

CSE224: Fundamentals of Android

CA-3

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GitHub Link: <https://github.com/AamirSohail999/Android-Designing/blob/main/AndroidAppDynamic.zip>

Problem-1 Solution

Used Keywords:

- | | |
|-------------------|------------------------------|
| 1.CheckBox | 7.Explicit Intent |
| 2.RadioButton | 8.Request in-App Permissions |
| 3.Spinner | 9.Alert Dialog |
| 4.ListView | 10.Option Menu |
| 5.ImageView | 11.Constraint Layout |
| 6.Relative Layout | |

Code:

Log in Page:

Kotlin Part:

```
package com.example.ca3app
import android.content.Intent
```

```

import android.net.Uri
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.provider.MediaStore
import android.widget.Button
import android.widget.ImageView
import android.widget.Toast
import androidx.activity.result.ActivityResultCallback
import androidx.activity.result.ActivityResultLauncher
import androidx.activity.result.contract.ActivityResultContracts

class LoginPage : AppCompatActivity() {
    lateinit var imageUri:Uri
    lateinit var getImage:ActivityResultLauncher<String>

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_login_page)

        val btnSignUp = findViewById<Button>(R.id.button2)
        val btnLogin = findViewById<Button>(R.id.button)
        val btnCam = findViewById<Button>(R.id.button3)
        val btnGallery = findViewById<Button>(R.id.button4)
        val imgV = findViewById<ImageView>(R.id.imageView)

        getImage =
registerForActivityResult(ActivityResultContracts.GetContent(),
        ActivityResultCallback {
            imageUri=it
            imgV.setImageURI(it)
        })

        btnGallery.setOnClickListener {
            getImage.launch("image/*")
        }

        val requestCamera =
registerForActivityResult(ActivityResultContracts.RequestPermission())
        {
            if(it)
            {
                Toast.makeText(applicationContext,"Permission
Granted",Toast.LENGTH_LONG).show()
                setActivityResult()
                finish()
            }
            else
            {
                Toast.makeText(applicationContext,"Permission
Denied",Toast.LENGTH_LONG).show()
            }
        }

        btnCam.setOnClickListener {
            requestCamera.launch(android.Manifest.permission.CAMERA)
        }

        btnSignUp.setOnClickListener {
            val intentSign = Intent(this, SignUp::class.java)
            startActivity(intentSign)
        }
    }
}

```

```

        btnLogin.setOnClickListener {
            val intentLog = Intent(this, IndexPage::class.java)
            startActivity(intentLog)
        }

    }

    private fun setActivityResult() {
        val camera_intent = Intent(MediaStore.ACTION_IMAGE_CAPTURE)
        startActivity(camera_intent)
    }
}

```

Xml Part:

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#add8e6"
    tools:context=".LoginPage">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="218dp"
        android:layout_height="263dp"
        android:layout_marginTop="136dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        tools:srcCompat="@tools:sample/avatars" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Name"
        android:textSize="20sp"
        app:layout_constraintBottom_toTopOf="@+id/textView2"
        app:layout_constraintEnd_toStartOf="@+id/editTextTextPersonName"
        app:layout_constraintHorizontal_bias="0.526"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/imageView"
        app:layout_constraintVertical_bias="0.79" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="184dp"

```

```
    android:text="Password"
    android:textSize="20sp"
    app:layout_constraintEnd_toStartOf="@+id/editTextTextPassword"
    app:layout_constraintHorizontal_bias="0.39"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/imageView" />
```

<EditText

```
    android:id="@+id/editTextTextPersonName"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="120dp"
    android:layout_marginEnd="76dp"
    android:ems="10"
    android:hint="Fill Username"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/imageView" />
```

<EditText

```
    android:id="@+id/editTextTextPassword"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="8dp"
    android:layout_marginEnd="72dp"
    android:ems="10"
    android:hint="Fill Password"
    android:inputType="textPassword"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName"
    app:layout_constraintVertical_bias="0.0" />
```

<Button

```
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Log In"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.402"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextTextPassword"
    app:layout_constraintVertical_bias="0.196" />
```

<TextView

```
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Sign In"
    android:textSize="20sp"
    app:layout_constraintBottom_toTopOf="@+id/imageView"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.114"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.78" />
```

<Button

```
    android:id="@+id/button3"
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
    android:text="Camera"
    app:layout_constraintBottom_toTopOf="@+id/editTextTextPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.843"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/imageView"
    app:layout_constraintVertical_bias="0.486" />
```

<Button

```
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="SignUp"
    app:layout_constraintBottom_toTopOf="@+id/imageView"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.865"
    app:layout_constraintStart_toEndOf="@+id/textView3"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.852" />
```

<TextView

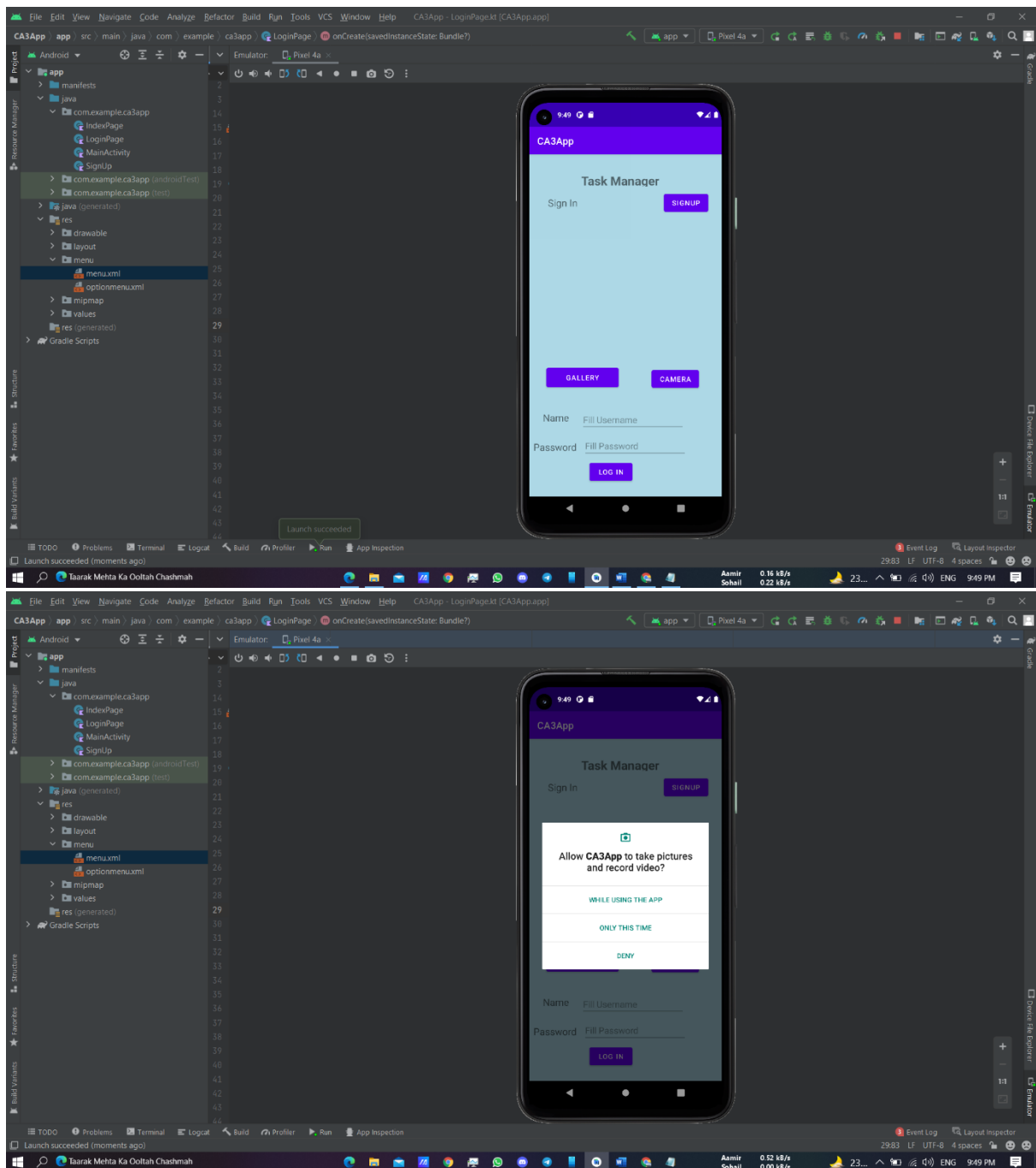
```
    android:id="@+id/textView4"
    android:layout_width="181dp"
    android:layout_height="29dp"
    android:text="Task Manager"
    android:textStyle="bold"
    android:textSize="25sp"
    app:layout_constraintBottom_toTopOf="@+id/imageView"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.345" />
```

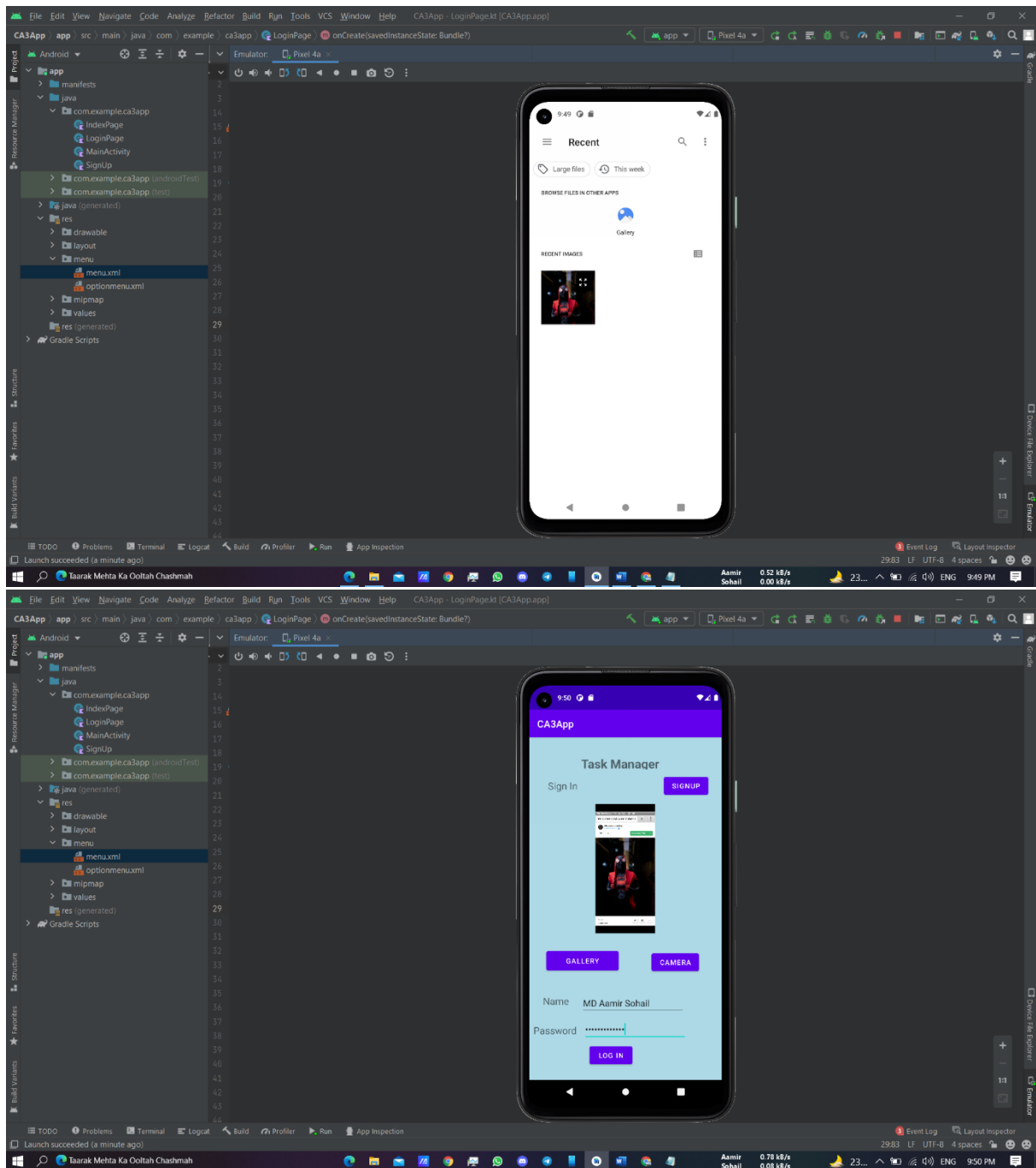
<Button

```
    android:id="@+id/button4"
    android:layout_width="148dp"
    android:layout_height="51dp"
    android:text="Gallery"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toStartOf="@+id/button3"
    app:layout_constraintHorizontal_bias="0.341"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/imageView"
    app:layout_constraintVertical_bias="0.124" />
```

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

Screenshot:





Sign up Page:

Kotlin Part:

```
package com.example.ca3app

import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
```

```

class SignUp : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_sign_up)

        val btnSub = findViewById<Button>(R.id.BtnW)

        btnSub.setOnClickListener {
            val intentSub = Intent(this, LoginPage::class.java)
            startActivity(intentSub)
        }
    }
}

```

Xml Part:

```

<?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"
    android:background="#add8e6"
    tools:context=".SignUp">

    <TextView
        android:id="@+id/Form"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="REGISTRATION FORM"
        android:layout_marginTop="50dp"
        android:layout_marginLeft="100dp"
        android:textSize="20sp"
        android:textStyle="bold"
    >
    </TextView>

    <TextView
        android:id="@+id/name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Name:"
        android:layout_marginTop="150dp"
        android:layout_marginLeft="50dp"
        android:textSize="20dp"
    >
    </TextView>

    <EditText
        android:id="@+id/name1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="120dp"
        android:layout_marginTop="140dp"
        android:hint="Fill your name"
    >
    </EditText>

```



```
<TextView
    android:id="@+id/add"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Address:"
    android:layout_marginTop="200dp"
    android:layout_marginLeft="50dp"
    android:textSize="20dp"
>
</TextView>

<EditText
    android:id="@+id/add1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="140dp"
    android:layout_marginTop="190dp"
    android:hint="Fill your Address"
>
</EditText>

<TextView
    android:id="@+id/age"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Age:"
    android:layout_marginTop="250dp"
    android:layout_marginLeft="50dp"
    android:textSize="20dp"
>
</TextView>

<EditText
    android:id="@+id/age1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="100dp"
    android:layout_marginTop="240dp"
    android:hint="Fill your Age"
>
</EditText>

<TextView
    android:id="@+id/gender"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Gender:"
    android:layout_marginTop="300dp"
    android:layout_marginLeft="50dp"
    android:textSize="20dp"
>
</TextView>

<RadioButton
    android:id="@+id/gen1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="40dp"
    android:text="Male"
    android:layout_marginTop="330dp"
>
```

```

</RadioButton>
<RadioButton
    android:id="@+id/gen1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="140dp"
    android:text="Female"
    android:layout_marginTop="330dp"
>
</RadioButton>

<CheckBox
    android:id="@+id/checkB"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/gen1"
    android:layout_marginLeft="30dp"
    android:layout_marginTop="114dp"
    android:text="Terms and Conditions" />

<Button
    android:id="@+id/BtnW"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/checkB"
    android:layout_marginLeft="140dp"
    android:layout_marginTop="42dp"
    android:text="SUBMIT"
    android:textColor="@color/teal_700">

</Button>

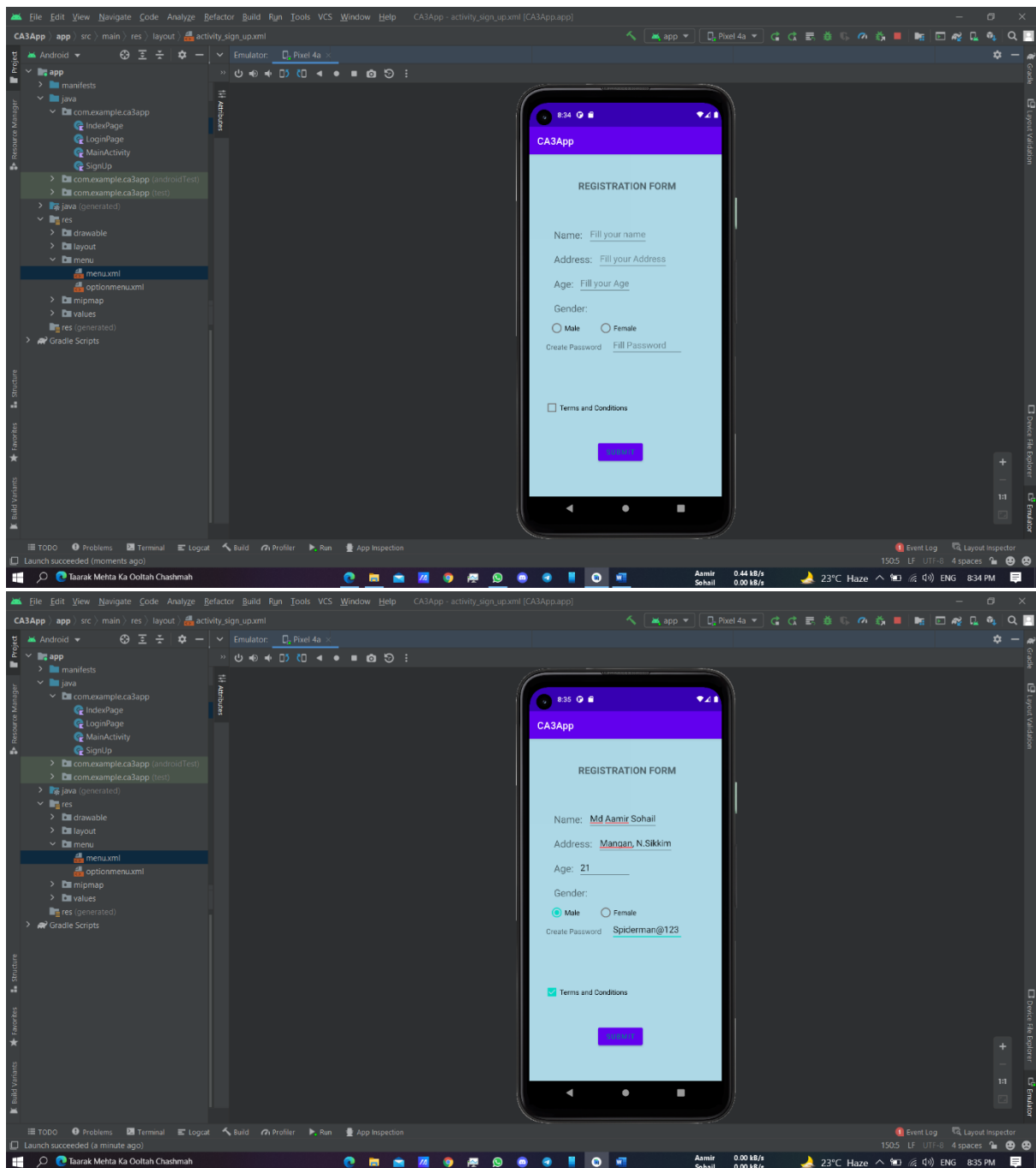
<TextView
    android:id="@+id/textView9"
    android:layout_width="178dp"
    android:layout_height="46dp"
    android:layout_alignParentStart="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="34dp"
    android:layout_marginEnd="198dp"
    android:layout_marginBottom="269dp"
    android:text="Create Password"
    android:textSize="15sp" />

<EditText
    android:id="@+id/edittextpass"
    android:layout_width="147dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="79dp"
    android:layout_marginBottom="286dp"
    android:ems="10"
    android:hint="Fill Password" />

</RelativeLayout>

```

Screenshot:



Index Page:

Kotlin Part:

```
package com.example.ca3app

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
```

```

import android.view.Menu
import android.view.MenuItem
import android.view.View
import android.widget.*
import androidx.appcompat.app.AlertDialog

class IndexPage : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_index_page)
        var chk1 = findViewById<CheckBox>(R.id.checkBox)
        var chk2 = findViewById<CheckBox>(R.id.checkBox2)

        var listView = findViewById<ListView>(R.id.lv1)

        var b = arrayOf("Rice - 20kg", "Pulses - 5kg", "Tea - 500gm", "Sunflower Oil - 5ltrs", "Wheat - 10kg")
        var ab = ArrayAdapter<this>, android.R.layout.simple_list_item_1, b)

        listView.adapter = ab
        listView.setOnItemClickListener { adapterView, view, position, id ->
            var str = adapterView.getItemAtPosition(position) as String
            Toast.makeText(applicationContext, "you selected $str",
                Toast.LENGTH_SHORT).show()
        }

        chk1.setOnClickListener{
            val builder = AlertDialog.Builder<this>()
            builder.setTitle("Task Prompt")
                .setMessage("Are you sure, you have completed the Task!!")
                .setCancelable(false)
                .setIcon(android.R.drawable.ic_dialog_alert)

            //performing positive action
            builder.setPositiveButton("Yes") {
                dialogInterface, which ->
                Toast.makeText(applicationContext, "Clicked Yes",
                    Toast.LENGTH_LONG).show()
            }

            //performing cancel action
            builder.setNegativeButton("Cancel") {
                dialogInterface, which ->
                Toast.makeText(applicationContext, "Clicked Cancel",
                    Toast.LENGTH_LONG).show()
            }

            //performing negative action
            builder.setNegativeButton("No") {
                dialogInterface, which ->
                Toast.makeText(applicationContext, "Clicked No",
                    Toast.LENGTH_LONG).show()
            }

            val alertDialog: AlertDialog = builder.create()
            alertDialog.show()
        }
    }
}

```

```

        // access the items of the list
        val dresses = arrayOf("Denim+T-Shirt", "Kurta", "Tuxedo", "Casual", "Torso+Hoodie")

        // access the spinner
        val spinner = findViewById<Spinner>(R.id.spinner)

        if (spinner != null) {
            val adapter = ArrayAdapter(this,
            android.R.layout.simple_spinner_item, dresses)
            spinner.adapter = adapter

            spinner.onItemSelectedListener = object :
                AdapterView.OnItemSelectedListener {
                    override fun onItemSelected(parent: AdapterView<*>, view:
                    View, position: Int, id: Long) {
                        Toast.makeText(this@IndexPage,
                        "Selected Item" + " " + dresses[position],
                        Toast.LENGTH_SHORT).show()
                        var outp:String = dresses[position]

                    }

                    override fun onNothingSelected(parent: AdapterView<*>) {
                        // write code to perform some action
                    }
                }
        }

    }

    override fun onCreateOptionsMenu(menu: Menu?): Boolean {
        menuInflater.inflate(R.menu.optionmenu, menu)
        return true
    }

    override fun onOptionsItemSelected(item: MenuItem): Boolean {
        val id = item.itemId
        return when (id) {
            R.id.Save -> {
                Toast.makeText(applicationContext, "Save Selected",
                Toast.LENGTH_LONG).show()
                true
            }
            R.id.FAQ -> {
                Toast.makeText(applicationContext, "FAQ Selected",
                Toast.LENGTH_LONG).show()
                true
            }
            R.id.About -> {
                Toast.makeText(applicationContext, "About Selected",
                Toast.LENGTH_LONG).show()
                true
            }
            R.id.Logout -> {
                Toast.makeText(applicationContext, "Log out Selected",
                Toast.LENGTH_LONG).show()
                System.exit(0)
                true
            }
        }
    }

```

```

    }
    else -> super.onOptionsItemSelected(item)

    }
}
}

```

Xml Part:

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="#add8e6"
tools:context=".IndexPage">

    <ListView
        android:id="@+id/lv1"
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.075"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.235" />

    <TextView
        android:id="@+id/textView5"
        android:layout_width="143dp"
        android:layout_height="29dp"
        android:text="Shopping List"
        android:textSize="20sp"
        android:textStyle="italic"
        app:layout_constraintBottom_toTopOf="@+id/lv1"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.059"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.828" />

    <TextView
        android:id="@+id/textView6"
        android:layout_width="84dp"
        android:layout_height="24dp"
        android:text="To Do: "
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.048"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.681" />

    <CheckBox
        android:id="@+id/checkbox"

```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="8dp"
    android:text="Collect Milk"
    app:layout_constraintBottom_toTopOf="@+id/checkbox2"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.052"
    app:layout_constraintStart_toStartOf="parent" />
```

<CheckBox

```
    android:id="@+id/checkbox2"
    android:layout_width="167dp"
    android:layout_height="47dp"
    android:layout_marginBottom="116dp"
    android:text="Read Newspaper"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.065"
    app:layout_constraintStart_toStartOf="parent" />
```

<CheckBox

```
    android:id="@+id/checkbox3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Fed Pets"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.05"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/checkbox2"
    app:layout_constraintVertical_bias="0.0" />
```

<TextView

```
    android:id="@+id/textView7"
    android:layout_width="205dp"
    android:layout_height="31dp"
    android:text="Today's Task"
    android:textStyle="bold"
    android:textSize="25sp"
    app:layout_constraintBottom_toTopOf="@+id/textView5"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.067"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.724" />
```

<TextView

```
    android:id="@+id/textView8"
    android:layout_width="123dp"
    android:layout_height="27dp"
    android:text="Select DressCode"
    android:textSize="15dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.791"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

<Spinner

```
    android:id="@+id/spinner"
    android:layout_width="205dp"
```

```

        android:layout_height="35dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.888"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.564" />

```

```

</androidx.constraintlayout.widget.ConstraintLayout>

```

Option Menu Xml:

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:id="@+id/Save" android:title="Save"/>
    <item android:id="@+id/FAQ" android:title="FAQ"/>
    <item android:id="@+id/About" android:title="About"/>
    <item android:id="@+id/Logout" android:title="Log out"/>
</menu>

```

Screenshot:

