.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String name=edit.getText().toString();
                SharedPreferences.Editor
                editor=sharedPreferences.edit();
                editor.putString("NAME",name);
                editor.commit();
                Toast.makeText(getApplicationContext(), "SAVED",
Toast.LENGTH_SHORT).show();
            }
        });
```

```
        clear.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                edit.setText("");
                Toast.makeText(getApplicationContext(), "CLEAR",
Toast.LENGTH_SHORT).show();
            }
        });
        get.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                SharedPreferences
sharedPreferences=getSharedPreferences("data",Context.MODE_PRIVATE);
                edit.setText(sharedPreferences.getString("NAME",null));
                Toast.makeText(getApplicationContext(), "GET",
Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```

OUTPUT

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2. Create an application that gets input and stores the input data in shared preference file. Once the activity is navigated from first activity to second activity the data should be fetched from the preference file and displayed in the edit box. Use the concept of shared preference.

CODE

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="SHARED PREFERENCE INTENT"
        android:textSize="25sp"
        android:textStyle="bold"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"
        android:id="@+id/textV1" />
    <EditText
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:textSize="25sp"
        android:textStyle="bold"
        android:layout_below="@id/textV1"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"
        android:id="@+id/edit1"
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Save"
        android:textSize="25sp"
        android:textStyle="bold"
        android:layout_below="@id/edit1"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"
        android:id="@+id/btnSave"
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Click"
```

```xml
        android:textSize="25sp"
        android:textStyle="bold"
        android:layout_below="@id/btnSave"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"
        android:id="@+id/btn1"
        />
</RelativeLayout>
```

MainActivity.java

```java
package com.example.mca1634.shared_pref_int_up;

import android.content.Context;
import android.content.Intent;
import android.content.SharedPreferences;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    EditText edit1;
    Button btn1,btnSave;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        edit1=(EditText)findViewById(R.id.edit1);
        btn1=(Button)findViewById(R.id.btn1);
        btnSave=(Button)findViewById(R.id.btnSave);
        final SharedPreferences sharedPreferences=getSharedPreferences("data",
Context.MODE_PRIVATE);
        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent first=new Intent(MainActivity.this,SecondActivity.class);
                startActivity(first);
                Toast.makeText(getApplicationContext(), "You Press Click",
Toast.LENGTH_SHORT).show();
            }
        });
        btnSave.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String name=edit1.getText().toString();
                SharedPreferences.Editor
                editor=sharedPreferences.edit();
                editor.putString("NAME",name);
                editor.commit();
                Toast.makeText(getApplicationContext(), "Your Data is Saved",
Toast.LENGTH_SHORT).show();
            }
        });
```

```
        }
}
```

second_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout 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=".SecondActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Second Activity"
        android:textSize="25sp"
        android:textStyle="bold"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"
        android:id="@+id/textV2" />
    <EditText
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:textSize="25sp"
        android:textStyle="bold"
        android:layout_below="@id/textV2"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"
        android:id="@+id/edit2"
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="GET"
        android:textSize="25sp"
        android:textStyle="bold"
        android:layout_below="@id/edit2"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"
        android:id="@+id/btnGet"
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="CLEAR"
        android:textSize="25sp"
        android:textStyle="bold"
        android:layout_below="@id/btnGet"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"
        android:id="@+id/btnClear"
```

```
        />
</RelativeLayout>
```
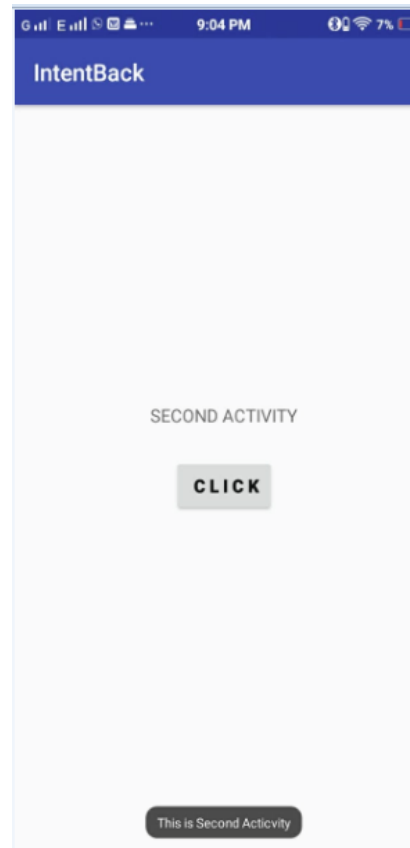
SecondActivity.java

```java
package com.example.mca1634.shared_pref_int_up;

import android.content.Context;
import android.content.SharedPreferences;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class SecondActivity extends AppCompatActivity {
    EditText edit;
    Button get,clear;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        edit=(EditText)findViewById(R.id.edit2);
        get=(Button)findViewById(R.id.btnGet);
        clear=(Button)findViewById(R.id.btnClear);
        final SharedPreferences sharedPreferences=getSharedPreferences("data",
Context.MODE_PRIVATE);
        get.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                edit.setText(sharedPreferences.getString("NAME",null));
                Toast.makeText(getApplicationContext(), "You Press GET",
Toast.LENGTH_SHORT).show();
            }
        });
        clear.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                edit.setText("");
                Toast.makeText(getApplicationContext(), "Editbox is Clear",
Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```

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OUTPUT

3. Create a new project and create a login Activity activity_login.xml. In this create a login UI asking user email and password with an option of remember me checkbox. Also, a button displaying Sign In using shared preference.

CODE

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login Page"
        android:textSize="30dp"
        android:textStyle="bold"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="10dp"
        android:id="@+id/textV1" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Email : "
        android:textSize="30dp"
        android:textStyle="bold"
        android:layout_below="@+id/textV1"
        android:layout_marginTop="20dp"
        android:id="@+id/textEmail"
        />
    <EditText
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:textSize="30dp"
        android:textStyle="bold"
        android:layout_below="@+id/textV1"
        android:layout_marginLeft="150dp"
        android:layout_marginTop="20dp"
        android:id="@+id/editEmail"
        />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Password : "
```

```xml
            android:textSize="30dp"
            android:textStyle="bold"
            android:layout_below="@+id/textEmail"
            android:layout_marginTop="30dp"
            android:id="@+id/textPassword"
            />
    <EditText
            android:layout_width="200dp"
            android:layout_height="wrap_content"
            android:textSize="30dp"
            android:textStyle="bold"
            android:layout_below="@+id/textEmail"
            android:layout_marginLeft="150dp"
            android:layout_marginTop="20dp"
            android:id="@+id/editPassword"
            />
    <CheckBox
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Remember Me"
            android:layout_below="@+id/textPassword"
            android:textSize="30dp"
            android:textStyle="bold"
            android:layout_marginTop="20dp"
            android:id="@+id/chkLogin"
            />
    <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Submit"
            android:textSize="30dp"
            android:textStyle="bold"
            android:layout_below="@+id/chkLogin"
            android:layout_centerHorizontal="true"
            android:layout_marginTop="10dp"
            android:id="@+id/btnSubmit"
            />
</RelativeLayout>
```

MainActivity.java

```java
package com.example.mca1634.sharedprefrence_uname_password_ch;

import android.content.Context;
import android.content.Intent;
import android.content.SharedPreferences;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
```

```java
    EditText editEmail,editPassword;
    CheckBox chkLogin;
    Button btnSubmit;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        editEmail=(EditText)findViewById(R.id.editEmail);
        editPassword=(EditText)findViewById(R.id.editPassword);
        chkLogin=(CheckBox)findViewById(R.id.chkLogin);
        btnSubmit=(Button)findViewById(R.id.btnSubmit);
        final SharedPreferences sharedPreferences=getSharedPreferences("data",
Context.MODE_PRIVATE);
        SharedPreferences sp = getSharedPreferences("data",Context.MODE_PRIVATE);
        if(sp.getBoolean("checked",false) == true) {
            editEmail.setText(sp.getString("UserID", null));
            editPassword.setText(sp.getString("Password", null));
            chkLogin.setChecked(true);
        }
        else
        {
            Toast.makeText(getApplicationContext(), "Please fill data",
Toast.LENGTH_SHORT).show();
        }
        btnSubmit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String nm, pwd;
                nm = editEmail.getText().toString();
                pwd = editPassword.getText().toString();
                if (nm.equals("abc") && pwd.equals("abc")) {
                    Toast.makeText(getApplicationContext(), "Sucessfully Logged
in", Toast.LENGTH_SHORT).show();
                    SharedPreferences.Editor editor = sharedPreferences.edit();
                    if (chkLogin.isChecked()) {
                        editor.putString("UserID", nm);
                        editor.putString("Password", pwd);
                        editor.putBoolean("checked", true);
                        editor.commit();
                    }
                    else
                    {
                        editor.clear();
                        editor.commit();
                    }
                }
                else
                {
                    Toast.makeText(getApplicationContext(),"Wrong
UserID/Password",Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
```
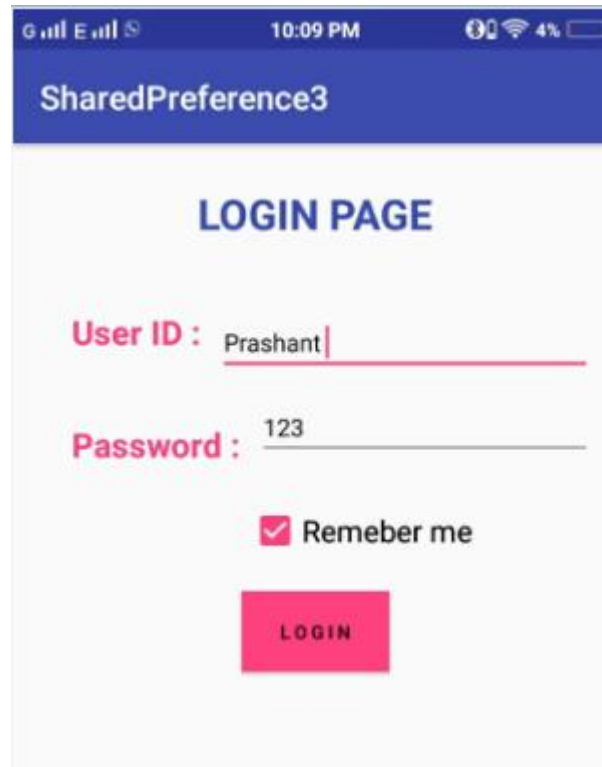
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}

OUTPUT

CONCLUSION: Successfully executed Shared Prefrence Programs.