

Android Exam

Kotlin program

Odd/even

```
fun main()
{
    print("Enter a number: ")
    val num=readLine()!!.toInt()
    if (num % 2 ==0){
        print("$num is even")
    }
    else{
        print("$num is odd")
    }
}
```

Prime

```
fun main()
{
    print("Enter a number: ")
    val num=readLine()!!.toInt()
    var isPrime= true

    if(num <= 1 ) isPrime = false

    for(i in 2 until num){
        if(num % i ==0){
            isPrime=false
            break
        }
    }
    if (isPrime){
        print("$num is Prime")
    }
    else{
        print("$num is not prime")
    }
}
```

Fibonacci

```
fun main()
{
    print("Enter a number: ")
}
```

```

val num=readLine()!!.toInt()

var t1=0
var t2=1
print("Fibonacci of number is $t1 $t2")

for(i in 3..num){
    var sum = t1+t2
    print("$sum ")
    t1=t2
    t2=sum
}
}

```

Armstrong

```

fun main() {
    val num = 153
    var originalNum = num
    var sum = 0

    while (originalNum != 0) {
        val digit = originalNum % 10
        sum += digit * digit * digit
        originalNum /= 10
    }

    if (sum == num) {
        println("$num is an Armstrong Number")
    } else {
        println("$num is not an Armstrong Number")
    }
}

```

Shared Preference

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">
    <TableLayout
        android:layout_width="368dp"

```

```

        android:layout_height="495dp"
        android:layout_marginBottom="8dp"
        android:layout_marginEnd="8dp"
        android:layout_marginStart="8dp"
        android:layout_marginTop="8dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">
<TableRow>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_column="0"
        android:layout_marginLeft="10sp"
        android:layout_marginStart="10sp"
        android:text="Enter Your Id"

android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium" />
    <EditText
        android:id="@+id/editId"
        android:layout_width="201dp"
        android:layout_height="wrap_content"
        android:layout_column="1"
        android:layout_marginLeft="50sp"
        android:layout_marginStart="50sp"
        android:hint="ID"

android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium" />
</TableRow>
    <TableRow>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_column="0"
            android:layout_marginLeft="10sp"
            android:layout_marginStart="10sp"
            android:text="Enter Your Name"

android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium" />
        <EditText
            android:id="@+id/editName"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_column="1"
            android:layout_marginLeft="50sp"
            android:layout_marginStart="50sp"
            android:hint="Name"

android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium" />
    </TableRow>
    <TableRow android:layout_marginTop="60dp">
        <TextView

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_column="0"
        android:layout_marginLeft="10sp"
        android:layout_marginStart="10sp"
        android:text="Your Id"

android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium" />
        <TextView
            android:id="@+id/textViewShowId"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_column="1"
            android:layout_marginLeft="50sp"
            android:layout_marginStart="50sp"

android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium" />
</TableRow>
        <TableRow android:layout_marginTop="20dp">
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_column="0"
                android:layout_marginLeft="10sp"
                android:layout_marginStart="10sp"
                android:text="Your Name"

android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium" />
                <TextView
                    android:id="@+id/textViewShowName"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_column="1"
                    android:layout_marginLeft="50sp"
                    android:layout_marginStart="50sp"

android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium" />
</TableRow>
        </TableLayout>
        <LinearLayout
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:layout_marginStart="8dp"
            android:layout_marginEnd="8dp"
            android:layout_marginBottom="16dp"
            android:gravity="center"
            android:orientation="vertical"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintHorizontal_bias="0.0"
            app:layout_constraintStart_toStartOf="parent">
            <Button
                android:id="@+id/save"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Save" />
    <Button
        android:id="@+id/view"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="View After save the Data" />
    <Button
        android:id="@+id/clear"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Clear" />
</LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>

```

Kt

After main()

```

val inputId = findViewById<EditText>(R.id.editId)
val inputName=findViewById<EditText>(R.id.editName)
val outputId=findViewById<TextView>(R.id.textViewShowId)
val outputName=findViewById<TextView>(R.id.textViewShowName)

val btnSave=findViewById<Button>(R.id.save)
val btnView=findViewById<Button>(R.id.view)
val btnClear=findViewById<Button>(R.id.clear)
Val
sharedPreferences:SharedPreferences=this.getSharedPreferences("kotlinsharedpr
eference", Context.MODE_PRIVATE)

btnSave.setOnClickListener(View.OnClickListener {
    val id = inputId.text.toString().toIntOrNull() ?: 0
    val name = inputName.text.toString()
    val editor = sharedPreferences.edit()
    editor.putInt("id_key",id)
    editor.putString("name_key",name)
    editor.apply()
})

btnView.setOnClickListener {
    val sharedIdValue = sharedPreferences.getInt("id_key", 0)
    val sharedNameValue = sharedPreferences.getString("name_key",
"defaultname")

    if (sharedIdValue == 0 && sharedNameValue == "defaultname") {
        outputName.text = "Default Name: $sharedNameValue"
        outputId.text = "Default ID: $sharedIdValue"
    } else {
        outputName.text = sharedNameValue
        outputId.text = sharedIdValue.toString()
    }
}

```

```

}
btnClear.setOnClickListener(View.OnClickListener {
    val editor = sharedPreferences.edit()
    editor.clear()
    editor.apply()
    outputName.setText("").toString()
    outputId.setText("").toString()
}))

```

List View (Simple)

Xml

Aa code Linear Layout ni under avse

```

<ListView
    android:id="@+id/myListView"
    android:layout_width="match_parent"
    android:layout_height="match_parent"/>

```

Kt

```

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

        val myListView = findViewById<ListView>(R.id.myListView)
        val items = listOf(
            "Apple", "Banana", "Orange", "Mango",
            "Grapes", "Pineapple", "Watermelon", "Strawberry"
        )
        val adapter = ArrayAdapter(
            this,
            android.R.layout.simple_list_item_1,
            items
        )
        myListView.adapter = adapter

        myListView.setOnItemClickListener{ adapterView, view, position, id ->
            Toast.makeText(this, "You clicked: "+items[position],
                Toast.LENGTH_SHORT).show()
        }
    }
}

```

Notification Program with Kotlin

XML file

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"

```

```

        android:gravity="center"
        android:orientation="vertical">

        <Button
            android:id="@+id/notifyButton"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Show Notification" />
    </RelativeLayout>

```

Kotlin file

```

import android.annotation.SuppressLint
import android.app.NotificationChannel
import android.app.NotificationManager
import android.os.Build
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import androidx.core.app.NotificationCompat
import androidx.core.app.NotificationManagerCompat

class MainActivity : AppCompatActivity() {

    private val CHANNEL_ID = "example_channel_id"
    private val NOTIFICATION_ID = 1

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

        createNotificationChannel()

        val button = findViewById<Button>(R.id.notifyButton)
        button.setOnClickListener {
            showNotification()
        }
    }

    private fun createNotificationChannel() {
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O) {
            val name = "Example Channel"
            val descriptionText = "This is a simple notification channel"
            val importance = NotificationManager.IMPORTANCE_DEFAULT
            val channel = NotificationChannel(CHANNEL_ID, name,
importance).apply {
                description = descriptionText
            }

            val notificationManager: NotificationManager =
                getSystemService(NOTIFICATION_SERVICE) as
NotificationManager

```

```

        notificationManager.createNotificationChannel(channel)
    }
}

@SuppressLint("MissingPermission")
private fun showNotification() {
    val builder = NotificationCompat.Builder(this, CHANNEL_ID)
        .setSmallIcon(R.drawable.ic_launcher_foreground)
        .setContentTitle("Simple Notification")
        .setContentText("Hello! This is a Kotlin notification.")
        .setPriority(NotificationCompat.PRIORITY_DEFAULT)

    with(NotificationManagerCompat.from(this)) {
        notify(NOTIFICATION_ID, builder.build())
    }
}
}

```

Explicit intent

activity_main(XML)

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/btn"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Click me" />

</LinearLayout>

```

activity_main(KOTLIN)

```

package com.example.intentdemo

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

class MainActivity : AppCompatActivity() {

```



```

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

    val button : Button = findViewById(R.id.btn)

    button.setOnClickListener {
        val intent = Intent(this, SecondActivity::class.java)
        intent.putExtra("MESSAGE", "Hello from Main activity")
        startActivity(intent)
    }
}
}
}

```

activity_second(XML)

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:gravity="center"
    tools:context=".SecondActivity">

    <TextView
        android:id="@+id/txt"
        android:textSize="100dp"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"/>

</LinearLayout>

```

second_activity(KOTLIN)

```

package com.example.intentdemo

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

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

        val message = intent.getStringExtra("MESSAGE")

        val textView: TextView = findViewById(R.id.txt)
        textView.text = message
    }
}

```

```
}
```

IMPLICIT INTENT

ACTIVITY_MAIN(KOTLIN)

```
package com.example.implicit_intent_demo
import android.content.Intent
import android.net.Uri
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.Toast

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

        val button: Button = findViewById(R.id.btn)
        button.setOnClickListener {
            val intent = Intent(Intent.ACTION_VIEW,
Uri.parse("https://www.google.co.in/"))
            startActivity(intent)
        }

        val btn: Button = findViewById(R.id.btn2)
        btn.setOnClickListener {
            val i = Intent(Intent.ACTION_DIAL,
Uri.parse("tel:+917566") )

            startActivity(i)
        }

        val sharebtn: Button = findViewById(R.id.buttonShare)
        sharebtn.setOnClickListener {
            val int = Intent(Intent.ACTION_SEND).apply {
                type = "text/plain"

                putExtra(Intent.EXTRA_TEXT,"check out this amazing app!!") }
            startActivity(Intent.createChooser(int, "share via"))
        }

        Toast.makeText(this, "This is a simple Toast message!",
Toast.LENGTH_SHORT).show()
    }
}
```

MAIN_ACTIVITY(XML)

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:orientation="vertical"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/btn"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Click me!"
        android:textColor="#CA3131"/>

    <Button
        android:id="@+id/btn2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Click HERE!!"/>

    <Button
        android:id="@+id/buttonShare"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Share Text"
        android:layout_marginTop="16dp" />

</LinearLayout>
```

Widgets

Xml file

```
<?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">

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

```
android:inputType="text"/>
```

```
<!-- Button to submit input -->
```

```
<Button
```

```
android:id="@+id/button"
```

```
android:layout_width="match_parent"
```

```
android:layout_height="wrap_content"
```

```
android:text="Submit"/>
```

```
<!-- TextView to display result -->
```

```
<TextView
```

```
android:id="@+id/textView"
```

```
android:layout_width="match_parent"
```

```
android:layout_height="wrap_content"
```

```
android:text="Hello, User!"
```

```
android:textSize="18sp"
```

```
android:layout_marginTop="16dp"/>
```

```
<!-- ProgressBar to simulate loading -->
```

```
<ProgressBar
```

```
android:id="@+id/progressBar"
```

```
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
```

```
android:layout_gravity="center"
```

```
android:visibility="gone"/>
```

```
</LinearLayout>
```

Kotlin File

```
package com.example.wid
import android.os.Bundle
import android.view.View
import android.widget.Button
import android.widget.EditText
import android.widget.ProgressBar
import android.widget.TextView
import androidx.appcompat.app.AppCompatActivity
```

```
class MainActivity : AppCompatActivity() {
    private lateinit var editText: EditText
    private lateinit var button: Button
    private lateinit var textView: TextView
    private lateinit var progressBar: ProgressBar
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        // Initialize UI components
        editText = findViewById(R.id.editText)
```

```

button = findViewById(R.id.button)
textView = findViewById(R.id.textView)
progressBar = findViewById(R.id.progressBar) //
Button click listener
button.setOnClickListener {
    val textInput = editText.text.toString() if
    (textInput.isNotEmpty()) {
        // Display the text from EditText in TextView
        textView.text = "Hello, $textInput!"
        progressBar.visibility = View.VISIBLE // Simulate a
        task with progress bar
        Thread {
            try {
                Thread.sleep(4000) // Simulate delay (2 seconds)
            } catch (e: InterruptedException) {
                e.printStackTrace()
            }
        }.start()
        runOnUiThread {
            progressBar.visibility = View.GONE // Hide progress bar
        }
    } else {
        textView.text = "Please enter some text."
    }
}
}

```

PROGRAM OF ACTIVITY LIFE CYCLE

```

package com.example.myapplication
import android.os.Bundle
import android.widget.Toast
import androidx.appcompat.app.AppCompatActivity
class MainActivity : AppCompatActivity()
{
    override fun onCreate(savedInstanceState: Bundle?)
    {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val toast = Toast.makeText(applicationContext, "onCreate Called", Toast.LENGTH_LONG).show()
    }

    override fun onStart()
    {
        super.onStart()
        // It will show a message on the screen
        // then onStart is invoked
        val toast = Toast.makeText(applicationContext, "onStart Called", Toast.LENGTH_LONG).show()
    }

    override fun onRestart()
    {
        super.onRestart()
    }
}

```

```
// It will show a message on the screen
// then onRestart is invoked
val toast = Toast.makeText(applicationContext, "onRestart Called", Toast.LENGTH_LONG).show()
}
```

```
override fun onResume()
{
    super.onResume()
    // It will show a message on the screen
    // then onResume is invoked
    val toast = Toast.makeText(applicationContext, "onResume Called",
    Toast.LENGTH_LONG).show()
}
```

```
override fun onPause()
{
    super.onPause()
    // It will show a message on the screen
    // then onPause is invoked
    val toast = Toast.makeText(applicationContext, "onPause Called", Toast.LENGTH_LONG).show()
}
```

```
override fun onStop()
{
    super.onStop()
    // It will show a message on the screen
    // then onStop is invoked
    val toast = Toast.makeText(applicationContext, "onStop Called", Toast.LENGTH_LONG).show()
}
```

```
override fun onDestroy()
{
    super.onDestroy()
    // It will show a message on the screen
    // then onDestroy is invoked
    val toast = Toast.makeText(applicationContext, "onDestroy Called",
    Toast.LENGTH_LONG).show()
}
}
```