



Mobile App Development 1

Study diary

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**Important general note for all weekly exercises: List all external sources you’ve used to implement the task (github, tutorialspoint, other projects, network sites, blogs etc..)**

# Week exercises 1.1

Written answers to questions  
 **Here is my Java code:**

package com.example.helloworld;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.TextView;  
  
import com.example.helloworld.R;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 }  
  
 public void StayHappy(View view) {  
 TextView textView = findViewById(R.id.*textView*);  
 textView.setText("StayHappy");  
 }  
}

**Here is my XML code:**

<?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:addStatesFromChildren="false"  
 android:background="#055173"  
 android:backgroundTint="#DD083D55"  
 android:fadeScrollbars="false"  
 android:scrollbarThumbHorizontal="@android:color/secondary\_text\_light"  
 tools:context=".MainActivity"  
 tools:visibility="visible">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginBottom="32dp"  
 android:allowUndo="false"  
 android:autoSizeTextType="none"  
 android:background="@color/white"  
 android:backgroundTint="?android:attr/textColorTertiaryInverse"  
 android:clickable="false"  
 android:fontFamily="sans-serif-smallcaps"  
 android:scrollbarStyle="outsideInset"  
 android:text="Tervetuloa"  
 android:textAlignment="center"  
 android:textColor="#123B7E"  
 android:textSize="34sp"  
 android:textStyle="italic"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.467"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.261" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="32dp"  
 android:layout\_marginTop="32dp"  
 android:layout\_marginEnd="32dp"  
 android:layout\_marginBottom="32dp"  
 android:backgroundTint="@android:color/holo\_blue\_dark"  
 android:onClick="StayHappy"  
 android:text="Click Me"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.497"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/textView"  
 app:layout\_constraintVertical\_bias="0.85"  
 tools:ignore="MissingConstraints" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**Here is my output in Virtual device:**

A close-up of a cell phone

Description automatically generated with medium confidenceA close-up of a cell phone

Description automatically generated with medium confidence

## Android Studio setup and Hello World : I faced some issue. When 1st I made some design and try to run it wasn’t run properly but then, I reinstalled android studio and try to run, after then it run properly, and I can see my emulator properly. It was quite fun to do that. I am excited to learn more about this course.

# Week excercises

**1.** What is an activity and what is the role of XML and Java files when implement--ing an GUI?

**Ans:** An activity represents a single screen with a user interface just like window of Java.

XML layout design is easy to understand as well keep application user interface separate from the application code. There are many devices in the market having different display sizes and Android provides an easier task to create UI for all using XML and keeping them separate. Also if I want to develop an multilingual application then XML is the best one

**2.** **BMI App:**

Here is my Java code of BMI-

package com.example.bmicalculator;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
  
  
public class MainActivity extends AppCompatActivity {  
 EditText height, weight;  
 Button button;  
 TextView result;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 height = findViewById(R.id.*Height*);  
 weight = findViewById(R.id.*Weight*);  
 button = findViewById(R.id.*button*);  
 result = findViewById(R.id.*result*);  
  
 }  
 public void calculatebmi(View view){  
 String h = height.getText().toString();  
 String w = weight.getText().toString();  
  
 double height = Double.*parseDouble*(h);  
 double weight = Double.*parseDouble*(w);  
 double BMI = weight / (height / 100 \* height / 100);  
  
 result.setText("Your Result = " + BMI);  
 }  
  
}

Here is my XML code-

<?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:backgroundTint="#B388FF"  
 tools:context=".MainActivity">  
  
  
 <EditText  
 android:id="@+id/Height"  
 android:layout\_width="265dp"  
 android:layout\_height="49dp"  
 android:layout\_marginTop="84dp"  
 android:background="@drawable/edit\_bg"  
 android:ems="12"  
 android:hint="Enter your Height (in cm)"  
 android:inputType="number"  
 android:minHeight="48dp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.288"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/bmicalculator"  
 tools:ignore="MissingConstraints" />  
  
 <EditText  
 android:id="@+id/Weight"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="40dp"  
 android:background="@drawable/edit\_bg"  
 android:ems="12"  
 android:hint="Enter your Weight (in kg)"  
 android:inputType="number"  
 android:minHeight="48dp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.288"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/Height" />  
  
 <TextView  
 android:id="@+id/bmicalculator"  
 android:layout\_width="178dp"  
 android:layout\_height="63dp"  
 android:layout\_marginTop="72dp"  
 android:text="BMI Calculator"  
 android:textAlignment="center"  
 android:textAllCaps="false"  
 android:textColor="#0A539A"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="233dp"  
 android:layout\_height="54dp"  
 android:background="@drawable/btn\_bg"  
 android:onClick="calculatebmi"  
 android:text="Calculate Your BMI"  
 app:layout\_constraintBottom\_toTopOf="@+id/result"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.497"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/Weight"  
 app:layout\_constraintVertical\_bias="0.638" />  
  
 <TextView  
 android:id="@+id/result"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginBottom="80dp"  
 android:textColor="#121111"  
 android:textSize="20sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.498"  
 app:layout\_constraintStart\_toStartOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>

Here is the output-

Graphical user interface, text, application, chat or text message

Description automatically generated

# 3. Creating GUI layouts with Constraint layout

Here is my Java code

# Week exercises

# Week exercises

# Week exercises

# Week exercises

# Week exercises

# Week exercises

# Week exercises

# Week exercises

# Final project (not mandatory but required for best grades)

Sources used with exercises

List here all sources you’ve used with exercises (e.g. stackoverflow, tutorialspoint, github etc.)