**■ Button 추가 및 뷰 속성 설정**

**======================= 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">

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Hello World!"

android:textSize="24sp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

<Button

android:id="@+id/myButton"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="64dp"

android:text="Button"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/textView" />

</androidx.constraintlayout.widget.ConstraintLayout>

**■ 방법 1 : 내부 클래스로 이벤트 핸들러 정의**

**========================= MainActivity.kt ===========================**

package com.example.eventhandler

import androidx.appcompat.app.AppCompatActivity

import android.os.Bundle

import android.view.View

import android.widget.Button

import android.widget.TextView

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

val myButton: Button = findViewById(R.id.myButton)

val lis = MyListener()

myButton.setOnClickListener( lis )

}

inner class MyListener : OnClickListener {

override fun onClick(p0: View?) {

val s = "안녕, 안드로이드 13!"

val textView: TextView = findViewById(R.id.textView)

textView.text = s

}

}

}

**■ Quiz 1: 아래 코드에서 에러가 발생하는 이유는?**

**========================= MainActivity.kt ===========================**

package com.example.eventhandler

import androidx.appcompat.app.AppCompatActivity

import android.os.Bundle

import android.view.View

import android.widget.Button

import android.widget.TextView

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

val textView: TextView = findViewById(R.id.textView)

val myButton: Button = findViewById(R.id.myButton)

myButton.setOnClickListener( MyListener() )

}

inner class MyListener : OnClickListener {

override fun onClick(p0: View?) {

val s:String = "안녕, 안드로이드 13!"

textView.text = s

}

}

}

**■ Quiz 2: 내부 클래스로 이벤트 핸들러 정의**

**========================= MainActivity.kt ===========================**

package com.example.eventhandler

import androidx.appcompat.app.AppCompatActivity

import android.os.Bundle

import android.view.View

import android.widget.Button

import android.widget.TextView

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

val textView: TextView = findViewById(R.id.textView)

val myButton: Button = findViewById(R.id.myButton)

class MyListener : View.OnClickListener {

override fun onClick(p0: View?) {

val s = "안녕, 안드로이드 13!"

textView.text = s

}

}

myButton.setOnClickListener( MyListener() )

}

}

**■ 방법 2: 무명 클래스로 이벤트 핸들러 정의**

**========================= MainActivity.kt ===========================**

package com.example.eventhandler

import androidx.appcompat.app.AppCompatActivity

import android.os.Bundle

import android.view.View

import android.widget.Button

import android.widget.TextView

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

val myButton:Button = findViewById(R.id.myButton)

myButton.setOnClickListener( object : OnClickListener {

override fun onClick(p0: View?) {

val s:String = "안녕, 안드로이드 13!"

val textView: TextView = findViewById(R.id.textView)

textView.text = s

}

} )

}

}

**■ 방법 2: 무명 클래스를 람다 식으로 변환**

**========================= MainActivity.kt ===========================**

package com.example.eventhandler

import android.os.Bundle

import android.widget.Button

import android.widget.TextView

import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

val myButton:Button = findViewById(R.id.myButton)

myButton.setOnClickListener {

val s: String = "안녕, 안드로이드 13!"

val textView: TextView = findViewById(R.id.textView)

textView.text = s

}

}

}

**■ Quiz 3: 아래 코드에서는 왜 에러가 발생하지 않을까?**

**========================= MainActivity.kt ===========================**

package com.example.eventhandler

import android.os.Bundle

import android.widget.Button

import android.widget.TextView

import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

val textView: TextView = findViewById(R.id.textView)

val myButton:Button = findViewById(R.id.myButton)

myButton.setOnClickListener {

val s: String = "안녕, 안드로이드 13!"

textView.text = s

}

}

}

**■ 방법 3: 클래스에서 인터페이스 상속**

**========================= MainActivity.kt ===========================**

package com.example.eventhandler

import android.os.Bundle

import android.view.View

import android.widget.Button

import android.widget.TextView

import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity(), OnClickListener {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

val myButton: Button = findViewById(R.id.myButton)

myButton.setOnClickListener(this)

}

override fun onClick(p0: View?) {

val s: String = "안녕, 안드로이드 13!"

val textView: TextView = findViewById(R.id.textView)

textView.text = s

}

}

**■ 기타 방법: JavaScript 스타일의 이벤트 핸들러 구현**

**======================= 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">

<TextView ... />

<Button

android:id="@+id/myButton"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="64dp"

android:onClick="onClick"

android:text="Button"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/textView" />

</androidx.constraintlayout.widget.ConstraintLayout>

**========================= MainActivity.kt ===========================**

package com.example.eventhandler

import androidx.appcompat.app.AppCompatActivity

import android.os.Bundle

import android.view.View

import android.widget.TextView

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

}

fun onClick(v: View) {

val s: String = "안녕, 안드로이드 13!"

val textView: TextView = findViewById(R.id.textView)

textView.text = s

}

}

**■ View Binding**

**===================== build.gradle.kts(Module:app) =======================**

android {

namespace = "com.example.eventhandler"

compileSdk = 33

defaultConfig {

applicationId = "com.example.eventhandler"

minSdk = 24

targetSdk = 33

versionCode = 1

versionName = "1.0"

testInstrumentationRunner = "androidx.test.runner.AndroidJUnitRunner"

}

buildFeatures {

viewBinding = true

}

buildTypes {

release {

isMinifyEnabled = false

proguardFiles(

getDefaultProguardFile("proguard-android-optimize.txt"),

"proguard-rules.pro"

)

}

}

compileOptions {

sourceCompatibility = JavaVersion.VERSION\_1\_8

targetCompatibility = JavaVersion.VERSION\_1\_8

}

kotlinOptions {

jvmTarget = "1.8"

}

}

**========================= MainActivity.kt ===========================**

package com.example.eventhandler

import android.os.Bundle

import androidx.appcompat.app.AppCompatActivity

import com.example.eventhandler.databinding.ActivityMainBinding

class MainActivity : AppCompatActivity() {

private lateinit var binding: ActivityMainBinding

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

binding = ActivityMainBinding.inflate(layoutInflater)

setContentView(binding.root)

binding.myButton.setOnClickListener {

binding.textView.text = "안녕, 안드로이드 13"

}

}

}

**■ 문자열 리소스 참조**

**========================= strings.xml ===========================**

<resources>

<string name="app\_name">My Application</string>

<string name="text\_message">안녕, 안드로이드 13!</string>

</resources>

**========================= MainActivity.kt ===========================**

package com.example.eventhandler

import android.os.Bundle

import android.widget.Button

import android.widget.TextView

import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

val textView: TextView = findViewById(R.id.textView)

val myButton: Button = findViewById(R.id.myButton)

myButton.setOnClickListener {

val s = resources.getString(R.string.text\_message)

// val s = getString(R.string.text\_message)

textView.text = s

}

}

}

**■ 잠깐! 문자열 리소스에 변수 포함**

**========================= strings.xml ===========================**

<resources>

<string name="app\_name">My Application</string>

<string name="text\_message">안녕, 안드로이드 %d!</string>

</resources>

**========================= MainActivity.kt ===========================**

class MainActivity : AppCompatActivity() {

. . . . . .

override fun onCreate(savedInstanceState: Bundle?) {

. . . . . .

myButton.setOnClickListener {

val s = getString(R.string.text\_message)

textView.text = String.format(s, 13)

}

}

}

**■ 스타일을 설정한 문자열 참조**

**========================= strings.xml ===========================**

<resources>

<string name="app\_name">My Application</string>

<string name="text\_message">안녕, <b>안드로이드 13!</b></string>

</resources>

**========================= MainActivity.kt ===========================**

package com.example.eventhandler

import android.os.Bundle

import android.widget.Button

import android.widget.TextView

import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

val textView: TextView = findViewById(R.id.textView)

val myButton: Button = findViewById(R.id.myButton)

myButton.setOnClickListener {

val s :CharSequence = getText(R.string.text\_message)

textView.text = s

}

}

}