1.

```kotlin
package com.example.one

import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.Toast
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity

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

    // Get references to UI elements
    val fahreninput = findViewById<EditText>(R.id.editTextNumber)
    val celsiusinput = findViewById<EditText>(R.id.editTextNumber2)
    val submit = findViewById<Button>(R.id.button)

    submit.setOnClickListener {
    val fahren = fahreninput.text.toString()
    val cel = celsiusinput.text.toString()

    if (fahren.isNotEmpty() && cel.isEmpty()) {
            // Convert Fahrenheit to Celsius
            val fahrenheit = fahren.toDouble()
            val celsius = (fahrenheit - 32) * 5 / 9

            // Show result in Toast
            Toast.makeText(this, "The Celsius temperature is %.2f°C".format(celsius),
Toast.LENGTH_SHORT).show()

        } else if (cel.isNotEmpty() && fahren.isEmpty()) {
            // Convert Celsius to Fahrenheit
            val celsius = cel.toDouble()
            val fahrenheit = (celsius * 9 / 5) + 32

            // Show result in Toast
            Toast.makeText(this, "The Fahrenheit temperature is %.2f°F".format(fahrenheit),
Toast.LENGTH_SHORT).show()
```

```kotlin
        } else if (cel.isNotEmpty() && fahren.isNotEmpty()) {
                // If both fields are filled, recalculate one based on the other
                val fahrenheit = fahren.toDouble()
                val celsius = cel.toDouble()
                val calculatedCelsius = (fahrenheit - 32) * 5 / 9
                val calculatedFahrenheit = (celsius * 9 / 5) + 32


                // Show results in Toast
                Toast.makeText(
                this,
                "Updated: %.2f°F → %.2f°C | %.2f°C → %.2f°F"
                .format(fahrenheit, calculatedCelsius, celsius, calculatedFahrenheit),
                Toast.LENGTH_SHORT
                ).show()         }
        }
        }
}
```

2.

```kotlin
package com.example.two

import android.os.Bundle
import android.widget.ImageView
import android.widget.TextView
import android.widget.ToggleButton
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {
        override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge();
        setContentView(R.layout.activity_main);
        val text=findViewById<TextView>(R.id.textView2);
        val toggle=findViewById<ToggleButton>(R.id.toggleButton);
        val image=findViewById<ImageView>(R.id.imageView);

        toggle.setOnCheckedChangeListener{_,isChecked->
```

```
        if(isChecked){
                image.setImageResource(R.drawable.hungry);
                text.text="I'm so Full"
                toggle.textOn="Done";
        }
        else{
                image.setImageResource(R.drawable.unhappy);
                text.text="I'm so Hungry"
                toggle.text="Eat Cookie";


        }
        }


        }

}
```

3.


```
package com.example.three

import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.RatingBar
import android.widget.TextView
import android.widget.Toast
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity

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

        val ratingBar = findViewById<RatingBar>(R.id.ratingBar)
        val feedbackText = findViewById<TextView>(R.id.textView2)
        val messageInput = findViewById<EditText>(R.id.editTextText)
        val sendButton = findViewById<Button>(R.id.button)

        ratingBar.stepSize = 1f
```

```kotlin
var ratingMessage = ""

ratingBar.setOnRatingBarChangeListener { _, rating, _ ->
val ratingValue = rating.toInt()

// Ensure the rating is within the valid range
if (ratingValue in 1..5) {
        ratingMessage = when (ratingValue) {
        5 -> "Awesome. I love it"
        4 -> "Good. Enjoyed it"
        3 -> "Satisfied."
        2 -> "Not good. Need improvement"
        1 -> "Disappointed. Very poor"
        else -> ""  // This should never be reached due to the if check
        }
        feedbackText.text = ratingMessage
} else {
        Toast.makeText(this, "Message should be within 1-5 rating!",
Toast.LENGTH_SHORT).show()
}
}


sendButton.setOnClickListener {
val userMessage = messageInput.text.toString().trim()

if (userMessage.isEmpty()) {
        Toast.makeText(this, "Message is required!", Toast.LENGTH_SHORT).show()
        return@setOnClickListener
}

if (userMessage.length > 100) {
        Toast.makeText(this, "Message should be within 100 characters!",
Toast.LENGTH_SHORT).show()
        return@setOnClickListener
}

val finalMessage = "Rating: $ratingMessage\nFeedback: $userMessage"
Toast.makeText(this, finalMessage, Toast.LENGTH_LONG).show()
messageInput.text.clear();
ratingBar.rating=0f;
feedbackText.text="We hope you enjoyed your meal with us today!!";
}
```

```
        }
}



4.

Mainactivity.kt


package com.example.four

import android.content.Intent
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.RadioButton
import android.widget.RadioGroup
import android.widget.Spinner
import android.widget.Toast
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat

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

        val first = findViewById<EditText>(R.id.editTextText);
        val last = findViewById<EditText>(R.id.editTextText2);
        val visited=findViewById<RadioGroup>(R.id.radioGroup);
        val country=findViewById<Spinner>(R.id.spinner);
        val submit=findViewById<Button>(R.id.button);

        submit.setOnClickListener {

        if(first.text.toString()=="" || last.text.toString()=="" || visited.checkedRadioButtonId==-1 ||
country.selectedItem.toString()=="Select a Country"){
                Toast.makeText(this,"Enter all field",Toast.LENGTH_SHORT).show();
                return@setOnClickListener
        }else{
```

```kotlin
            val radiovalue=findViewById<RadioButton>(visited.checkedRadioButtonId);

            val intent=Intent(this,MainActivity2::class.java).also{
            it.putExtra("First_Name",first.text.toString())
            it.putExtra("Last_Name",last.text.toString())
            it.putExtra("Type",radiovalue.text.toString())
            it.putExtra("Country",country.selectedItem.toString())
            }
            startActivity(intent)
        }

    }


    }
}
```

Mainactivity2.kt

```kotlin
package com.example.four

import android.os.Bundle
import android.widget.EditText
import android.widget.TextView
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat

class MainActivity2 : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    enableEdgeToEdge()
    setContentView(R.layout.activity_main2)
    val first=intent.getStringExtra("First_Name")
    val last = intent.getStringExtra("Last_Name")
    val type= intent.getStringExtra("Type")
    val country = intent.getStringExtra("Country")
    val res=findViewById<TextView>(R.id.textView).apply {
            text="Name  : $first $last\nType  : $type\nCountry : $country"
    }
    }
```

```
}


5.


package com.example.five

import android.content.Intent
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.TextView
import android.widget.Toast
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat

class MainActivity : AppCompatActivity() {

        private lateinit var mobile:EditText;
        private lateinit var captcha:TextView;
        private lateinit var refcaptcha:Button;
        private lateinit var userInput:EditText;
        private lateinit var submit:Button;

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

        mobile=findViewById(R.id.editTextPhone4);
        captcha=findViewById(R.id.textView5);
        refcaptcha=findViewById(R.id.button);
        submit=findViewById(R.id.button2);
        userInput=findViewById(R.id.editTextPhone5)

        captcharandom();
        refcaptcha.setOnClickListener {
        captcharandom();
        };

        submit.setOnClickListener {
```

```kotlin
        val user=userInput.text.toString().trim()
        if(user==captcha.text.toString() &&
mobile.text.toString().trim().matches(Regex("\\d{10}"))){
                val intent=Intent(this,MainActivity2::class.java);
                startActivity(intent)
        }else{
                Toast.makeText(this,"Enter the captcha Correctly and Enter the mobile number
",Toast.LENGTH_SHORT).show()
                captcharandom()
        }
        }

        }

        private fun captcharandom(){
        val current=generate(5);
        captcha.text=current;
        }

        private fun generate(length:Int) :String{
        val
char="ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789"
        return (1..length).map { char.random() }.joinToString ("")
        }

}
```

6.

mainactivity.kt


```kotlin
package com.example.six

import android.content.Intent
import android.content.SharedPreferences
import android.os.Bundle
import android.util.Patterns
import android.widget.Button
import android.widget.EditText
import android.widget.Toast
```

```kotlin
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {
        private lateinit var sharedPreferences: SharedPreferences

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

        val firstName = findViewById<EditText>(R.id.etFirstName)
        val lastName = findViewById<EditText>(R.id.etLastName)
        val phoneNumber = findViewById<EditText>(R.id.etPhone)
        val email = findViewById<EditText>(R.id.etEmail)
        val birthday = findViewById<EditText>(R.id.etBirthday)
        val gender = findViewById<EditText>(R.id.etGender)
        val address = findViewById<EditText>(R.id.etAddress)
        val btnSave = findViewById<Button>(R.id.btnSave)

        sharedPreferences = getSharedPreferences("UserDetails", MODE_PRIVATE)

        // Check if data is coming from PreviewActivity (for editing)
        val extras = intent.extras
        if (extras != null) {
        firstName.setText(extras.getString("FirstName", "") ?: "")
        lastName.setText(extras.getString("LastName", "") ?: "")
        phoneNumber.setText(extras.getString("Phone", "") ?: "")
        email.setText(extras.getString("Email", "") ?: "")
        birthday.setText(extras.getString("Birthday", "") ?: "")
        gender.setText(extras.getString("Gender", "") ?: "")
        address.setText(extras.getString("Address", "") ?: "")
        }

        firstName.requestFocus()  // Set focus to first name

        btnSave.setOnClickListener {
        if (validateInputs(firstName, lastName, phoneNumber, email, birthday, gender, address))
{

                // Save to SharedPreferences
                val editor = sharedPreferences.edit()
                editor.putString("FirstName", firstName.text.toString().trim())
                editor.putString("LastName", lastName.text.toString().trim())
                editor.putString("Phone", phoneNumber.text.toString().trim())
                editor.putString("Email", email.text.toString().trim())
                editor.putString("Birthday", birthday.text.toString().trim())
```

```kotlin
                editor.putString("Gender", gender.text.toString().trim())
                editor.putString("Address", address.text.toString().trim())
                editor.apply()

                // Navigate to PreviewActivity
                val intent = Intent(this, PreviewActivity::class.java)
                startActivity(intent)
        }
    }
}

private fun validateInputs(
firstName: EditText, lastName: EditText, phone: EditText,
email: EditText, birthday: EditText, gender: EditText, address: EditText
): Boolean {
// Helper function to check empty fields
fun isEmptyField(editText: EditText, fieldName: String): Boolean {
if (editText.text.isNullOrBlank()) { // Null & empty check
        Toast.makeText(this, "$fieldName is required", Toast.LENGTH_SHORT).show()
        return true
}
return false
}

// Check for empty fields
if (isEmptyField(firstName, "First Name")) return false
if (isEmptyField(lastName, "Last Name")) return false
if (isEmptyField(phone, "Phone Number")) return false
if (isEmptyField(email, "Email")) return false
if (isEmptyField(birthday, "Birthday")) return false
if (isEmptyField(gender, "Gender")) return false
if (isEmptyField(address, "Address")) return false

// Validate Email
val emailText = email.text.toString().trim()
if (!Patterns.EMAIL_ADDRESS.matcher(emailText).matches()) {
Toast.makeText(this, "Enter a valid Email", Toast.LENGTH_SHORT).show()
return false
}

// Validate Phone Number (must be 10 digits)
val phoneText = phone.text.toString().trim()
if (!phoneText.matches(Regex("^[0-9]{10}$"))) {
```

```kotlin
        Toast.makeText(this, "Enter a valid 10-digit Phone Number",
Toast.LENGTH_SHORT).show()
        return false
        }

        return true
        }
}
```

previewactivity.kt

```kotlin
package com.example.six

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

class PreviewActivity : AppCompatActivity() {
        private lateinit var sharedPreferences: SharedPreferences

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

        val tvDetails = findViewById<TextView>(R.id.tvDetails)
        val btnConfirm = findViewById<Button>(R.id.btnConfirm)
        val btnEdit = findViewById<Button>(R.id.btnEdit)

        sharedPreferences = getSharedPreferences("UserDetails", MODE_PRIVATE)

        val firstName = sharedPreferences.getString("FirstName", "") ?: ""
        val lastName = sharedPreferences.getString("LastName", "") ?: ""
        val phone = sharedPreferences.getString("Phone", "") ?: ""
        val email = sharedPreferences.getString("Email", "") ?: ""
        val birthday = sharedPreferences.getString("Birthday", "") ?: ""
        val gender = sharedPreferences.getString("Gender", "") ?: ""
        val address = sharedPreferences.getString("Address", "") ?: ""
```

```kotlin
        val details = """
        Name: $firstName $lastName
        Phone: $phone
        Email: $email
        Birthday: $birthday
        Gender: $gender
        Address: $address
        """.trimIndent()

        tvDetails.text = details

        // Edit button - Send data back to MainActivity
        btnEdit.setOnClickListener {
        val intent = Intent(this, MainActivity::class.java)
        intent.putExtra("FirstName", firstName)
        intent.putExtra("LastName", lastName)
        intent.putExtra("Phone", phone)
        intent.putExtra("Email", email)
        intent.putExtra("Birthday", birthday)
        intent.putExtra("Gender", gender)
        intent.putExtra("Address", address)
        startActivity(intent)
        }

        // Confirm button - Go to ConfirmationActivity
        btnConfirm.setOnClickListener {
        val intent = Intent(this, ConfirmationActivity::class.java)
        intent.putExtra("FirstName", firstName)
        startActivity(intent)
        }
        }
}
```

confirmactivity.kt

```kotlin
package com.example.six

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

```kotlin
class ConfirmationActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_confirmation)

        val tvMessage = findViewById<TextView>(R.id.tvMessage)
        val firstName = intent.getStringExtra("FirstName")

        tvMessage.text = "Hi $firstName, You are successfully registered!"
    }
}
```