



CLASS : SVCS

DATE :

Practical No. : 1

Topic : Android application Development

Ques : (i) Write a program using Kotlin to implement control structures and loops.

1. if ... else

if ( condition 1 ) {

// code block A to be executed if condition 1 is true

}

else if ( condition 2 ) {

// code block B to be executed if condition 2 is True

}

else {

// code Block C to be executed if condition 1 and  
condition 2 are false

}

Example :

```
fun main(args : Array<String>) {  
    val age : Int = 13
```

```
    val result = if (age > 19) {  
        "Adult"  
    }
```

```
    else if (age > 12 && age < 20) {  
        "Teen"  
    }
```

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```

else {
    "Adult" "Minors"
}
print ("The value of Result : ")
else { println(result)
    "Teen"
}

```

OUTPUT:

The value of Result : Teen

## 2. When

```

fun main(args: Array <String> ) {
    val day = 2
    val result = when(day) {
        1 -> "Monday"
        2 -> "Tuesday"
        3 -> "Wednesday"
        4 -> "Thursday"
        else -> "Invalid day"
    }
    println(result)
}

```

OUTPUT:

Tuesday

## 3. For Loop.

```
fun main(args: Array <String>) {
    for (item in 1..5) {
        println(item)
    }
}
```

## OUTPUT:

1  
2  
3  
4  
5

## 4. While loop

```
fun main(args: Array <String>) {
    var i = 5;
    while (i > 0) {
        println(i)
        i--
    }
}
```

## OUTPUT:

5  
4  
3  
2  
1

ii) Write program to implement Object-oriented concepts  
in Kotlin.

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Example :

```
open class ABC {  
    fun think() {  
        println("Hey! I am thinking.")  
    }  
}
```

```
class BCD : ABC() {  
    // inherited happened using Default constructor.  
}
```

```
fun main(args: Array<String>)  
{  
    var a = BCD()  
    a.think()  
}
```

OUTPUT :

Hey! I am thinking.

S.21.53



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& Commerce

CLASS : SY CS

DATE :

Practical No. : 02 Topic :

Aim: i) Create an Android application to design screens using different layouts and UI including Button, EditText, TextView, etc.

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="schemas.android.com/apk/res"
    xmlns:tools="https://schemas.android.com/res-auto"
    android:layout_width="match-parent"
    android:layout_height="match-parent"
    tools:context=".MainActivity">
```

>

<TextView

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

```
    android:layout_width="wrap-content"
```

```
    android:layout_height="wrap-content"
```

```
    android:fontFamily="@font/adamina"
```

```
    android:text="Toh Kaise Hai Ap Log!"
```

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

```
    app:layout_constraintEnd_toEndOf="parent"
```

```
    app:layout_constraintStart_toStartOf="parent"
```

```
    app:layout_constraintVertical_bias="0.098" />
```

&lt;Button

```

    android:id="@+id/button"
    android:onClick = "ButtonClick"
    android:text = "Submit"
    android:textsize = "16 sp"
    app:layout_constraintBottom_toBottomOf = "parent"
    app:layout_constraintHorizontal_bias = "0.421"
    app:layout_constraintVertical_bias = "0.112" />

```

&lt;RadioGroup

```

    android:id = "@+id/radiogrp"
    android:layout_width = "wrap-content"
    android:padding = "20 dp"

```

&lt;RadioButton

```

    android:id = "@+id/red"
    android:layout_width = "wrap-content"
    android:layout_height = "wrap-content"
    android:text = "Red" />

```

&lt;RadioButton

```

    android:id = "@+id/green"
    android:layout_width = "wrap-content"
    android:layout_height = "wrap-content"
    android:text = "Green" />

```

&lt;RadioButton

```

    android:id = "@+id/yellow"
    android:layout_width = "wrap-content"

```

```

    android:layout-height="wrap-content"
    android:text="Green" />
</RadioGroup>

```

## &lt;TextView&gt;

```

    android:id="@+id/textView4"
    android:layout-width="191dp"
    android:layout-height="42dp"
    android:text="Eg of Radio Button"
    android:textSize="16sp"
    app:layout-constraintBottom-toTopOf="radiogrp"
    app:layout-constraintTop-toBottomOf="button"
    app:layout-constraintVertical-bias="0.794" />

```

## &lt;TextView

```

    android:id="@+id/textView5"
    android:textColor="#20sp"
    android:textStyle="Bold"
    app:layout-constraintEnd-toEndOf="parent"
    app:layout-constraintHorizontal-bias="0.237"
    app:layout-constraintStart-toStartOf="parent"
    app:layout-constraintVertical-bias="0.795" />

```

## &lt;/androidx.constraintlayout.widget.ConstraintLayout&gt;

## MainActivity.kt Code:

```

import android.graphics.Color
import androidx.appcompat.app.AppCompatActivity
import android.widget.*

class MainActivity : AppCompatActivity() {
    override onCreate(savedInstanceState) {
        setContentView(R.layout.activity_main)
        val back = findViewById<ConstraintLayout>(R.id.background)
        when (i) {
            R.id.red -> {
                back.setBackgroundColor(Color.RED)
            }
            R.id.green -> {
                back.setBackgroundColor(Color.GREEN)
            }
            R.id.yellow -> {
                back.setBackgroundColor(Color.YELLOW)
            }
        }
    }
}

```

```

fun ButtonClick(view: View) {
    val btn1 = findViewById<Button>(R.id.button)
    val name = findViewById<EditText>(R.id.
        editTextPersonName)
    val display = findViewById<TextView>(R.id.
        textView5)
    val str: String = name.text.toString()
    display.setText(str)
}

```

ii) Write android application demonstrating response to event/user interaction for

- a. Checkbox
- b. Radio Button
- c. Button
- d. Spinner

a. Checkbox

```
<?xml version="1.0" encoding="utf-8"?>
```

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

< Linear layout

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

```
    android:layout_width="0dp"
```

```
    android:orientation="vertical"
```

```
    app:layout_constraintVertical_bias="0.18" />
```

```
    app:layout_constraintEnd_toEndOf="parent"
```

```
    app:layout_constraintStart_toStartOf="parent">
```

< CheckBox

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

```
    android:fontFamily="@font/roboto"
```

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

```
    android:padding="7dp" />
```

< CheckBox

```
    android:id="@+id/checkBox2"
```

```
    android:fontFamily="@font/roboto"
```

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

```
    android:padding="7dp" />
```

<CheckBox

    android: id = "@+id/checkBox3"

    android: fontFamily = "@font/roboto"

    android: textSize = "18sp"

    android: padding = "7dp" />

<CheckBox

    android: id = "@+id/checkBox5"

    android: fontFamily = "@font/roboto"

    android: textSize = "18sp"

    android: padding = "7dp" />

</LinearLayout>

<Button

    android: id = "@+id/submitButton"

    android: layout\_width = "wrap\_content"

    android: layout\_height = "wrap\_content"

    android: textSize = "18sp"

    android: textStyle = "bold"

    app: layout\_constraintEnd\_toEndOf = "parent"

    app: layout\_constraintStart\_toStartOf = "parent"

    app: layout\_constraintVertical\_bias = "0.23000002"

/ >

</androidx.constraintlayout.widget.ConstraintLayout>

## MainActivity.kt file

```

package com.example.checkboxinkotlin
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.Toast

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val button: Button = findViewById(R.id.submitButton)
        button.setOnClickListener {
            Toast.makeText(applicationContext,
                "Your response has been recorded",
                Toast.LENGTH_LONG).show()
        }
    }
}

```

{

{

{

### d. Spinner

Activity\_main.xml file:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="schemas.android.com"
    android:orientation="vertical"
    android:layout-height="match-parent"
    android:id="@+id/linear-layout"
    android:gravity="center">
```

```
<TextView
    android:id="@+id/txtView"
    android:text="Select language:"
    android:textSize="20dp" />
```

```
<Spinner
    android:id="@+id/spinner"
    android:layout-width="wrap-content"
    android:layout-height="wrap-content"
    android:layout-alignBottom="@+id/txtView" />
```

</LinearLayout>

Update strings.xml file:

<resources>

```
<string name="app-name">SpinnerInKotlin </string>
<string name="selected-item"> Selected item:
    </string>
```

```

<String-array name="languages">
    <item> Java </item> <item> Kotlin </item>
    <item> Python </item> <item> Perl </item>
</string-array>
</resources>

```

MainActivity.kt file :

```

package com.geeksforgeeks.myfirstkotlinapp
import androidx.appcompat.app.AppCompatActivity
import android.widget.*
class MainActivity : AppCompatActivity() {
    override onCreate(savedInstanceState) {
        val lang = resources.getStringArray(R.array.languages)
        val spinner = findViewById(R.id.spinner)
    }
}

```

spinner.onOptionsItemSelected = object :

```

    AdapterView.OnItemSelectedListener {

```

```

        Toast.makeText(this@MainActivity,
            getString(R.string.selected-item) + " " +
            " " + lang[position], Toast.LENGTH_SHORT)
            .show()
    }
}

```

override fun onNothingSelected(parent:

```

    AdapterView <*>) {} }
}

```



CLASS : SYCS

DATE :

Practical No. : 04

Topic :

Aim: i) Create an Android application to demonstrate implicit and explicit intents.

Activity\_main.xml code :

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="schemas.android."
  xmlns:app="http://schemas.android.com"
  android:layout_width="match_parent"
  android:gravity="center"
  android:padding="20dp"
  tools:context=".MainActivity" >
```

<TextView

```
  android:id="@+id/textView"
  android:layout_height="wrap_content"
  android:layout_marginBottom="40dp"
  android:fontFamily="@font/adamina"
  android:gravity="center"
  android:text="First Activity" />
```

<Button

```
  android:id="@+id/explicit"
  android:layout_marginLeft="20dp"
  android:layout_marginTop="20dp"
  android:text="Explicit"
  android:textSize="20sp" />
```

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&lt;Button

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```
  android:id="@+id/implicit"
  android:layout_marginLeft="20dp"
  android:layout_marginTop="20dp"
  android:text="Implicit"
  android:textSize="20sp" />
</LinearLayout>
```

MainActivity.kt code:

```
package com.example.intentapp
import android.content.Intent
import android.os.Bundle
import android.widget.Button
```

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

```
    var button1: Button
```

```
    var button2: Button
```

```
    override fun onCreate(savedInstanceState: Bundle?) {
```

```
        super.onCreate(savedInstanceState)
```

```
        button1 = findViewById(R.id.explicit) as Button
```

```
        button2 = findViewById(R.id.implicit) as Button
```

```
    button1.setOnClickListener {
```

```
        val intent = Intent(this, SecondActivity::class.java)
        startActivity(intent)
    }
```

```

button2.setOnClickListener {
    val intent2 = Intent(Intent.ACTION_SEND)
    intent2.putExtra(Intent.EXTRA_TEXT,
        "Hello")
    intent2.type = "text/plain"
    startActivity(intent2)
}

```

### activity - second activity. xml code:

```

<?xml version="1.0" encoding="utf-8">
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="schemas.android.com"
    xmlns:tools="schemas.android.com/tools"
    android:layout_height="match-parent"
    android:layout_width="match-parent"
    tools:context=".SecondActivity" >

```

### <TextView

```

    android:id="@+id/textView2"
    android:fontFamily="@font/adamina"
    android:text="Second Activity"
    android:textSize="24sp"
    android:textStyle="bold"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"

```

1&gt;

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

### SecondActivity. kt code:

```

package com.example.intentapp
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle

```

```

class SecondActivity : AppCompatActivity() {

```

```

    override fun onCreate(savedInstanceState: Bundle?) {

```

```

        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_second)
    }
}
```



CLASS : 5Y CS

DATE :

Practical No. : 05

Topic :

Aim: i) Create an Android application to demonstrate the use of Broadcast listeners.

activity\_main.xml file code:

```
<?xml version="1.0" encoding="utf-8" ?>
<RelativeLayout xmlns:android = "schemas.android.com
  xmlns:tools = "schemas.android.com/tools"
  tools:context = ".MainActivity">
<TextView
  android:id = "@+id/textView"
  android:layout_centerHorizontal = "true"
  android:padding = "8dp"
  android:text = "Broadcast listeners"
  android:textSize = "48sp"
  android:textStyle = "bold" />
```

<Switch

```
  android:id = "@+id/wifiSwitch"
  android:layout_width = "wrap-content"
  android:layout_height = "wrap-content"
  android:layout_centerInParent = "true" />
```

</RelativeLayout>

## MainActivity.kt

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```
import android.content.BroadcastReceiver
import android.content.Context
import android.content.Intent
import android.net.wifi.WifiManager
import android.widget.Switch
import android.widget.Toast
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {
    var wifiSwitch: Switch
    var wifiManager: WifiManager
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate()
        setContentView(R.layout.activity_main)
        title = "KotlinApp"
        wifiSwitch = findViewById(R.id.wifiSwitch)
        wifiSwitch.setOnCheckedChangeListener { _, isChecked ->
            if (isChecked) {
                wifiManager.isWifiEnabled = true
                wifiSwitch.text = "Wifi is on"
            } else {
                wifiManager.isWifiEnabled = false
                wifiSwitch.text = "Wifi is off"
            }
        }
    }
}
```

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```

override fun onStart() {
    super.onStart()
    val intentFilter = IntentFilter(WifiManager.WIFI_STATE_CHANGED_ACTION)
    registerReceiver(wifiStateReceiver, intentFilter)
}

override fun onStop() {
    super.onStop()
    unregisterReceiver(wifiStateReceiver)
}

private val wifiStateReceiver: BroadcastReceiver =
    object : BroadcastReceiver() {
        when (intent.getIntExtra(WifiManager.EXTRA_WIFI_STATE, WifiManager.WIFI_STATE_UNKNOWN)) {
            WIFI_STATE_CONNECTED -> {
                wifiSwitch.isChecked = true
                wifiSwitch.text = "Wifi is On"
            }
            else -> {
                wifiSwitch.isChecked = false
                wifiSwitch.text = "Wifi is off"
            }
        }
    }
}

```

CLASS : SYCB

DATE :

Practical No. : 06

Topic :

Aim: i) Create an Android application to demonstrate XML based animation.

activity\_main.xml

```

<?xml version="1.0" encoding="utf-8" ?>
<RelativeLayout>
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="50 dp"
    android:text="Tutorials Point"
    android:textAlignment="center"
    android:textSize="32 sp" />
<Button
    android:layout_above="@+id/buttonBlink"
    android:id="@+id/buttonZoom"
    android:text="Zoom" />
<Button
    android:id="@+id/buttonBlink"
    android:text="Blink"
    android:layout_alignParentBottom="true" />
</RelativeLayout>

```

MainActivity.kt file:

```

import android.os.Bundle
class MainActivity : AppCompatActivity() {
    var textView: TextView
    var buttonZoom: Button
    var buttonBlink: Button
    var zoom: Animation
    var blink: Blink

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        buttonZoom.setOnClickListener {
            textView.visibility = View.VISIBLE
            textView.startAnimation(zoom)
        }
        buttonZoom.setOnClickListener {
            textView.visibility = View.VISIBLE
            textView.startAnimation(blink)
        }
        override fun onAnimation(animation: Animation) {}
        override fun onAnimation(animation1: Animation) {}
        override fun onAnimation(animation2: Animation) {}
    }
}

```

Create android resource directory (anim) & add the following code:

blink.xml file:

```

<?xml version="1.0" encoding="utf-8" ?>
<set xmlns:android="schemas.android.com/apk/res"
<alpha
    android:duration="600"
    android:fromAlpha="0.0"
    android:repeatCount="infinite"
    android:repeatMode="reverse"
    android:toAlpha="1.0" />
</set>

```

zoom.xml file:

```

<?xml version="1.0" encoding="utf-8" ?>
<set xmlns:android="schemas.android.com/apk/res"
    android:fillAfter="true">
    <scale
        android:duration="1000"
        android:fromXScale="1"
        android:fromYScale="1"
        android:pivotX="50%"
        android:pivotY="50%"
        android:toXScale="3"
        android:toYScale="3" />
</set>

```



CLASS : SYCS

DATE :

Practical No. : 07

Topic :

Aim: Create a media player application in android  
 that plays audio. Implement play, pause, loop.

activity\_main.xml file

```
<?xml version="1.0" encoding="utf-8">
<android.support.constraint.ConstraintLayout>
  <Button
    android:id="@+id/pauseBtn"
    android:enabled="false"
    android:text="Pause"
    app:layout_constraintEnd_toStartOf=
      "@+id/playBtn" />
```

<Button

```
  android:id="@+id/playBtn"
  android:layout_width="88dp"
  android:text="Play"
  app:layout_constraintEnd_toStartOf=
    "@+id/stopBtn" />
```

<Button

```
  android:id="@+id/stopBtn"
  android:enabled="false"
  android:text="Stop"
  app:layout_constraintEnd_toEndOf="parent"
  app:layout_constraintTop_toTopOf="parent"
```

&lt;RelativeLayout

```
  android:layout_marginStart="8dp"
  android:layout_marginTop="76dp"
  android:layout_marginEnd="8dp"
  app:layout_constraintEnd_toEndOf="parent"
  app:layout_constraintStart_toStartOf="parent"
  app:layout_constraintTop_toTopOf="parent" />
```

&lt;TextView

```
  android:id="@+id/tv_pass"
  android:layout_width="wrap-content"
  android:layout_height="wrap-content" />
```

&lt;TextView

```
  android:id="@+id/tv_due"
  android:layout_alignParentEnd="true"
  android:layout_alignParentRight="true" />
```

&lt;SeekBar

```
  android:id="@+id/seek_bar"
  android:layout_width="match-parent"
  android:layout_height="wrap-content"
  android:layout_below="@+id/tv_pass"
  android:saveEnabled="false" />
```

&lt;/RelativeLayout&gt;

&lt;/android.support.constraint.ConstraintLayout&gt;

MainActivity.kt file:

```

package import android.media.MediaPlayer
class MainActivity : AppCompatActivity() {
    //start media player
    playBtn.setOnClickListener {
        if (pause) {
            mediaPlayer.start()
            pause=false
        } else {
            mediaPlayer = Create(R.raw.school-bell)
            mediaPlayer.start()
        }
    }
    //pause media player
    pauseBtn.setOnClickListener {
        if (mediaPlayer.isPlaying) {
            mediaPlayer.pause()
            stopBtn.isEnabled=true
            pauseBtn.isEnabled=false
        }
    }
    //Stop media player
    stopBtn.setOnClickListener {
        if (mediaPlayer.isPlaying || pause.equals(true)) {
            pause=false
            stopBtn.isEnabled=false
            mediaPlayer.stop()
            handler.removeCallbacks(runnable)
        }
    }
}

```



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RISE WITH EDUCATION

CLASS : SYCS

DATE :

Practical No. : 08 Topic :

Aim: Create an android application to implement different types of menus: pop-up, content

i) Pop-up menu

activity-main.xml file:

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.design.widget.CoordinatorLayout>
<android.support.design.widget.AppBarLayout
    android:layout_width="match-parent"
    android:layout_height="wrap-content"
    android:theme="@style/AppTheme.AppBar">
```

```
<android.support.v7.widget.Toolbar
    android:id="@+id/tool_bar"
    android:background="?attr/colorPrimary"
    app:popupTheme="@style/AppTheme.PopupOverlay" />
```

```
</android.support.design.widget.AppBarLayout>
```

```
<include layout="@layout/content_main" />
</android.support.design.widget.CoordinatorLayout>
```

strings.xml file:

```
<resources>
    <string name="app-name"> Popup Menu </string>
    <string name="action-cricket"> Cricket </string>
    <string name="action-football"> Football </string>
    <string name="action-hockey"> Hockey </string>
</resources>
```

MainActivity.kt file:

```
import kotlinx.android.synthetic.main.activity_main.*
class MainActivity : AppCompatActivity() {
    val popupMenu: PopupMenu = PopupMenu(this.button)
    popupMenu.setOnMenuItemClickListener { item ->
        when (item.itemId) {
            R.id.action_cricket ->
                Toast.makeText("You clicked :" + item.title)
                    .show()
            R.id.action_football ->
                Toast.makeText("You clicked :" +
                    item.title).show()
            R.id.action_hockey ->
                Toast.makeText("You clicked :" +
                    item.title).show()
        }
    }
}
```

y  
true

3)

popupMenu.show()

3

## ii) Context Menu

activity\_main.xml file:

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="schemas.android.com">
    <TextView
        android:id="@+id/textView"
        android:layout_height="wrap_content"
        android:layout_marginTop="20 dp"
        android:text="long press me"
        android:textColor="#000"
        android:textSize="20 sp"
        android:textStyle="bold" />
</RelativeLayout>

```

## MainActivity.kt file:

```

import android.graphics.Color
import android.os.Bundle
import android.view.MenuItem

class MainActivity : AppCompatActivity() {
    var textView: TextView
    var relativelayout: RelativeLayout
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        registerForContextMenu(textView)
    }
}

```

```
override fun onCreateContextMenu(menu) {  
    super.onCreateContextMenu(menu, v, menuInfo)  
    menu.setHeaderTitle("Choose a color")  
    menu.add("Yellow")  
    menu.add("Gray")  
    menu.add("Cyan")  
}
```

```
override fun onOptionsItemSelected(item) {  
    if (item.title == "Yellow") {  
        relativeLayout.setBackgroundColor(Color.YELLOW)  
    }  
}
```

```
else if (item.title == "Gray") {  
    relativeLayout.setBackgroundColor(Color.GRAY)  
}
```

```
else if (item.title == "Cyan") {  
    relativeLayout.setBackgroundColor(Color.CYAN)  
}
```

```
return true  
}
```

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RISE WITH EDUCATION

CLASS : SY CS

DATE :

Practical No. : 03 Topic :

Aim: Create an application to use Gridview for shopping cart application.

activity\_main.xml file

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout>
    <GridView
        android:id="@+id/gv_courses"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:horizontalSpacing="6dp"
        android:numColumns="2"
        android:verticalSpacing="6dp" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Create a Model class for Storing Data

```
class CourseModel (var course_name: String, var
    imgid: Int) {
    fun getCourse_name(): String {
        return course_name
    }
    fun setCourse_name(course_name: String) {
        this.course_name = course_name
    }
    fun getImgid(): Int {
        return imgid
    }
}
```

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CLASS : SY CS

Practical No. : 09

DATE :

Topic:

Aim: Create a suitable Android application to store and retrieve data in the SQLite database

activity\_main.xml file:

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

<EditText

```
    android:id = "@+id/enterName"
    android:hint = "Enter Name"
    android:textSize = "22sp"
    android:layout_margin = "20sp" />
```

<EditText

```
    android:id = "@+id/enterAge"
    android:hint = "Enter Age"
    android:textSize = "22sp"
    android:layout_margin = "20sp" />
```

<Button

```
    android:id = "@+id/addName"
    android:text = "Add Name" />
```

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K 12/V

K 13/V

```
    android: textColor = "#fffff"
    android: textSize = "20sp"
    android: layout_gravity = "center"
<Button
    android: id = "@+id/printName"
    android: layout_width = "150sp"
    android: text = "Print Name"
    android: textColor = "#fffff" />
<LinearLayout
    <TextView
        android: id = "@+id/Name"
        android: textAlign = "center"
        android: padding = "10sp"
        android: text = "Name\n\n"
        android: weight = "1" />
    <TextView
        android: id = "@+id/Age"
        android: textAlign = "center"
        android: padding = "10sp"
        android: text = "Age\n\n"
        android: layout_weight = "1" />
</LinearLayout>
</LinearLayout>
```

MainActivity.kt file:

```
import androidx.appcompat.app.AppCompatActivity  
import android.os.Bundle  
import android.widget.Toast  
import kotlinx.android.synthetic.main.activity_main.*  
  
class MainActivity : AppCompatActivity() {  
    override onCreate(savedInstanceState: Bundle?) {  
        super.onCreate(savedInstanceState)  
        setContentView(R.layout.activity_main)  
        setListeners()  
    }  
    fun setListeners() {  
        enterName.setOnClicklistener {  
            val db = DBHelper(this, null)  
            val name = enterName.text.toString()  
            val age = enterAge.text.toString()  
            db.addName(name, age)  
            enterName.text.clear()  
            enterAge.text.clear()  
        }  
        printName.setOnClicklistener {  
            val db = DBHelper(this, null)  
            val cursor = db.getNames()  
            cursor.moveToFirst()  
            var name = ""  
            var age = ""  
            while (!cursor.isLast) {  
                name.append(cursor.getColumnIndex(DBHelper.  
                    Name_col) + "\n")  
                age.append(cursor.getColumnIndex(DBHelper.  
                    Age_col) + "\n")  
                cursor.moveToNext()  
            }  
            cursor.close()  
        }  
    }  
}
```

```
fun setImgid(imgid: Int) {
    this.imgid = imgid
}
```

{

}

MainActivity.kt file:

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

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

```
private var courseGV: GridView
```

```
courseModelArrayList.add("DSA", R.drawable.dsa)
```

```
courseModelArrayList.add("Java", R.drawable.java)
```

```
courseModelArrayList.add("C++", R.drawable.cpp)
```

```
courseModelArrayList.add("Python", R.drawable.python)
```

```
courseModelArrayList.add("Javascript",
```

```
R.drawable.javascript))
```

```
val adapter = CourseGVAdapter(this.courseModel
    ArrayList)
```

```
courseGV.adapter = adapter
```

y