

## 7.Spinner

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">

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="409dp"
        android:layout_height="wrap_content"
        tools:layout_editor_absoluteX="1dp"
        tools:layout_editor_absoluteY="147dp"
        tools:ignore="MissingConstraints" />

    <ImageView
        android:id="@+id/i1"
        android:layout_width="207dp"
        android:layout_height="241dp"
        app:srcCompat="@drawable/apple"
        tools:layout_editor_absoluteX="102dp"
        tools:layout_editor_absoluteY="264dp"
        tools:ignore="MissingConstraints" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

kt:

```
package com.example.pract1
```

```

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Spinner
import android.widget.ImageView
import android.view.View
import android.widget.ArrayAdapter
import android.widget.AdapterView
import java.util.Objects

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val fruits=resources.getStringArray(R.array.fruits)
        val spinner1=findViewById<Spinner>(R.id.spinner)
        if(spinner1!=null)
        {
            val
adapter=ArrayAdapter(this,android.R.layout.simple_spinner_item,fruits)
            spinner1.adapter=adapter
            spinner1.onItemSelectedListener=object :
AdapterView.OnItemSelectedListener{
                override fun onItemSelected(
                    parent: AdapterView<*>?,
                    view: View?,
                    position: Int,
                    id: Long
                ) {
                    val i:ImageView=findViewById(R.id.i1)
                    if(fruits[position]== "apple"){
                        i.setImageResource(R.drawable.apple)
                    }
                    if(fruits[position]== "mangos"){
                        i.setImageResource(R.drawable.mangos)

```



<LinearLayout

xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

tools:context=".MainActivity">

<!--Edit text to enter course name-->

<EditText

android:id="@+id/idEdtCourseName"

android:layout\_width="match\_parent"

android:layout\_height="48dp"

android:layout\_margin="10dp"

android:hint="Enter course Name" />

<!--edit text to enter course duration-->

<EditText

android:id="@+id/idEdtCourseDuration"

android:layout\_width="match\_parent"

android:layout\_height="48dp"

android:layout\_margin="10dp"

android:hint="Enter Course Duration" />

<!--edit text to display course tracks-->

<EditText

android:id="@+id/idEdtCourseTracks"

android:layout\_width="match\_parent"

android:layout\_height="48dp"

android:layout\_margin="10dp"

android:hint="Enter Course Tracks" />

<!--edit text for course description-->

<EditText

android:id="@+id/idEdtCourseDescription"

android:layout\_width="match\_parent"

android:layout\_height="48dp"

android:layout\_margin="10dp"

android:hint="Enter Course Description" />

<!--button for adding new course-->

<Button

android:id="@+id/idBtnAddCourse"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_margin="10dp"

```
        android:text="Add Course"
        android:textAllCaps="false" />
```

```
</LinearLayout>
```

```
main activity.java
```

```
package com.example.dbstorage;
```

```
import android.os.Bundle;
```

```
import android.view.View;
```

```
import android.widget.Button;
```

```
import android.widget.EditText;
```

```
import android.widget.Toast;
```

```
import androidx.appcompat.app.AppCompatActivity;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    private EditText courseNameEdt, courseTracksEdt, courseDurationEdt,
    courseDescriptionEdt;
```

```
    private Button addCourseBtn;
```

```
    private DBHandler dbHandler;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);


// initializing all our variables.

courseNameEdt = findViewById(R.id.idEdtCourseName);
courseTracksEdt = findViewById(R.id.idEdtCourseTracks);
courseDurationEdt = findViewById(R.id.idEdtCourseDuration);
courseDescriptionEdt = findViewById(R.id.idEdtCourseDescription);
addCourseBtn = findViewById(R.id.idBtnAddCourse);


// creating a new dbhandler class
// and passing our context to it.
dbHandler = new DBHandler(MainActivity.this);


// below line is to add on click listener for our add course button.
addCourseBtn.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        // below line is to get data from all edit text fields.

        String courseName = courseNameEdt.getText().toString();

        String courseTracks = courseTracksEdt.getText().toString();

        String courseDuration = courseDurationEdt.getText().toString();
```

```
        String courseDescription =
courseDescriptionEdt.getText().toString();

        // validating if the text fields are empty or not.

        if (courseName.isEmpty() && courseTracks.isEmpty() &&
courseDuration.isEmpty() && courseDescription.isEmpty()) {

            Toast.makeText(MainActivity.this, "Please enter all the data..",
Toast.LENGTH_SHORT).show();

            return;

        }

        // on below line we are calling a method to add new
        // course to sqllite data and pass all our values to it.

        dbHandler.addNewCourse(courseName, courseDuration,
courseDescription, courseTracks);

        // after adding the data we are displaying a toast message.

        Toast.makeText(MainActivity.this, "Course has been added.",
Toast.LENGTH_SHORT).show();

        courseNameEdt.setText("");

        courseDurationEdt.setText("");

        courseTracksEdt.setText("");

        courseDescriptionEdt.setText("");

    }
}
```



```
        });  
    }  
}
```

db handler.java

```
package com.example.dbstorage;
```

```
import android.content.ContentValues;
```

```
import android.content.Context;
```

```
import android.database.sqlite.SQLiteDatabase;
```

```
import android.database.sqlite.SQLiteOpenHelper;
```

```
public class DBHandler extends SQLiteOpenHelper {
```

```
    private static final String DB_NAME = "coursed.sqlite";
```

```
    private static final int DB_VERSION = 1;
```

```
    private static final String TABLE_NAME = "coursetable";
```

```
    private static final String ID_COL = "id";
```

```
    // below variable is for our course name column
```

```
    private static final String NAME_COL = "name";
```

```
    private static final String DUR_COL="duration";
```

```
    private static final String DES_COL="description";
```

```

private static final String TRA_COL="tracks";

public DBHandler(Context context) {

    super(context, DB_NAME, null, DB_VERSION);

}

// below method is for creating a database by running a sqlite query

@Override

public void onCreate(SQLiteDatabase db) {

    // on below line we are creating

    // an sqlite query and we are

    // setting our column names

    // along with their data types.

    String query = "CREATE TABLE " + TABLE_NAME + " ("

        + ID_COL + " INTEGER PRIMARY KEY AUTOINCREMENT, "

        + NAME_COL + " TEXT , "

        + DUR_COL + " TEXT , "

        + DES_COL + " TEXT , "

        + TRA_COL + " TEXT  )";

    // at last we are calling a exec sql

    // method to execute above sql query

    db.execSQL(query);

}

```

// this method is use to add new course to our sqlite database.

```
public void addNewCourse(String courseName, String courseDuration, String  
courseDescription, String courseTracks) {
```

```
    SQLiteDatabase db = this.getWritableDatabase();
```

```
    ContentValues values = new ContentValues();
```

```
    values.put(NAME_COL, courseName);
```

```
    values.put(DUR_COL, courseDuration);
```

```
    values.put(DES_COL, courseDescription);
```

```
    values.put(TRA_COL, courseTracks);
```

```
    db.insert(TABLE_NAME, null, values);
```

```
    db.close();
```

```
}
```

@Override

```
public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
```

```
    // this method is called to check if the table exists already.
```

```
    db.execSQL("DROP TABLE IF EXISTS " + TABLE_NAME);
```

```
        onCreate(db);  
    }  
}
```

**output:**Start app>Go to App Insection>apply lock>click on database name>run the app>check the column

### 10.a).Rolling Die with image

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">  
  
    <TextView  
        android:id="@+id/t1"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:text="" />  
  
    <Button  
        android:id="@+id/b1"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:text="Roll" />  
  
    <ImageView  
        android:id="@+id/i1"
```

```
    android:layout_width="match_parent"
    android:layout_height="174dp"
    app:srcCompat="@drawable/d1" />
```

```
</LinearLayout>
```

kt:

```
package com.example.pract2

import android.annotation.SuppressLint
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.ImageView
import android.widget.TextView
import org.w3c.dom.Text

class MainActivity : AppCompatActivity() {
    @SuppressLint("MissingInflatedId")
    override fun onCreate(savedInstanceState: Bundle?) {
        var images=
arrayOf(R.drawable.d1,R.drawable.d2,R.drawable.d3,R.drawable.d4,R.drawable.d
5,R.drawable.d6)
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        var resbtn:Button = findViewById(R.id.b1)
        resbtn.setOnClickListener { rollDie() }
    }
    private fun rollDie()
    {
        var dice=Dice(6)
        val diceroll=dice.roll()
        val tv:TextView=findViewById(R.id.t1)
        val img:ImageView=findViewById(R.id.i1)
```

```
        var images=
        arrayOf(R.drawable.d1,R.drawable.d2,R.drawable.d3,R.drawable.d4,R.drawable.d
        5,R.drawable.d6)
        val a=diceroll.toString()
        if(a=="1")
        {
            tv.text="one"
            img.setImageResource(images[0])
        }
        if(a=="2")
        {
            tv.text="two"
            img.setImageResource(images[1])
        }
        if(a=="3")
        {
            tv.text="three"
            img.setImageResource(images[2])
        }
        if(a=="4")
        {
            tv.text="four"
            img.setImageResource(images[3])
        }
        if(a=="5")
        {
            tv.text="five"
            img.setImageResource(images[4])
        }
        if(a=="6")
        {
            tv.text="six"
            img.setImageResource(images[5])
        }
    }
```

```

class Dice(private val numSides: Number)
{
    fun roll() : Int
    {
        return (1..numSides as Int).random()
    }
}

```

## 11a.Calculator

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">

    <LinearLayout

        android:layout_width="408dp"
        android:layout_height="624dp"
        android:gravity="center"
        android:orientation="vertical"

```

```
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
tools:ignore="MissingConstraints"
tools:layout_editor_absoluteY="36dp">
```

```
<TextView
```

```
    android:id="@+id/expression"
    android:layout_width="100dp"
    android:layout_height="100dp"
    android:textSize="24sp"
    android:gravity="center"
    android:orientation="horizontal" />
```

```
<LinearLayout
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal">
```

```
<TextView
```

```
    android:id="@+id/result"
    android:layout_width="212dp"
    android:layout_height="100dp"
    android:gravity="center"
```



```
android:textSize="24sp" />
```

```
<TextView
```

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

```
    android:layout_width="192dp"
```

```
    android:layout_height="100dp"
```

```
    android:gravity="center"
```

```
    android:text="C"
```

```
    android:textSize="24sp" />
```

```
</LinearLayout>
```

```
<LinearLayout
```

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

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

```
    android:orientation="horizontal">
```

```
<TextView
```

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

```
    android:layout_width="100dp"
```

```
    android:layout_height="100dp"
```

```
    android:textSize="24sp"
```

```
    android:text="1"
```

```
android:gravity="center"/>
```

```
<TextView
```

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

```
    android:layout_width="100dp"
```

```
    android:layout_height="100dp"
```

```
    android:textSize="24sp"
```

```
    android:text="2"
```

```
    android:gravity="center"/>
```

```
<TextView
```

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

```
    android:layout_width="100dp"
```

```
    android:layout_height="100dp"
```

```
    android:textSize="24sp"
```

```
    android:gravity="center"
```

```
    android:text="3" />
```

```
<TextView
```

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

```
    android:layout_width="100dp"
```

```
    android:layout_height="100dp"
```

```
    android:textSize="24sp"
```

```
        android:gravity="center"
```

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

```
</LinearLayout>
```

```
<LinearLayout
```

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

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

```
    android:orientation="horizontal">
```

```
    <TextView
```

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

```
        android:layout_width="100dp"
```

```
        android:layout_height="100dp"
```

```
        android:textSize="24sp"
```

```
        android:gravity="center"
```

```
        android:text="4" />
```

```
    <TextView
```

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

```
        android:layout_width="100dp"
```

```
        android:layout_height="100dp"
```

```
        android:textSize="24sp"
```

```
android:gravity="center"
```

```
android:text="5" />
```

```
<TextView
```

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

```
    android:layout_width="100dp"
```

```
    android:layout_height="100dp"
```

```
    android:textSize="24sp"
```

```
    android:gravity="center"
```

```
    android:text="6" />
```

```
<TextView
```

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

```
    android:layout_width="100dp"
```

```
    android:layout_height="100dp"
```

```
    android:textSize="24sp"
```

```
    android:gravity="center"
```

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

```
</LinearLayout>
```

```
<LinearLayout
```

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

```
android:layout_height="wrap_content"  
android:orientation="horizontal">
```

```
<TextView  
    android:id="@+id/seven"  
    android:layout_width="100dp"  
    android:layout_height="100dp"  
    android:textSize="24sp"  
    android:gravity="center"  
    android:text="7" />
```

```
<TextView  
    android:id="@+id/eight"  
    android:layout_width="100dp"  
    android:layout_height="100dp"  
    android:textSize="24sp"  
    android:gravity="center"  
    android:text="8" />
```

```
<TextView  
    android:id="@+id/nine"  
    android:layout_width="100dp"  
    android:layout_height="100dp"
```

```
        android:textSize="24sp"
        android:gravity="center"
        android:text="9" />
```

```
<TextView
```

```
    android:id="@+id/addition"
    android:layout_width="100dp"
    android:layout_height="100dp"
    android:textSize="24sp"
    android:gravity="center"
    android:text="+" />
```

```
</LinearLayout>
```

```
<LinearLayout
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal">
```

```
<TextView
```

```
    android:id="@+id/subtraction"
    android:layout_width="100dp"
    android:layout_height="100dp"
```

```
android:textSize="24sp"  
android:gravity="center"  
android:text="-" />
```

<TextView

```
android:id="@+id/per"  
android:layout_width="100dp"  
android:layout_height="100dp"  
android:textSize="24sp"  
android:gravity="center"  
android:text="%" />
```

<TextView

```
android:id="@+id/zero"  
android:layout_width="100dp"  
android:layout_height="100dp"  
android:textSize="24sp"  
android:gravity="center"  
android:text="0" />
```

<TextView

```
android:id="@+id/equalss"  
android:layout_width="100dp"
```

```
        android:layout_height="100dp"
        android:textSize="24sp"
        android:gravity="center"
        android:text="=" />
```

```
</LinearLayout>
```

```
</LinearLayout>
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

```
kt:
```

```
package com.example.calculator
```

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

```
import android.os.Bundle
```

```
import android.widget.TextView
```

```
import net.objecthunter.exp4j.ExpressionBuilder
```

```
class MainActivity : AppCompatActivity() {
```

```
    private lateinit var zero:TextView
```

```
    private lateinit var one:TextView
```

```
    private lateinit var two:TextView
```



```
private lateinit var three:TextView
private lateinit var four:TextView
private lateinit var five:TextView
private lateinit var six:TextView
private lateinit var seven:TextView
private lateinit var eight:TextView
private lateinit var nine:TextView
private lateinit var addition:TextView
private lateinit var subtraction:TextView
private lateinit var division:TextView
private lateinit var multiplication:TextView
private lateinit var result:TextView
private lateinit var expression:TextView
private lateinit var clear:TextView
private lateinit var equalss:TextView
private lateinit var per:TextView
```

```
override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.activity_main)
    zero=findViewById(R.id.zero)
    zero.setOnClickListener{
```

```
        pressButton("0",true)
    }
    one=findViewById(R.id.one)
    one.setOnClickListener{
        pressButton("1",true)
    }
    two=findViewById(R.id.two)
    two.setOnClickListener{
        pressButton("2",true)
    }
    three=findViewById(R.id.three)
    three.setOnClickListener{
        pressButton("3",true)
    }
    four=findViewById(R.id.four)
    four.setOnClickListener{
        pressButton("4",true)
    }
    five=findViewById(R.id.five)
    five.setOnClickListener{
        pressButton("5",true)
    }
    six=findViewById(R.id.six)
```

```
six.setOnClickListener{
    pressButton("6",true)
}

seven=findViewById(R.id.seven)
seven.setOnClickListener{
    pressButton("7",true)
}

eight=findViewById(R.id.eight)
eight.setOnClickListener{
    pressButton("8",true)
}

nine=findViewById(R.id.nine)
nine.setOnClickListener{
    pressButton("9",true)
}

addition=findViewById(R.id.addition)
addition.setOnClickListener{
    pressButton("+",true)
}

subtraction=findViewById(R.id.subtraction)
subtraction.setOnClickListener{
    pressButton("-",true)
}
```

```
division=findViewById(R.id.division)
division.setOnClickListener{
    pressButton("/",true)
}
multiplication=findViewById(R.id.multiplication)
multiplication.setOnClickListener{
    pressButton("*",true)
}
per=findViewById(R.id.per)
per.setOnClickListener{
    pressButton("%",true)
}
result=findViewById(R.id.result)
expression=findViewById(R.id.expression)
clear=findViewById(R.id.clear)
clear.setOnClickListener{
    result.text=""
    expression.text=""
}
equalss=findViewById(R.id.equalss)
equalss.setOnClickListener{
    val text=expression.text.toString()
    val expression=ExpressionBuilder(text).build()
```

```

        val expResult=expression.evaluate()
        val longResult=expResult.toLong()
        if(expResult==longResult.toDouble()){
            result.text=longResult.toString()
        }
        else{
            result.text=result.toString()
        }
    }
}

```

```

fun pressButton(string: String, clear: Boolean) {
    if(clear){
        result.text=""
        expression.append(string)
    }
    else{
        expression.append(result.text)
        expression.append(string)
        result.text=""
    }
}
}

```

## 1.sleeptracker

### ACTIVITY\_MAIN.XML

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <!--Text view to Display Sleep Tracker-->
    <TextView
        android:id="@+id/SleepTracker"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

    <!--Edit text to enter Present time-->

    <!--button for starting-->

    <EditText
        android:id="@+id/TimeView"
        android:layout_width="wrap_content"
        android:layout_height="48dp"
        android:layout_margin="10dp"
        android:hint="Present Time" />

    <Button
        android:id="@+id/StartBtn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:text="START"
        android:textAllCaps="false" />
```

```
<!--button for stopping-->
<Button
    android:id="@+id/StopBtn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="STOP"
    android:textAllCaps="false" />

</LinearLayout>
```

## MAINACTIVITY.JAVA

```
package com.example.sleeptracker;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Date;
import java.util.Locale;
import java.util.Calendar;

public class MainActivity extends AppCompatActivity {

    private TextView SleepTracker;
    private EditText TimeView;
    private Button StartBtn, StopBtn;

    private Date startTime;
```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    SleepTracker = findViewById(R.id.SleepTracker);
    TimeView = findViewById(R.id.TimeView);
    StartBtn = findViewById(R.id.StartBtn);
    StopBtn = findViewById(R.id.StopBtn);

    StartBtn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            startTime = Calendar.getInstance().getTime();
            TimeView.setText(formatTime(startTime));
            Toast.makeText(MainActivity.this, "Timer Started",
Toast.LENGTH_SHORT).show();
        }
    });

    StopBtn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Date endTime = Calendar.getInstance().getTime();
            TimeView.setText(formatTime(endTime));

            // Calculate the duration
            long durationMillis = endTime.getTime() - startTime.getTime();
            String duration = formatDuration(durationMillis);
            // System.out.println(duration);
            Toast.makeText(MainActivity.this, "Duration: " + duration,
Toast.LENGTH_SHORT).show();
            Intent intent = new Intent(MainActivity.this, HomeActivity.class);

            // Pass the duration as an extra
            intent.putExtra("DURATION_EXTRA", duration);

            // Start the NextActivity
            startActivity(intent);

```



```

        // Clear the TimeView
        TimeView.setText("");
    }
});
}

// Helper method to format Date to a string
private String formatTime(Date date) {
    SimpleDateFormat sdf = new SimpleDateFormat("HH:mm:ss",
Locale.getDefault());
    return sdf.format(date);
}

// Helper method to format duration from milliseconds to HH:mm:ss
private String formatDuration(long durationMillis) {
    long seconds = durationMillis / 1000;
    long minutes = seconds / 60;
    long hours = minutes / 60;

    return String.format(Locale.getDefault(), "%02d:%02d:%02d", hours,
minutes % 60, seconds % 60);
}
}

```

## ACTIVITY\_HOME.XML

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="vertical"
    tools:context=".HomeActivity">

    <!--Text view to Display Sleep Tracker-->
    <TextView
        android:id="@+id/Screen2"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="User slept time is " />

<!--Edit text to Display Duration-->
<EditText
    android:id="@+id/TimeView"
    android:layout_width="wrap_content"
    android:layout_height="48dp"
    android:layout_margin="10dp"
    android:hint="Time Slept" />

<!--button for saving-->
<Button
    android:id="@+id/SaveBtn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="SAVE"
    android:textAllCaps="false" />

</LinearLayout>

```

## HomeActivity.java

```

package com.example.sleeptracker;
import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

import java.io.File;
import java.io.FileWriter;

```

```

public class HomeActivity extends AppCompatActivity {

    private TextView Screen2;

    private EditText TimeView;
    private Button SaveBtn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_home);

        // initializing all our variables.
        Screen2 = findViewById(R.id.Screen2);
        TimeView = findViewById(R.id.TimeView);
        SaveBtn = findViewById(R.id.SaveBtn);
        // Retrieve the duration from the Intent
        String duration1 = getIntent().getStringExtra("DURATION_EXTRA");
        System.out.println(duration1);
        // Set the duration in the EditText
        TimeView.setText(duration1);
        // below line is to add on click listener for our add course button.
        SaveBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if(!TimeView.getText().toString().isEmpty()){
                    File file =new File(HomeActivity.this.getFilesDir(),"text");
                    if(!file.exists()){
                        file.mkdir();
                    }
                    try {
                        File gpxfile=new File(file,"qwertyuiop");
                        FileWriter writer=new FileWriter(gpxfile);
                        writer.append(TimeView.getText().toString());
                        writer.flush();
                        writer.close();
                        Toast.makeText(HomeActivity.this,"Saved your
Text",Toast.LENGTH_LONG).show();
                    }
                    catch (Exception e){ }
                }
            }
        });
    }
}

```

```

    }
    // validating if the text fields are empty or not.
    if (duration1.isEmpty()) {
        Toast.makeText(HomeActivity.this, "Please enter all the data..",
Toast.LENGTH_SHORT).show();
        return;
    }

    // on below line we are calling a method to add new
    // course to sqlite data and pass all our values to it.
    //dbHandler.addNewDuration(duration);

    // after adding the data we are displaying a toast message.
    Toast.makeText(HomeActivity.this, "Duration has been added.",
Toast.LENGTH_SHORT).show();
    TimeView.setText("");
    }
    });
}
}
}

```

manifest

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:supportsRtl="true"
        android:theme="@style/Theme.Sleeptracker"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">

```

```

        <intent-filter>
            <action android:name="android.intent.action.MAIN" />

            <category android:name="android.intent.category.LAUNCHER"
/>

        </intent-filter>
    </activity>
    <activity
        android:name=".HomeActivity"
        android:exported="true">
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />

            <category android:name="android.intent.category.LAUNCHER"
/>

        </intent-filter>
    </activity>
</application>

</manifest>

```

## 5.Affirmation

activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textViewCSEA"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="CSEA"

```

```

        android:clickable="true"
        android:focusable="true"
        android:onClick="showDetails" />

<TextView
    android:id="@+id/textViewCSEB"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="CSEB"
    android:clickable="true"
    android:focusable="true"
    android:onClick="showDetails" />
</LinearLayout>

```

mainactivity.kt

```

package com.example.intentcse
import android.content.Intent
import android.os.Bundle
import android.view.View
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)
    }

    fun showDetails(view: View) {
        val itemName = (view as TextView).text.toString()

        val intent = Intent(this, DetailsActivity::class.java)
        intent.putExtra("itemName", itemName)
        startActivity(intent)
    }
}

```

activity\_details

```
<?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:padding="16dp">

    <TextView
        android:id="@+id/detailsTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true" />

    <ImageView
        android:id="@+id/detailsImageView"
        android:layout_width="200dp"
        android:layout_height="200dp"
        android:layout_below="@id/detailsTextView"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp"
        android:visibility="gone" />

</RelativeLayout>
```

Detailsactivity.java

```
package com.example.intentcse

import android.annotation.SuppressLint
import android.os.Bundle
import android.widget.ImageView
import android.widget.TextView
import androidx.appcompat.app.AppCompatActivity
import android.view.View

class DetailsActivity : AppCompatActivity() {

    @SuppressLint("MissingInflatedId")
```

```

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

    val itemName = intent.getStringExtra("itemName")
    val detailsTextView = findViewById<TextView>(R.id.detailsTextView)
    val detailsImageView =
findViewById<ImageView>(R.id.detailsImageView)

    val details = "Details for $itemName"
    if(itemName=="CSEA") {
        val imageResource = R.drawable.sample_image1
        detailsTextView.text = details
        detailsImageView.setImageResource(imageResource)
        detailsImageView.visibility = View.VISIBLE
    }
    else{
        val imageResource = R.drawable.sample_image2
        detailsTextView.text = details
        detailsImageView.setImageResource(imageResource)
        detailsImageView.visibility = View.VISIBLE
    }
}
}

```

## 11b.Dwellings

```
import kotlin.math.PI
```

```

fun main() {
    val squareCabin = SquareCabin(6, 50.0)
    val roundHut = RoundHut(3, 10.0)
    val roundTower = RoundTower(4, 15.5)

    with(squareCabin) {
        println("\nSquare Cabin\n=====")
        println("Floor area: ${floorArea()}")
    }
}

```



```

with(roundHut) {
    println("\nRound Hut\n=====")
    println("Floor area: ${floorArea()}")
}

with(roundTower) {
    println("\nRound Tower\n=====")
    println("Floor area: ${floorArea()}")
}
}

abstract class Dwelling(private var residents: Int) {
    abstract fun floorArea(): Double
}

class SquareCabin(residents: Int, val length: Double) : Dwelling(residents) {
    override fun floorArea(): Double {
        return length * length
    }
}

open class RoundHut(
    residents: Int, val radius: Double) : Dwelling(residents) {
    override fun floorArea(): Double {
        return PI * radius * radius
    }
}

class RoundTower(
    residents: Int,
    radius: Double,
    val floors: Int = 2) : RoundHut(residents, radius) {
    override fun floorArea(): Double {
        return super.floorArea() * floors
    }
}

```

## 10b.Getters:

```

class Company{

    var name:String=""
    var clg:String=""
    get()=field
    set(value){
        field=value
    }
}

```

```

fun main(args:Array<String>) {
    val c=Company()
    c.name="Niklaus mikealson"
    c.clg="caroline institutes"
    println(c.name)
    println(c.clg)
}

```

## 8.Student details disable button

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"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login Application"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/username"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:height="50dp"
        android:hint="Enter Username" />

    <EditText
        android:id="@+id/email"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:height="50dp"
        android:hint="Enter EmailID" />

    <EditText
        android:id="@+id/password"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:height="50dp"
        android:hint="Enter password" />

    <Button
        android:id="@+id/login"

```

```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Login" />
</LinearLayout>
```

## mainactivity.kt

```
package com.example.logindispbtn

import android.R.attr.button
import android.os.Bundle
import android.text.Editable
import android.text.TextWatcher
import android.widget.Button
import android.widget.EditText
import android.widget.Toast
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity()
{
    private lateinit var userET:EditText
    private lateinit var emailET:EditText
    private lateinit var passET:EditText
    private lateinit var loginbtn:Button
    override fun onCreate(savedInstanceState: Bundle?)
    {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        userET=findViewById(R.id.username)
        emailET=findViewById(R.id.email)
        passET=findViewById(R.id.password)
        loginbtn=findViewById(R.id.login)

        loginbtn.setEnabled(false)
        emailET.addTextChangedListener(LoginWatcher);
        passET.addTextChangedListener(LoginWatcher);

        loginbtn.setOnClickListener {
            val user=userET.text.toString()
            val mail=emailET.text.toString()
            val pass=passET.text.toString()

            if(user.equals("manasa") && mail.equals("manasa@gmail.com") && pass.equals("1234"))
            {
                loginbtn.setEnabled(true)
                Toast.makeText(this,"login successful",Toast.LENGTH_LONG).show()
            }
            else
            {
                loginbtn.setEnabled(false)
                Toast.makeText(this,"login unsuccessful",Toast.LENGTH_LONG).show()
            }
        }
    }
}
```

```

    }

}

var LoginWatcher: TextWatcher = object : TextWatcher {
    override fun beforeTextChanged(charSequence: CharSequence, i: Int, i1: Int, i2: Int) {}

    override fun onTextChanged(charSequence: CharSequence, i: Int, i1: Int, i2: Int)
    {
        val userName: String = emailET.getText().toString()
        val userPass: String = passET.getText().toString()
        val userMail: String = emailET.getText().toString()
        loginbtn.setEnabled(!userName.isEmpty() && !userPass.isEmpty() && !userMail.isEmpty())
    }

    override fun afterTextChanged(editable: Editable) {}
}
}

```

### 3. Image navigation

#### activity.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">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="162dp"
        android:layout_height="159dp"
        android:layout_marginBottom="32dp"
        app:layout_constraintBottom_toTopOf="@+id/imageView3"
        app:srcCompat="@drawable/apple"
        tools:ignore="MissingConstraints"
        tools:layout_editor_absoluteX="-2dp" />

    <ImageView
        android:id="@+id/imageView3"
        android:layout_width="158dp"
        android:layout_height="178dp"
        android:layout_marginStart="8dp"
        android:layout_marginBottom="328dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:srcCompat="@drawable/banana" />

```

```

<ImageView
    android:id="@+id/imageView4"
    android:layout_width="192dp"
    android:layout_height="170dp"
    android:layout_marginEnd="4dp"
    android:layout_marginBottom="328dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:srcCompat="@drawable/screenshot__5_" />
<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="160dp"
    android:layout_marginTop="112dp"
    android:text="select"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/imageView4"
    tools:ignore="MissingConstraints" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

## mainactivity

```

package com.example.imagenavig
import android.annotation.SuppressLint
import android.media.Image
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.ImageView
import android.content.Intent

class MainActivity : AppCompatActivity()
{
    private lateinit var img1:ImageView
    private lateinit var img2:ImageView
    private lateinit var img3:ImageView
    private lateinit var img4:ImageView
    private lateinit var sel:Button
    @SuppressLint("MissingInflatedId")
    override fun onCreate(savedInstanceState: Bundle?)
    {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        img1=findViewById(R.id.imageView)
        img3=findViewById(R.id.imageView3)
        img4=findViewById(R.id.imageView4)

        sel=findViewById(R.id.button)
        var des:String?=null;
        var imgs=R.drawable.mangos;

        img1.setOnClickListener()
    }
}

```

```

        {
            des="mango"
            imgs=R.drawable.mangos
        }

        img3.setOnClickListener()
        {
            des="grape"
            imgs=R.drawable.apple
        }

        img4.setOnClickListener()
        {
            des="banana"
            imgs=R.drawable.banana
        }

        sel.setOnClickListener()
        {
            val intent=Intent(this,HomeActivity::class.java)
            intent.putExtra("imgs",imgs);
            intent.putExtra("description",des);
            startActivity(intent);
        }
    }
}

```

## activity\_home.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">

    <EditText
        android:id="@+id/result"
        android:layout_width="409dp"
        android:layout_height="57dp"
        android:layout_marginTop="404dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <ImageView
        android:id="@+id/image"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        app:srcCompat="@drawable/ic_launcher_foreground"
        tools:layout_editor_absoluteX="151dp"

```

```
tools:layout_editor_absoluteY="226dp"
tools:ignore="MissingConstraints" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

## homeactivity

```
package com.example.imagenavig

import android.os.Bundle
import android.widget.EditText
import android.widget.TextView
import android.content.Intent
import android.widget.ImageView
import androidx.appcompat.app.AppCompatActivity
import com.example.imagenavig.R

class HomeActivity: AppCompatActivity()
{
    private lateinit var result:EditText
    private lateinit var img:ImageView

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

        result=findViewById(R.id.result)
        img=findViewById(R.id.image)
        val intent:Intent=intent

        val description=intent.getStringExtra("description");
        val imageId = intent.getIntExtra("imgs",0);
        img.setImageResource(imageId)

        result.setText(description);
    }
}
```

## 9.URL within application

### mainactivity.kt

```
package com.example.numapp

import android.os.Bundle
import android.textEditable
import android.text.TextWatcher
```

```

import android.webkit.WebView
import android.widget.Button
import android.widget.EditText
import android.widget.TextView
import androidx.appcompat.app.AppCompatActivity
import android.webkit.WebViewClient

class MainActivity : AppCompatActivity() {
    private lateinit var numET:EditText
    private lateinit var wordbtn:Button
    private lateinit var resV:TextView
    private lateinit var urlbtn:Button
    private lateinit var webv: WebView
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        numET=findViewById(R.id.num)
        wordbtn=findViewById(R.id.words)
        resV=findViewById(R.id.res)
        urlbtn=findViewById(R.id.url)
        webv=findViewById(R.id.web)
        wordbtn.setOnClickListener {
            val num1=numET.text.toString()
            if(num1.isNotEmpty()) {
                val inum = num1.toInt();
                val
                words=arrayOf("Zero","One","Two","Three","Four","Five","Six","Seven","Eight","Nine")
                if (inum >= 0 && inum < words.size)
                {
                    val textRep = words[inum]
                    resV.setText(textRep)
                }
                else
                {
                    resV.setText("Number out of range")
                }
            }
            urlbtn.setOnClickListener {
                webv.settings.javaScriptEnabled = true
            }
        }
    }
}

```



```

        webv.loadUrl("https://www.google.com")
        webv.webViewClient = WebViewClient()
    }
}

```

## 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">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="NumberApp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/num"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:height="50dp"
        android:hint="Number" />

    <Button
        android:id="@+id/words"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Words" />

    <TextView

```

```
    android:id="@+id/res"
    android:layout_width="match_parent"
    android:layout_height="53dp"
    android:height="500dp"
    tools:visibility="visible" />
```

```
<Button
    android:id="@+id/url"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="URL" />
```

```
<WebView
    android:id="@+id/web"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_weight="1">
```

```
</WebView>
```

```
</LinearLayout>
```

## 2.RealEstate

-----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">
```

```
    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="REAL ESTATES"
```

```

        android:textAlignment="center"
        android:textSize="34sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.275" />

```

```

<Button
    android:id="@+id/b1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="visit now"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.412"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName"
    app:layout_constraintVertical_bias="0.269" />

```

```

</androidx.constraintlayout.widget.ConstraintLayout>

```

```

-----MainActivity.kt-----

```

```

package com.example.business

```

```

import androidx.appcompat.app.AppCompatActivity

```

```

import android.os.Bundle

```

```

import android.content.Intent

```

```

import android.widget.Button

```

```

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val checkout=findViewById<Button>(R.id.b1)
        checkout.setOnClickListener{
            val intent = Intent(this,MainActivity2::class.java)
            startActivity(intent)
        }
    }
}

```

```

-----
activity_main2.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=".MainActivity2">
```

```
<EditText
    android:id="@+id/editTextTextPersonName2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Welcome "
    android:textAlignment="center"
    android:textSize="34sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.573"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.076" />
```

```
<ImageButton
    android:id="@+id/ib1"
    android:layout_width="181dp"
    android:layout_height="142dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.116"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.283"
    app:srcCompat="@drawable/r3" />
```

```
<ImageButton
    android:id="@+id/ib2"
    android:layout_width="181dp"
    android:layout_height="141dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.588"
    app:layout_constraintStart_toEndOf="@+id/ib1"
```

```
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.282"
app:srcCompat="@drawable/r4" />
```

```
<ImageButton
    android:id="@+id/ib3"
    android:layout_width="181dp"
    android:layout_height="141dp"
    android:layout_marginStart="32dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/ib1"
    app:layout_constraintVertical_bias="0.1"
    app:srcCompat="@drawable/r5" />
```

```
<ImageButton
    android:id="@+id/ib4"
    android:layout_width="181dp"
    android:layout_height="141dp"
    android:layout_marginStart="8dp"
    android:layout_marginTop="28dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.562"
    app:layout_constraintStart_toEndOf="@+id/ib3"
    app:layout_constraintTop_toBottomOf="@+id/ib2"
    app:layout_constraintVertical_bias="0.031"
    app:srcCompat="@drawable/r2" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

-----  
MainActivity2.kt

```
package com.example.business
```

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

```
class MainActivity2 : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main2)
        val visitnow=findViewById<ImageButton>(R.id.ib1)
```

```

visitnow.setOnClickListener{
    val intent = Intent(this,MainActivity3::class.java)
    startActivity(intent)
}
val visitnow1=findViewById<ImageButton>(R.id.ib2)
visitnow1.setOnClickListener{
    val intent = Intent(this,MainActivity4::class.java)
    startActivity(intent)
}
val visitnow2=findViewById<ImageButton>(R.id.ib3)
visitnow2.setOnClickListener{
    val intent = Intent(this,MainActivity5::class.java)
    startActivity(intent)
}
val visitnow3=findViewById<ImageButton>(R.id.ib4)
visitnow3.setOnClickListener{
    val intent = Intent(this,MainActivity6::class.java)
    startActivity(intent)
}
}
}

```

---

activity\_main3.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=".MainActivity3">

<ImageView
    android:id="@+id/imageView"
    android:layout_width="528dp"
    android:layout_height="286dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.543"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.328"
    app:srcCompat="@drawable/r3" />

<EditText
    android:id="@+id/editTextTextPersonName3"

```

```
    android:layout_width="413dp"
    android:layout_height="109dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Rs. 25 lakhs"
    android:textAlignment="center"
    android:textSize="48sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.54"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/imageView"
    app:layout_constraintVertical_bias="0.072" />
```

```
<EditText
```

```
    android:id="@+id/editTextTextPersonName4"
    android:layout_width="548dp"
    android:layout_height="146dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="250 square yards"
    android:textAlignment="center"
    android:textSize="48sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.653"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName3"
    app:layout_constraintVertical_bias="0.098" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

---

```
MainActivity3.kt
```

```
package com.example.business
```

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

```
class MainActivity3 : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main3)
    }
}
```

---

```
activity_main4.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=".MainActivity3">
```

```
<ImageView
    android:id="@+id/imageView"
    android:layout_width="573dp"
    android:layout_height="305dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.15"
    app:srcCompat="@drawable/r4" />
```

```
<EditText
    android:id="@+id/editTextTextPersonName3"
    android:layout_width="413dp"
    android:layout_height="109dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Rs. 25 lakhs"
    android:textAlignment="center"
    android:textSize="48sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.635" />
```

```
<EditText
    android:id="@+id/editTextTextPersonName4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="250 square yards"
    android:textAlignment="center"
    android:textSize="48sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
```



```
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.78" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

---

MainActivity4.kt

```
package com.example.business
```

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

```
class MainActivity4 : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main4)
    }
}
```

---

activity\_main5.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=".MainActivity5">
```

```
    <ImageView
        android:id="@+id/imageView2"
        android:layout_width="258dp"
        android:layout_height="176dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.496"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.297"
        app:srcCompat="@drawable/r5" />
```

```
    <EditText
        android:id="@+id/editTextTextPersonName5"
        android:layout_width="303dp"
        android:layout_height="63dp"
        android:ems="10"
```

```

        android:inputType="textPersonName"
        android:text="Rs. 1.5 crore"
        android:textAlignment="center"
        android:textSize="34sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.562"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.572" />

```

```
<EditText
```

```

        android:id="@+id/editTextTextPersonName6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="560 Square Yards"
        android:textAlignment="center"
        android:textSize="34sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.616"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.698" />

```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

---

```
MainActivity5.kt
```

```
package com.example.business
```

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

```

class MainActivity5 : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main5)
    }
}

```

---

```
activity_main6.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=".MainActivity6">
```

```
<ImageView
    android:id="@+id/imageView3"
    android:layout_width="299dp"
    android:layout_height="166dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.678"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.251"
    app:srcCompat="@drawable/r2" />
```

```
<EditText
    android:id="@+id/editTextTextPersonName7"
    android:layout_width="319dp"
    android:layout_height="77dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Rs. 98 lakhs"
    android:textAlignment="center"
    android:textSize="34sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
    android:id="@+id/editTextTextPersonName8"
    android:layout_width="349dp"
    android:layout_height="73dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="800 Square yards"
    android:textAlignment="center"
    android:textSize="34sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.661" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

-----  
MainActivity6.kt

```
package com.example.business
```

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

```
import android.os.Bundle
```

```
class MainActivity6 : AppCompatActivity() {  
    override fun onCreate(savedInstanceState: Bundle?) {  
        super.onCreate(savedInstanceState)  
        setContentView(R.layout.activity_main6)  
    }  
}
```

4.cupcake

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"  
    tools:context=".MainActivity">  
    <Spinner  
        android:id="@+id/cakespin"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_marginStart="16dp"  
        android:layout_marginTop="16dp"  
        android:layout_marginEnd="16dp"  
        android:minHeight="48dp"  
        android:spinnerMode="dropdown"  
        tools:ignore="SpeakableTextPresentCheck" />  
    <EditText  
        android:id="@+id/qnty"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_below="@id/cakespin"  
        android:layout_marginStart="16dp"  
        android:layout_marginTop="16dp"  
        android:layout_marginEnd="16dp"  
        android:hint="Quantity"  
        android:inputType="number"
```

```

        android:minHeight="48dp" />
<EditText
    android:id="@+id/price"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/qnty"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Price"
    android:inputType="numberDecimal"
    android:minHeight="48dp" />
<Button
    android:id="@+id/pob"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/price"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="16dp"
    android:text="Place Order" />
</LinearLayout>

```

MainActivity.kt

```

package com.example.cakee
import android.content.Intent
import android.os.Bundle
import android.view.View
import android.widget.AdapterView
import android.widget.AdapterView.OnItemClickListener
import android.widget.ArrayAdapter
import android.widget.Button
import android.widget.EditText
import android.widget.Spinner
import androidx.appcompat.app.AppCompatActivity
class MainActivity : AppCompatActivity() {
    private lateinit var cakespin: Spinner
    private lateinit var qnty: EditText
    private lateinit var price: EditText
    private lateinit var pob: Button
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        cakespin = findViewById(R.id.cakespin)
        qnty= findViewById(R.id.qnty)
        price = findViewById(R.id.price)
        pob= findViewById(R.id.pob)
        val cakeTypes = listOf("Chocii Cake", "Vanilla Cake", "Strawberry")
        val adapter = ArrayAdapter(this, android.R.layout.simple_spinner_item, cakeTypes)
        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item)
    }
}

```

```

        cakespin.adapter = adapter
        pob.setOnClickListener {
            placeOrder()
        }
    }
    fun placeOrder() {
        val cakeType = cakespin.selectedItem.toString()
        val quantity = qnty.text.toString()
        val price = price.text.toString()
        val intent = Intent(this, OrdersDetailActivity::class.java)
        intent.putExtra("cakeType", cakeType)
        intent.putExtra("quantity", quantity)
        intent.putExtra("price", price)
        startActivity(intent)
    }
}

```

```

activity_orders_detail.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=".OrdersDetailActivity">
    <TextView
        android:id="@+id/orderDet"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:text="Order Details"
        android:textSize="18sp"
        android:textStyle="bold" />
</LinearLayout>

```

```

OrderDetailActivity.kt
package com.example.cakee
import android.os.Bundle
import android.widget.TextView
import androidx.appcompat.app.AppCompatActivity
class OrdersDetailActivity : AppCompatActivity() {
    private lateinit var orderDet: TextView
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_orders_detail)
        orderDet = findViewById(R.id.orderDet)
        val cakeType = intent.getStringExtra("cakeType")
    }
}

```

```

        val quantity = intent.getStringExtra("quantity")
        val price = intent.getStringExtra("price")
        val orderDetailsText = "Order Details:\n\n" +
            "Cake Type: $cakeType\n" +
            "Quantity: $quantity\n" +
            "Price: $price"
        orderDet.text = orderDetailsText
    }
}

```

12. game with two players

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">

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="52dp"
        android:layout_marginTop="216dp"
        android:text="Player 1"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="216dp"
        android:layout_marginEnd="36dp"
        android:text="Player 2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="60dp"
        android:layout_marginTop="76dp"
        android:text="Start"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/button" />

```

```

<Button
    android:id="@+id/button4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="76dp"
    android:layout_marginEnd="52dp"
    android:text="Stop"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/button2" />

<Button
    android:id="@+id/button5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="156dp"
    android:layout_marginTop="72dp"
    android:text="Display"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/button3" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.kt

```

package com.example.myapplication

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

class MainActivity : AppCompatActivity()
{
    private lateinit var p1:Button
    private lateinit var p2:Button
    private lateinit var start:Button
    private lateinit var stop:Button
    private lateinit var display:Button
    override fun onCreate(savedInstanceState: Bundle?)
    {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        p1=findViewById(R.id.button)
        p2=findViewById(R.id.button2)
        start=findViewById(R.id.button3)
        stop=findViewById(R.id.button4)
        display=findViewById(R.id.button5)

        var started=Calendar.getInstance().time
        var stopped=Calendar.getInstance().time
        var selected="";
        var p1time="0"
    }
}

```



```

        var p2time="0"

        p1.setOnClickListener()
        {
            selected="p1";
        }

        p2.setOnClickListener()
        {
            selected="p2";
        }

        start.setOnClickListener()
        {
            started=Calendar.getInstance().time
        }

        stop.setOnClickListener()
        {
            stopped=Calendar.getInstance().time
            var diffhr=stopped.hours-started.hours
            var diffmin=stopped.minutes-started.minutes
            var diffsec=stopped.seconds-started.seconds
            if(selected=="p1") {
                p1time = diffhr.toString() + ":" + diffmin.toString() + ":" +
diffsec.toString()
            }
            if(selected=="p2") {
                p2time = diffhr.toString() + ":" + diffmin.toString() + ":" +
diffsec.toString()
            }
        }

        display.setOnClickListener()
        {
            val intent=Intent(this,HomeActivity::class.java)
            intent.putExtra("p1time",p1time)
            intent.putExtra("p2time",p2time)
            startActivity(intent)

            selected=""
            p1time=""
            p2time=""
        }
    }
}

```

activity\_home.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">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="96dp"
        android:layout_marginTop="180dp"
        android:text="TextView"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="96dp"
        android:layout_marginTop="56dp"
        android:text="TextView"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

HomeActivity.kt

```

package com.example.myapplication

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.content.Intent
import android.widget.TextView
class HomeActivity:AppCompatActivity ()
{
    private lateinit var p1:TextView
    private lateinit var p2:TextView
    override fun onCreate(savedInstanceState: Bundle?)
    {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_home)

        val intent:Intent=intent

        p1=findViewById(R.id.textView)
        p2=findViewById(R.id.textView2)

        var p1time=intent.getStringExtra("p1time")
        var p2time=intent.getStringExtra("p2time")
    }
}

```

```
        p1.setText(p1time);  
        p2.setText(p2time);  
    }  
}
```