**QUIZAPP-MATERIALAS**

**I. Gradle Scripts -> build.gradle (Module :app)**

buildFeatures **{** viewBinding true  
**}**

**II. Java**

1. **Constants (object)**

package com.example.quizapp  
  
import java.util.\*  
import kotlin.collections.ArrayList  
  
object Constants {  
 const val USER\_NAME: String = "user\_name"  
 const val TOTAL\_QUESTIONS: String = "total\_questions"  
 const val CORRECT\_ANSWERS: String = "correct\_answers"  
  
 fun getQuestions(): ArrayList<Question> {  
 val questionList = ArrayList<Question>()  
 val que1 = Question (  
 id = 1,  
 question = "What country does this flag belong to?",  
 image = R.drawable.*ic\_flag\_of\_argentina*,  
 optionOne = "Belgium",  
 optionTwo = "Denmark",  
 optionThree = "Argentina",  
 optionFour = "Germany",  
 correctAnswer = 3  
 )  
 questionList.add(que1)  
  
 val que2 = Question (  
 id = 2,  
 question = "What country does this flag belong to?",  
 image = R.drawable.*ic\_flag\_of\_australia*,  
 optionOne = "Australia",  
 optionTwo = "Brazil",  
 optionThree = "Fiji",  
 optionFour = "India",  
 correctAnswer = 1  
 )  
 questionList.add(que2)  
  
 val que3 = Question (  
 id = 3,  
 question = "What country does this flag belong to?",  
 image = R.drawable.*ic\_flag\_of\_belgium*,  
 optionOne = "India",  
 optionTwo = "Mexico",  
 optionThree = "Belgium",  
 optionFour = "Kuwait",  
 correctAnswer = 3  
 )  
 questionList.add(que3)  
  
 val que4 = Question (  
 id = 4,  
 question = "What country does this flag belong to?",  
 image = R.drawable.*ic\_flag\_of\_brazil*,  
 optionOne = "Denmark",  
 optionTwo ="Greece",  
 optionThree ="Slovenia",  
 optionFour ="Brazil",  
 correctAnswer = 4  
 )  
 questionList.add(que4)  
  
 val que5 = Question (  
 id = 5,  
 question = "What country does this flag belong to?",  
 image = R.drawable.*ic\_flag\_of\_denmark*,  
 optionOne = "Peru",  
 optionTwo = "Pakistan",  
 optionThree = "Nepal",  
 optionFour = "Denmark",  
 correctAnswer = 4  
 )  
 questionList.add(que5)  
  
  
 val que6= Question (  
 id = 6,  
 question = "What country does this flag belong to?",  
 image = R.drawable.*ic\_flag\_of\_fiji*,  
 optionOne = "Japan",  
 optionTwo = "Fiji",  
 optionThree = "North Korea",  
 optionFour = "Taiwan",  
 correctAnswer = 2  
 )  
 questionList.add(que6)  
  
 val que7 = Question (  
 id = 7,  
 question = "What country does this flag belong to?",  
 image = R.drawable.*ic\_flag\_of\_germany*,  
 optionOne = "Germany",  
 optionTwo = "Mongolia",  
 optionThree = "Malaysia",  
 optionFour = "Myanmar",  
 correctAnswer = 1  
 )  
 questionList.add(que7)  
  
 val que8 = Question (  
 id = 8,  
 question = "What country does this flag belong to?",  
 image = R.drawable.*ic\_flag\_of\_india*,  
 optionOne = "Indonesia",  
 optionTwo = "India",  
 optionThree = "Thailand",  
 optionFour = "Singapore",  
 correctAnswer = 2  
 )  
 questionList.add(que8)  
  
 val que9 = Question (  
 id = 9,  
 question = "What country does this flag belong to?",  
 image = R.drawable.*ic\_flag\_of\_kuwait*,  
 optionOne = "Hungary",  
 optionTwo = "Greece",  
 optionThree = "Angola",  
 optionFour = "Kuwait",  
 correctAnswer = 4  
 )  
 questionList.add(que9)  
  
 val que10 = Question (  
 id = 10,  
 question = "What country does this flag belong to?",  
 image = R.drawable.*ic\_flag\_of\_new\_zealand*,  
 optionOne = "Slovakia",  
 optionTwo = "Greece",  
 optionThree = "New Zealand",  
 optionFour = "Poland",  
 correctAnswer = 3  
 )  
 questionList.add(que10)  
  
 Collections.shuffle(questionList)  
 val selectedQuestions = ArrayList(questionList.subList(0, 10))  
 return selectedQuestions  
 }  
}

1. **MainActivity (class)**

package com.example.quizapp  
  
import android.content.Intent  
import androidx.appcompat.app.AppCompatActivity  
import android.os.Bundle  
import android.widget.Toast  
import com.example.quizapp.databinding.ActivityMainBinding  
  
class MainActivity : AppCompatActivity() {  
 lateinit var binding: ActivityMainBinding  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 binding = ActivityMainBinding.inflate(*layoutInflater*)  
 setContentView(binding.*root*)  
 binding.btnStart.setOnClickListener **{** if (binding.etName.*text*?.*isEmpty*() == true) {  
 Toast.makeText(this, "Please enter your name!", Toast.*LENGTH\_LONG*).show()  
 } else {  
 val intent = Intent(this, QuizActivity::class.*java*)  
 intent.putExtra(Constants.USER\_NAME, binding.etName.*text*.*toString*())  
 startActivity(intent)  
 finish()  
 }  
 **}** }  
}

1. **Question (data class)**

package com.example.quizapp  
  
data class Question(  
 val id:Int,  
 val question: String,  
 val image: Int,  
 val optionOne: String,  
 val optionTwo: String,  
 val optionThree: String,  
 val optionFour: String,  
 val correctAnswer: Int  
)

1. **QuizActivity (class)**

package com.example.quizapp  
  
import android.content.Intent  
import android.graphics.Color  
import android.graphics.Typeface  
import androidx.appcompat.app.AppCompatActivity  
import android.os.Bundle  
import android.widget.TextView  
import com.example.quizapp.databinding.ActivityQuizBinding  
  
class QuizActivity : AppCompatActivity() {  
 lateinit var binding: ActivityQuizBinding  
 private var mUsername: String? = null  
 private var mQuestionList: ArrayList<Question>? = null  
 private var mCorrectAnswers: Int = 0  
 private var mCurrentPosition: Int = 1  
 private var mSelectedOptionPosition: Int = 0  
  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 binding = ActivityQuizBinding.inflate(*layoutInflater*)  
 setContentView(binding.*root*)  
  
 mUsername = *intent*.getStringExtra(Constants.USER\_NAME)  
 mQuestionList = Constants.getQuestions()  
 binding.progressBar.*max* = mQuestionList?.size!!  
  
 setQuestion()  
 binding.tvOption1.setOnClickListener **{** mSelectedAnswer(binding.tvOption1, 1) **}** binding.tvOption2.setOnClickListener **{** mSelectedAnswer(binding.tvOption2, 2) **}** binding.tvOption3.setOnClickListener **{** mSelectedAnswer(binding.tvOption3, 3) **}** binding.tvOption4.setOnClickListener **{** mSelectedAnswer(binding.tvOption4, 4) **}** binding.btnSubmit.setOnClickListener **{** onSunmit() **}** }  
  
 private fun setQuestion() {  
 defaultOptionView()  
 val question: Question = mQuestionList!! [mCurrentPosition -1]  
 binding.progressBar.*progress* = mCurrentPosition  
 binding.tvProgressBar.*text* = "$mCurrentPosition/${binding.progressBar.*max*}"  
 binding.tvQuestion.*text* = question.question  
 binding.tvOption1.*text* = question.optionOne  
 binding.tvOption2.*text* = question.optionTwo  
 binding.tvOption3.*text* = question.optionThree  
 binding.tvOption4.*text* = question.optionFour  
 binding.ivImage.setImageResource(question.image)  
  
 if (mCurrentPosition == mQuestionList!!.size) {  
 binding.btnSubmit.*text* = "FINISH"  
 }  
 else {  
 binding.btnSubmit.*text* = "SUBMIT"  
 }  
 }  
  
 private fun mSelectedAnswer(tvOption: TextView, i: Int) {  
 defaultOptionView()  
 mSelectedOptionPosition = i  
 tvOption.setTextColor(Color.parseColor("#7a8089"))  
 tvOption.setTypeface(tvOption.*typeface*, Typeface.*BOLD*)  
 tvOption.setBackgroundResource(R.drawable.*tv\_border\_select*)  
 }  
  
 private fun answerView(selected: Int, bg: Int) {  
 when (selected) {  
 1 -> { binding.tvOption1.setBackgroundResource(bg) }  
 2 -> { binding.tvOption2.setBackgroundResource(bg) }  
 3 -> { binding.tvOption3.setBackgroundResource(bg) }  
 4 -> { binding.tvOption4.setBackgroundResource(bg) }  
 }  
 }  
  
 private fun onSunmit() {  
 if (mSelectedOptionPosition == 0) {  
 mCurrentPosition ++  
 if (mCurrentPosition <= mQuestionList!!.size) {  
 setQuestion()  
 }  
 else {  
 val intent = Intent(this, ResultActivity::class.*java*)  
 intent.putExtra(Constants.USER\_NAME, mUsername)  
 intent.putExtra(Constants.CORRECT\_ANSWERS, mCorrectAnswers)  
 intent.putExtra(Constants.TOTAL\_QUESTIONS, mQuestionList!!.size)  
 startActivity(intent)  
 finish()  
 }  
 }  
 else {  
 val question = mQuestionList?.get(mCurrentPosition -1)  
 if (question!!.correctAnswer != mSelectedOptionPosition) {  
 answerView(mSelectedOptionPosition, R.drawable.*tv\_border\_wrong*)  
 }  
 else {  
 mCorrectAnswers ++  
 }  
 answerView(question!!.correctAnswer, R.drawable.*tv\_border\_correct*)  
 if (mCurrentPosition == mQuestionList!!.size) {  
 binding.btnSubmit.*text* = "FINISH"  
 }  
 else {  
 binding.btnSubmit.*text* = "GO TO THE NEXT QUESTION"  
 }  
 mSelectedOptionPosition = 0  
 }  
 }  
  
 private fun defaultOptionView() {  
 val options = ArrayList<TextView>()  
 options.add(binding.tvOption1)  
 options.add(binding.tvOption2)  
 options.add(binding.tvOption3)  
 options.add(binding.tvOption4)  
  
 for (option in options) {  
 option.*typeface* = Typeface.*DEFAULT* option.setBackgroundResource(R.drawable.*tv\_border\_default*)  
 }  
 }  
}

1. **ResultActivity (class)**

package com.example.quizapp  
  
import android.content.Intent  
import androidx.appcompat.app.AppCompatActivity  
import android.os.Bundle  
import com.example.quizapp.databinding.ActivityResultBinding  
  
class ResultActivity : AppCompatActivity() {  
 lateinit var binding: ActivityResultBinding  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 binding = ActivityResultBinding.inflate(*layoutInflater*)  
 setContentView(binding.*root*)  
  
 val userName = *intent*.getStringExtra(Constants.USER\_NAME)  
 val totalQuestions = *intent*.getIntExtra(Constants.TOTAL\_QUESTIONS, 0)  
 val correctAnswers = *intent*.getIntExtra(Constants.CORRECT\_ANSWERS, 0)  
  
 binding.tvScore.*text* = "Your score is $correctAnswers out of $totalQuestions"  
 binding.tvUsername.*text* = userName  
 binding.btnFinish.setOnClickListener **{** startActivity(Intent(this, MainActivity::class.*java*))  
 **}** }  
}

**III. Res**

1. **Drawable**
2. **tv\_border\_select.xml (chọn)**

*<?*xml version="1.0" encoding="utf-8"*?>*<selector xmlns:android="http://schemas.android.com/apk/res/android">  
 <item>  
 <shape android:shape="rectangle">  
 <solid android:color="@android:color/white"/>  
 <corners android:radius="5dp"/>  
 <stroke android:width="1dp" android:color="#FFC107"/>  
 </shape>  
 </item>  
</selector>

1. **tv\_border\_default.xml (mặc định)**

*<?*xml version="1.0" encoding="utf-8"*?>*<selector xmlns:android="http://schemas.android.com/apk/res/android">  
 <item>  
 <shape android:shape="rectangle">  
 <solid android:color="@android:color/white"/>  
 <corners android:radius="5dp"/>  
 <stroke android:width="1dp" android:color="@color/purple\_500"/>  
 </shape>  
 </item>  
</selector>

1. **tv\_border\_correct.xml (đúng)**

*<?*xml version="1.0" encoding="utf-8"*?>*<selector xmlns:android="http://schemas.android.com/apk/res/android">  
 <item>  
 <shape android:shape="rectangle">  
 <solid android:color="#00FF0A"/>  
 <corners android:radius="5dp"/>  
 </shape>  
 </item>  
</selector>

1. **tv\_border\_wrong.xml (sai)**

*<?*xml version="1.0" encoding="utf-8"*?>*<selector xmlns:android="http://schemas.android.com/apk/res/android">  
 <item>  
 <shape android:shape="rectangle">  
 <solid android:color="@android:color/holo\_red\_light"/>  
 <corners android:radius="5dp"/>  
 </shape>  
 </item>  
</selector>

1. **Layout**
2. **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"  
 android:background="@drawable/ic\_bg"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:id="@+id/tvQuizApp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="-250dp"  
 android:text="Quiz App!"  
 android:textColor="@color/white"  
 android:textSize="26sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"/>  
  
 <com.google.android.material.card.MaterialCardView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="16dp"  
 android:layout\_marginEnd="20dp"  
 android:layout\_marginStart="20dp"  
 app:cardCornerRadius="10dp"  
 app:layout\_constraintTop\_toBottomOf="@+id/tvQuizApp">  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 android:padding="16dp">  
  
 <TextView  
 android:layout\_width ="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Welcome!"  
 android:textSize="30sp"  
 android:textStyle="bold"  
 android:gravity="center"/>  
  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="5dp"  
 android:text="Please enter your name!"  
 android:textSize="16sp"  
 android:gravity="center"/>  
  
 <com.google.android.material.textfield.TextInputLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="10dp"  
 style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">  
  
 <com.google.android.material.textfield.TextInputEditText  
 android:id="@+id/etName"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Name"  
 android:inputType="textCapWords"  
 tools:ignore="SpeakableTextPresentCheck"/>  
  
 </com.google.android.material.textfield.TextInputLayout>  
  
 <Button  
 android:id="@+id/btnStart"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="5dp"  
 android:padding="10dp"  
 android:text="START"  
 android:textStyle="bold"  
 android:textSize="16sp"/>  
  
 </LinearLayout>  
  
 </com.google.android.material.card.MaterialCardView>  
  
</androidx.constraintlayout.widget.ConstraintLayout>

1. **activity\_quiz.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<ScrollView 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:fillViewport="true"  
 tools:context=".QuizActivity">  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 android:gravity="center"  
 android:padding="16dp">  
  
 <TextView  
 android:id="@+id/tvQuestion"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="10dp"  
 android:textSize="22sp"  
 android:gravity="center"  
 tools:text="What country does this flag belong to?"/>  
  
 <ImageView  
 android:id="@+id/ivImage"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="16dp"  
 android:contentDescription="Quiz Image"  
 tools:src="@drawable/ic\_flag\_of\_argentina"/>  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:gravity="center\_vertical">  
  
 <ProgressBar  
 android:id="@+id/progressBar"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:indeterminate="false"  
 android:max="10"  
 android:progress="5"  
 android:minHeight="32dp"  
 style="@style/Widget.AppCompat.ProgressBar.Horizontal"/>  
  
 <TextView  
 android:id="@+id/tvProgressBar"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="5/10"  
 android:textSize="16sp"  
 android:padding="15dp"  
 android:gravity="center"/>  
  
 </LinearLayout>  
  
 <TextView  
 android:id="@+id/tvOption1"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="10dp"  
 tools:text="Option1"  
 android:gravity="center"  
 android:padding="15dp"  
 android:textSize="16sp"  
 android:textStyle="bold"  
 android:background="@drawable/tv\_border\_correct"/>  
  
 <TextView  
 android:id="@+id/tvOption2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="10dp"  
 tools:text="Option2"  
 android:gravity="center"  
 android:padding="15dp"  
 android:textSize="16sp"  
 android:textStyle="bold"  
 android:background="@drawable/tv\_border\_wrong"/>  
  
 <TextView  
 android:id="@+id/tvOption3"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="10dp"  
 tools:text="Option3"  
 android:gravity="center"  
 android:padding="15dp"  
 android:textSize="16sp"  
 android:textStyle="bold"  
 android:background="@drawable/tv\_border\_select"/>  
  
 <TextView  
 android:id="@+id/tvOption4"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="10dp"  
 tools:text="Option4"  
 android:gravity="center"  
 android:padding="15dp"  
 android:textSize="16sp"  
 android:textStyle="bold"  
 android:background="@drawable/tv\_border\_default"/>  
  
 <Button  
 android:id="@+id/btnSubmit"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="10dp"  
 android:text="GO TO THE NEXT QUESTION"  
 android:textStyle="bold"/>  
  
 </LinearLayout>  
</ScrollView>

1. **activity\_result.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:background="@drawable/ic\_bg"  
 android:gravity="center"  
 android:padding="16dp"  
 tools:context=".ResultActivity">  
  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Result"  
 android:textSize="26sp"  
 android:textStyle="bold"  
 android:gravity="center"  
 android:textColor="@color/white"/>  
  
 <ImageView  
 android:layout\_width="200dp"  
 android:layout\_height="250dp"  
 android:src="@drawable/ic\_trophy"/>  
  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Hey, Congratulation!"  
 android:textSize="26sp"  
 android:textStyle="bold"  
 android:gravity="center"  
 android:textColor="@color/white"  
 android:layout\_marginTop="32dp"/>  
  
 <TextView  
 android:id="@+id/tvUsername"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Username"  
 android:textSize="26sp"  
 android:textStyle="bold"  
 android:gravity="center"  
 android:textColor="@color/white"  
 android:layout\_marginTop="32dp"/>  
  
 <TextView  
 android:id="@+id/tvScore"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Your score is 3 out of 10"  
 android:textSize="26sp"  
 android:gravity="center"  
 android:textColor="#D6D6D6"  
 android:layout\_marginTop="32dp"/>  
  
 <Button  
 android:id="@+id/btnFinish"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="10dp"  
 android:backgroundTint="@color/white"  
 android:textColor="@color/black"  
 android:text="FINISH"  
 android:textSize="18sp"  
 android:textStyle="bold"  
 android:padding="12dp"/>  
  
</LinearLayout>

