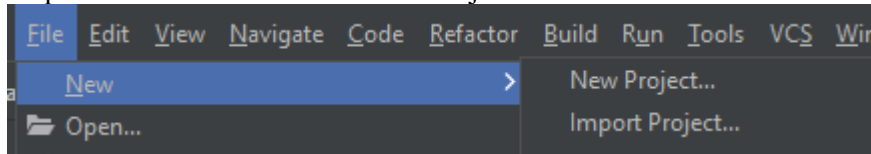


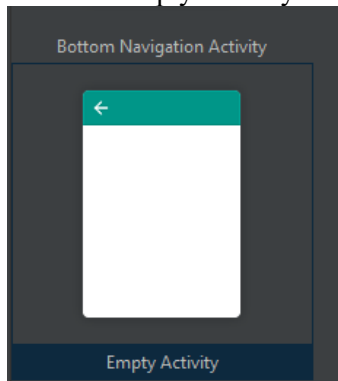
## Practical 2

### 1)Creating new Project in Android Studio.

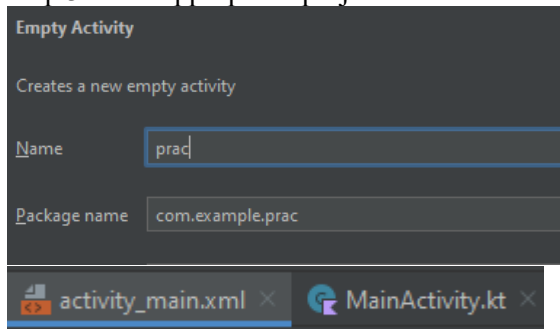
Step 1: Go to File and click on new Project.



2. Select Empty Activity.



Step 3: Give appropriate project name.



### 2)Code:

Kotlin:

```
package com.example.prac
import android.os.Bundle
import android.view.View
import android.widget.*
import androidx.appcompat.app.AppCompatActivity
class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val nameInput = findViewById<EditText>(R.id.name)
        val submitButton = findViewById<Button>(R.id.button)
        val displayMessage = findViewById<TextView>(R.id.textViewResponse)
        val radioButtonGroup = findViewById<RadioGroup>(R.id.selectgender)
        val radioButton1 = findViewById<RadioButton>(R.id.radioButton1)
        val radioButton2 = findViewById<RadioButton>(R.id.radioButton2)
        val checkBox1 = findViewById<CheckBox>(R.id.checkBox1)
        val checkBox2 = findViewById<CheckBox>(R.id.checkBox2)
        val languageMessage = findViewById<TextView>(R.id.language)
        val spinner = findViewById<Spinner>(R.id.spinner)
        val classTextView = findViewById<TextView>(R.id.myclass)
        val year = arrayOf("FYCS", "SYCS", "TYCS") // Dropdown list items
```

```

val arrayAdapter = ArrayAdapter(
    this,
    android.R.layout.simple_spinner_dropdown_item,
    year
)
spinner.adapter = arrayAdapter

// Spinner item selection listener
spinner.onItemSelectedListener = object : AdapterView.OnItemSelectedListener {
    override fun onItemSelected(
        parent: AdapterView<*>?,
        view: View?,
        position: Int,
        id: Long
    ) {
        classTextView.text = "Your Class: ${year[position]}"
    }

    override fun onNothingSelected(parent: AdapterView<*>?) {
        classTextView.text = "Please select your Class"
    }
}

// RadioGroup listener to handle gender selection
radioGroup.setOnCheckedChangeListener { _, checkedId ->
    when (checkedId) {
        R.id.radioButton1 -> displayMessage.text = "Gender: ${radioButton1.text}"
        R.id.radioButton2 -> displayMessage.text = "Gender: ${radioButton2.text}"
    }
}

// Submit button listener
submitButton.setOnClickListener {
    val name = nameInput.text.toString()
    displayMessage.text = "Welcome, $name!"

    // Checkbox conditions
    when {
        checkBox1.isChecked && checkBox2.isChecked -> {
            languageMessage.text = "You love both languages"
        }
        checkBox1.isChecked -> {
            languageMessage.text = "You love Python"
        }
        checkBox2.isChecked -> {
            languageMessage.text = "You love Kotlin"
        }
        else -> {
            languageMessage.text = "You don't like these languages"
        }
    }
}
}
}

```

**XML:**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp">

    <!-- Name input -->
    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter your name" />

    <!-- Gender selection -->
    <RadioGroup
        android:id="@+id/selectgender"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">

        <RadioButton
            android:id="@+id/radioButton1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Male" />

        <RadioButton
            android:id="@+id/radioButton2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Female" />
    </RadioGroup>

    <!-- Language selection -->
    <CheckBox
        android:id="@+id/checkbox1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Python" />

    <CheckBox
        android:id="@+id/checkbox2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Kotlin" />

    <!-- Spinner for class selection -->
    <Spinner
        android:id="@+id/spinner"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />
```

```
<!-- Display selected class -->
<TextView
    android:id="@+id/myclass"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Your Class will appear here" />

<!-- Submit button -->
<Button
    android:id="@+id/button"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Submit" />

<!-- Response message -->
<TextView
    android:id="@+id/textViewResponse"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Response will appear here"
    android:textSize="18sp" />

<!-- Language preference message -->
<TextView
    android:id="@+id/language"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Your language preference will appear here" />

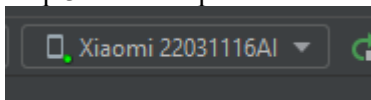
</LinearLayout>
```

### 3)Connecting device using USB cable.

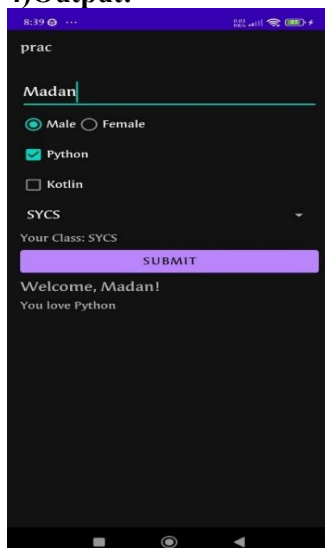
Step 1:Connect USB to PC and Phone

Step 2:On Developer Option→on USB Debugging→on Install via USB

Step 3:Grant all permission



### 4)Output:



## Practical 3

### MainActivity.kt

```
package com.example.prac2

import android.content.Intent
import android.net.Uri
import android.os.Bundle
import android.provider.MediaStore
import android.widget.Button
import android.widget.ImageView
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {
    private lateinit var imageView: ImageView
    private lateinit var button: Button
    private val pickImage = 100
    private var imageUri: Uri? = null

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

        title = "KotlinApp" // Sets the app title in the toolbar
        imageView = findViewById(R.id.imageView)
        button = findViewById(R.id.buttonLoadPicture)

        // Set up button click listener to open the gallery
        button.setOnClickListener {
            val gallery = Intent(Intent.ACTION_PICK,
MediaStore.Images.Media.INTERNAL_CONTENT_URI)
            startActivityForResult(gallery, pickImage)
        }
    }

    // Handles the result from the gallery picker
    override fun onActivityResult(requestCode: Int, resultCode: Int, data: Intent?) {
        super.onActivityResult(requestCode, resultCode, data)
        if (resultCode == RESULT_OK && requestCode == pickImage) {
            imageUri = data?.data // Retrieve the image URI from the intent
            imageView.setImageURI(imageUri) // Set the selected image in the ImageView
        }
    }
}
```

### Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="2dp">
```

```
<!-- Image View -->
<ImageView
    android:id="@+id/imageView"
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="1"
    android:contentDescription="Image preview" />

<!-- Button to Load Picture -->
<Button
    android:id="@+id/buttonLoadPicture"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:text="Load Picture" />
</LinearLayout>
```



## Practical 4

### MainActivity.kt

```
package com.example.prac3

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.*

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

        // Initializing UI elements
        val etName = findViewById<EditText>(R.id.name)
        val etRollNo = findViewById<EditText>(R.id.rollno)
        val saveBtn = findViewById<Button>(R.id.saveBtn)
        val getBtn = findViewById<Button>(R.id.getBtn)

        // Setting up SharedPreferences
        val sharedPref = getSharedPreferences("addName", MODE_PRIVATE)
        val editor = sharedPref.edit()

        // Save button functionality
        saveBtn.setOnClickListener {
            val name = etName.text.toString()
            val rollNo = etRollNo.text.toString()

            if (name.isNotEmpty() && rollNo.isNotEmpty()) {
                editor.putString("name", name)
                editor.putString("rollNo", rollNo)
                editor.apply() // Saves data asynchronously

                Toast.makeText(this, "Data saved successfully!", Toast.LENGTH_SHORT).show()
            } else {
                Toast.makeText(this, "Please enter both Name and Roll Number.",
                    Toast.LENGTH_SHORT).show()
            }
        }

        // Get button functionality
        getBtn.setOnClickListener {
            val myName = sharedPref.getString("name", "N/A")
            val myRollNo = sharedPref.getString("rollNo", "N/A")

            Toast.makeText(this, "Name: $myName\nRoll No: $myRollNo",
                Toast.LENGTH_LONG).show()
        }
    }
}
```

**Activity\_main.xml**

```
<?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"
    tools:context=".MainActivity">

    <!-- Title -->
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Shared Preferences"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        android:layout_marginTop="50dp"/>

    <!-- Name Input -->
    <EditText
        android:id="@+id/name"
        android:layout_width="0dp"
        android:layout_height="48dp"
        android:hint="Name"
        android:inputType="textPersonName"
        android:padding="10dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@id/textView"
        android:layout_marginTop="40dp" />

    <!-- Roll No Input -->
    <EditText
        android:id="@+id/rollno"
        android:layout_width="0dp"
        android:layout_height="48dp"
        android:hint="Roll No"
        android:inputType="textPersonName"
        android:padding="10dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@id/name"
        android:layout_marginTop="20dp" />

    <!-- Save Button -->
    <Button
        android:id="@+id/saveBtn"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```



```
android:text="SAVE"
app:layout_constraintTop_toBottomOf="@id/rollno"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintEnd_toEndOf="parent"
android:layout_marginTop="30dp"/>
```

```
<!-- Get Button -->
```

```
<Button
    android:id="@+id/getBtn"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="GET"
    app:layout_constraintTop_toBottomOf="@id/saveBtn"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginTop="20dp"/>
```

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

