Practical 2A

```
package com.shital.pract2a

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.CheckBox
import android.widget.Toast

class  MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        var res: String="Hobbies are:"
        val cb1: CheckBox = findViewById<CheckBox>(R.id.cb1)
        val cb2: CheckBox = findViewById<CheckBox>(R.id.cb2)
        val cb3: CheckBox = findViewById<CheckBox>(R.id.cb3)
        val btn1: Button = findViewById<Button>(R.id.btn1)
        val btn2: Button = findViewById<Button>(R.id.btn2)
        btn1.setOnClickListener {
            if(cb1.isChecked==true)
              res=res + (cb1.text).toString()
            if(cb2.isChecked==true)
               res=res + (cb2.text).toString()
            if(cb3.isChecked==true)
               res=res + (cb3.text).toString()
            Toast.makeText(this,res,Toast.LENGTH_LONG).show()
    }
        btn2.setOnClickListener{
```

```
        res="Hobbies are:"
        cb1.isChecked=false
        cb2.isChecked=false
        cb3.isChecked=false
    }

  }
}
```

Practical 2B

```
package com.example.myapplication

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.TextView

class MainActivity : AppCompatActivity() {
  override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.activity_main)
    var b1=findViewById<Button>(R.id.add);
    var b2=findViewById<Button>(R.id.subst);
    var b3=findViewById<Button>(R.id.mult);
    var b4=findViewById<Button>(R.id.div);
    var t1=findViewById<EditText>(R.id.num1);
    var t2=findViewById<EditText>(R.id.num2);
```

```
        var res=findViewById<TextView>(R.id.ans);
        b1.setOnClickListener {
            val n1 = t1.text.toString().toInt()
            val n2 = t2.text.toString().toInt()
            res.setText((n1+n2).toString())
        }
        b2.setOnClickListener {
            val n1 = t1.text.toString().toInt()
            val n2 = t2.text.toString().toInt()
            res.setText((n1-n2).toString())
        }
        b3.setOnClickListener {
            val n1 = t1.text.toString().toInt()
            val n2 = t2.text.toString().toInt()
            res.setText((n1*n2).toString())
        }
        b4.setOnClickListener {
            val n1 = t1.text.toString().toInt()
            val n2 = t2.text.toString().toInt()
            res.setText((n1/n2).toString())
        }


    }
}
```

Practical – 2C

```
package com.example.practical_2c

import android.annotation.SuppressLint
```

```
import android.graphics.Color
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.RadioGroup
import android.widget.TextView

class MainActivity : AppCompatActivity() {
    @SuppressLint("MissingInflatedId")
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        var color: Int=Color.BLACK
        var rqd=findViewById<RadioGroup>(R.id.radioGroup)
        var btn=findViewById<Button>(R.id.btn)
        var txt=findViewById<TextView>(R.id.textView)
        rqd.setOnCheckedChangeListener{ group, checkedId ->
            color = when(checkedId){
                R.id.rb1 -> Color.RED
                R.id.rb2 -> Color.GREEN
                R.id.rb3 -> Color.BLUE
                else -> Color.BLACK
            }
        }
        btn.setOnClickListener {
            txt.setTextColor(color)
        }
    }
}
```

Practical 3A

MainActivity.kt

```
package com.example.practical3

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

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        var next=findViewById<Button>(R.id.btnnext)
        next.setOnClickListener{
            var myintent= Intent(this,second_activity::class.java)
            startActivity(myintent)
        }
    }
}
```

SecondActivity.kt

```
package com.example.practical3

import android.content.Intent
import android.net.Uri
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.EditText
import android.widget.ImageButton
```

```
class second_activity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_second)
        var myurl=findViewById<EditText>(R.id.url)
        var btnshow=findViewById<ImageButton>(R.id.btnshow)

        btnshow.setOnClickListener{
            var myurl1=myurl.text.toString()
            intent= Intent(Intent.ACTION_VIEW, Uri.parse(myurl1))
            startActivity(intent)
        }
    }
}
```

Practical 3B

```
package com.example.practical_3b_shared_pref

import android.content.SharedPreferences
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.Toast

class MainActivity : AppCompatActivity() {
    var Name:String="name"
    var Phone:String="phone"
    var mypref:String="mypref"
```

```
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val ed1 = findViewById<EditText>(R.id.editText1)
        val ed2 = findViewById<EditText>(R.id.editText2)
        val b1 = findViewById<Button>(R.id.button)
        val sharedPreferences: SharedPreferences =getSharedPreferences(this.mypref,
MODE_PRIVATE)
        b1.setOnClickListener{
            val n=ed1.text.toString()
            val ph=ed2.text.toString()
            val editor: SharedPreferences.Editor = sharedPreferences.edit()
            editor.putString(this.Name,n)
            editor.putString(this.Phone,ph)
            editor.commit()
            Toast.makeText(this, "Thanks", Toast.LENGTH_SHORT).show()
        }
    }
}
```

Practical 4A

Mainactivity

```
package com.example.broadcast

import android.content.Intent
import android.content.IntentFilter
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
```

```
        var c = CustomReceiver()
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val filter = IntentFilter()
        filter.addAction(Intent.ACTION_POWER_DISCONNECTED)
        filter.addAction(Intent.ACTION_POWER_CONNECTED)
        this.registerReceiver(c, filter)
    }
}
```

CustomerReceiver

```
package com.example.broadcast

import android.content.BroadcastReceiver
import android.content.Context
import android.content.Intent
import android.widget.Toast

public class CustomReceiver: BroadcastReceiver() {
    override fun onReceive(context: Context, intent: Intent) {
        val intentAction = intent.action
        var str = "Unknown Action Performed"
        when(intentAction){
            Intent.ACTION_POWER_CONNECTED -> str = "Power connected!"
            Intent.ACTION_POWER_DISCONNECTED -> str = "Power disconnected!"
        }
        Toast.makeText(context,str,Toast.LENGTH_SHORT).show()
    }
}
```

Practical 4B

```
package com.example.servicemp

import android.content.Intent
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)
        var start:Button= findViewById(R.id.button)
        var stop: Button = findViewById(R.id.button2)
        start.setOnClickListener {
            startService(Intent(this, MyService::class.java))
            Toast.makeText(this, "Service Started",Toast.LENGTH_LONG).show()
        }
        stop.setOnClickListener {
            stopService(Intent(baseContext, MyService::class.java))
            Toast.makeText(this, "Service stopped", Toast.LENGTH_LONG).show()
        }
    }
}
```

Second Activity

```
package com.example.servicemp

import android.app.Notification
import android.app.NotificationChannel
```

```
import android.app.NotificationManager
import android.app.Service
import android.content.Intent
import android.graphics.Color
import android.media.MediaPlayer
import android.os.IBinder
import android.provider.Settings
import java.nio.channels.Channel

class MyService : Service() {
    lateinit var player: MediaPlayer
    override fun onBind(intent: Intent?): IBinder? {
        return null
    }

    override fun onStartCommand(intent: Intent?, flags: Int, startId: Int): Int {
        player = MediaPlayer.create(this,
            Settings.System.DEFAULT_RINGTONE_URI);
        player.start();
        val CHANNELID = "Foreground Service ID"
        val channel = NotificationChannel(
            CHANNELID,
            "MyChannel",
            NotificationManager.IMPORTANCE_LOW
        )

getSystemService(NotificationManager::class.java).createNotificationChannel(channel)
        val notification: Notification.Builder = Notification.Builder(this, CHANNELID)
            .setContentText("Service is running")
            .setContentTitle("Service enabled")
```

```
.setSmallIcon(com.google.android.material.R.drawable.ic_mtrl_chip_checked_black)
            .setColor(Color.RED)
        startForeground(1001,notification.build())
        return START_STICKY
    }

    override fun onDestroy() {
        super.onDestroy()
        player.stop()
    }
}
```

Practical 5A

```
package com.example.musicplayer

import android.annotation.SuppressLint
import android.app.Activity
import android.content.Intent
import android.media.MediaPlayer
import android.net.Uri
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.ImageButton
import android.widget.ImageView
import android.widget.Toast
import androidx.activity.result.contract.ActivityResultContracts

class MainActivity : AppCompatActivity() {
    lateinit var mediaPlayer: MediaPlayer
    private val PICK_AUDIO = 1
```

```
    var AudioUri: Uri? = null
    val audio = Intent()
    var f=0
    var pos:Int=0
    @SuppressLint("MissingInflatedId")
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val playButton = findViewById<ImageButton>(R.id.play)
        val stopButton = findViewById<ImageButton>(R.id.stop)
        val pauseButton = findViewById<ImageButton>(R.id.pause)
        val iv1 = findViewById<ImageView>(R.id.imgv)
        stopButton.isEnabled = false
        pauseButton.isEnabled = false


        val  mp=
registerForActivityResult(ActivityResultContracts.StartActivityForResult()){
            if(it.resultCode == Activity.RESULT_OK){
                AudioUri = it.data?.data
                Toast.makeText(this,"Date Selected" + AudioUri,
Toast.LENGTH_LONG).show()
            }
        }
        playButton.setOnClickListener {
            if (AudioUri==null)
                Toast.makeText(this, "Select Audio", Toast.LENGTH_SHORT).show()
            else if(f==0){
                mediaPlayer = MediaPlayer.create(this, AudioUri)
                mediaPlayer.start()
            }
            else if(f==1)
```

```
        {
            Toast.makeText(this, "Music Player Resumed",
Toast.LENGTH_SHORT).show()
            mediaPlayer.seekTo(pos)
            mediaPlayer.start()
            f=0
        }
        playButton.isEnabled = false
        stopButton.isEnabled = true
        pauseButton.isEnabled = true
    }
    stopButton.setOnClickListener {
        mediaPlayer.stop()
        mediaPlayer.prepare()
        playButton.isEnabled = true
        stopButton.isEnabled = false
        Toast.makeText(this, "Music Player Stopped",
Toast.LENGTH_SHORT).show()
        f=0
    }
    pauseButton.setOnClickListener {
        mediaPlayer.pause()
        playButton.isEnabled = true
        stopButton.isEnabled = true
        pauseButton.isEnabled = false
        Toast.makeText(this, "Music Player Paused", Toast.LENGTH_SHORT).show()
        pos=mediaPlayer.currentPosition
        f=1
    }
    iv1.setOnClickListener{
        audio.type = "audio/*"
```

```
            audio.action = Intent.ACTION_OPEN_DOCUMENT
            audio.putExtra("Select audio",PICK_AUDIO)
            mp.launch(audio)
        }
    }
}
```

Practical 5B

```
package com.example.practical_5b_camera

import android.content.ContentValues
import android.content.Intent
import android.net.Uri
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.provider.MediaStore
import android.widget.Button
import android.widget.ImageView
import androidx.activity.result.contract.ActivityResultContracts

class MainActivity : AppCompatActivity() {
    var cam_uri: Uri? = null
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        var iv: ImageView = findViewById(R.id.imageView)
        val cam: Button = findViewById(R.id.button)
        val startCamera = registerForActivityResult(
            ActivityResultContracts.StartActivityForResult())
        {
```

```
            if (it.resultCode == RESULT_OK){
                iv.setImageURI(cam_uri)
            }
        }
        cam.setOnClickListener {
            val values = ContentValues()
            values.put(MediaStore.Images.Media.TITLE, "New Picture")
            values.put(MediaStore.Images.Media.TITLE, "From Camera")
            cam_uri = contentResolver.insert(
                MediaStore.Images.Media.EXTERNAL_CONTENT_URI,
                values
            )
            val cameraIntent = Intent(MediaStore.ACTION_IMAGE_CAPTURE)
            cameraIntent.putExtra(MediaStore.EXTRA_OUTPUT, cam_uri)
            startCamera.launch(cameraIntent)
        }
    }
}
```

Practical 6A and 6B combined

```
package com.example.practical_6a_menu

import android.annotation.SuppressLint
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.view.Menu
import android.view.MenuItem
import android.widget.Button
import android.widget.PopupMenu
```

```
import android.widget.Toast

class MainActivity : AppCompatActivity() {
    @SuppressLint("MissingInflatedId","RestrictedApi")
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        var b1:Button = findViewById(R.id.share)
        b1.setOnClickListener{
            val p = PopupMenu(this, it)
            val inflater = menuInflater
            inflater.inflate(R.menu.popupmenudemo, p.menu)
            p.show()
            p.setOnMenuItemClickListener {
                Toast.makeText(this, it.title, Toast.LENGTH_SHORT).show()
                true
            }
        }
    }

    override fun onCreateOptionsMenu(menu: Menu): Boolean {
        menuInflater.inflate(R.menu.optionmenudemo,menu)
        return super.onCreateOptionsMenu(menu)
    }

    override fun onOptionsItemSelected(item: MenuItem): Boolean {
        var data = item.title
        Toast.makeText(this, data, Toast.LENGTH_SHORT).show()
        return super.onOptionsItemSelected(item)
    }
```

```
}
```

Practical 6C

```
package com.example.practical6c_contextdemo

import android.annotation.SuppressLint
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.view.ContextMenu
import android.view.Menu
import android.view.MenuItem
import android.view.View
import android.widget.AdapterView.AdapterContextMenuInfo
import android.widget.Button
import androidx.constraintlayout.widget.ConstraintLayout
import androidx.core.graphics.toColorInt

class MainActivity : AppCompatActivity() {
    lateinit var cl:ConstraintLayout
    @SuppressLint("MissingInflatedId")
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        cl = findViewById(R.id.cl)
        val btn:Button=findViewById(R.id.btn)
        registerForContextMenu(btn)
    }
    override fun onCreateContextMenu(menu: ContextMenu, v: View, menuInfo:
ContextMenu.ContextMenuInfo?)
    {
        menu.setHeaderTitle("Select Color")
```

```
        menu.add(0,v.id,0,"Red")
        menu.add(1,v.id,0,"Green")
        menu.add(1,v.id,0,"Black")
    }

    override fun onContextItemSelected(item: MenuItem): Boolean {
        var s1: Int = item.title.toString().toColorInt()
      cl.setBackgroundColor(s1)
        return true
    } }
```

Practical 7

```
package com.example.pract7asynctask

import android.annotation.SuppressLint
import android.app.DownloadManager
import android.app.DownloadManager.Request.NETWORK_MOBILE
import android.app.DownloadManager.Request.NETWORK_WIFI
import android.net.Uri
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.os.Environment
import android.os.StrictMode
import android.widget.*

lateinit var url:String
class MainActivity : AppCompatActivity() {
    @SuppressLint("MissingInflatedId")
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
```

```
        setContentView(R.layout.activity_main)
        var et:EditText=findViewById(R.id.edittxt)
        var vi:VideoView=findViewById(R.id.vv)
        var but: Button =findViewById(R.id.button)

        val policy= StrictMode.ThreadPolicy.Builder().permitAll().build()
        StrictMode.setThreadPolicy(policy)
        but.setOnClickListener{
            url=et.text.toString()
            Thread{
                var manager=getSystemService(DOWNLOAD_SERVICE) as
DownloadManager
                val uri= Uri.parse(url)
                val request=DownloadManager.Request(uri)
                request.setDescription("Selected Video is being download")
                request.setTitle("downloading")

request.setNotificationVisibility(DownloadManager.Request.VISIBILITY_VISIBLE_N
OTIFY_ONLY_COMPLETION)

request.setAllowedNetworkTypes(NETWORK_WIFI+NETWORK_MOBILE)

request.setDestinationInExternalPublicDir(Environment.DIRECTORY_DOWNLOAD
S.toString(),"abc"+".mp4")
                manager.enqueue(request)


                runOnUiThread{
                    Toast.makeText(this,"Started", Toast.LENGTH_SHORT).show()
                    val uri:Uri=Uri.parse(url)
                    vi.setVideoURI(uri)
                    val mediaController= MediaController(this)
                    mediaController.setAnchorView(vi);
```

```
                mediaController.setMediaPlayer(vi);
                vi.setMediaController(mediaController);
                vi.start()
            }
        }.start()

    }
}
}
```

Practical 8 Grid

```
package com.example.practical_8_gridview

import android.content.Context
import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import android.widget.BaseAdapter
import android.widget.GridView
import android.widget.ImageView
import android.widget.TextView

class MainActivity : AppCompatActivity() {
    lateinit var gridview: GridView
    var str = arrayOf<String>("Android", "Java", "C++", "DS", "PYTHON")
    var images = arrayOf<Int>(
        R.drawable.img1,
```

```
    R.drawable.img2,
    R.drawable.img3,
    R.drawable.img4,
    R.drawable.img5
)

override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.activity_main)
    gridview = findViewById(R.id.gridview)
    var ca = CustomAdapter(str, images, this)
    gridview.adapter = ca
    gridview.setOnItemClickListener { adapterView, view2, i, l ->
        var selectedname = str[i]
        var selectedimage = images[i]
        intent = Intent(this, MainActivity2::class.java)
        intent.putExtra("name", selectedname).putExtra("image", selectedimage)
        startActivity(intent)

    }
}

class CustomAdapter(
    var imageNames: Array<String>,
    var imagePhoto: Array<Int>,
    var context: Context
) : BaseAdapter() {
    var layoutInflater: LayoutInflater =
        context.getSystemService(LAYOUT_INFLATER_SERVICE) as LayoutInflater
```

```
        override fun getCount(): Int {
            return imagePhoto.size
        }

        override fun getItem(p0: Int): Any? {
            return null
        }

        override fun getItemId(p0: Int): Long {
            return 0
        }

        override fun getView(p0: Int, p1: View?, p2: ViewGroup?): View {
            var myview = p1
            // if(myview==null)
            // {
            myview = layoutInflater.inflate(R.layout.row_item, p2, false)
            // }
            var tvName: TextView = myview.findViewById(R.id.tvname)
            var imagev: ImageView = myview.findViewById(R.id.imageview)
            tvName.setText(imageNames[p0])
            imagev.setImageResource(imagePhoto[p0])
            return myview
        }
    }
}
```

MainActivity2

```
package com.example.practical_8_gridview
```

```
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.view.animation.Animation
import android.view.animation.AnimationUtils
import android.widget.ImageView
import android.widget.TextView

class MainActivity2 : AppCompatActivity() {
    lateinit var imageview: ImageView
    lateinit var tetxview: TextView
    lateinit var animation1: Animation
    lateinit var animation2: Animation
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main2)
        imageview=findViewById(R.id.imageview)
        tetxview=findViewById(R.id.tvname)
        val intent=intent
        tetxview.setText(intent.getStringExtra("name"))
        imageview.setImageResource(intent.getIntExtra("image",0))
        animation1=AnimationUtils.loadAnimation(this,R.anim.blink)
        imageview.startAnimation(animation1)
        animation2= AnimationUtils.loadAnimation(this,R.anim.zoomin)
        tetxview.startAnimation(animation2)

    }
}
```

Practical 9

DB Helper

```
package com.example.sqllite

import android.content.ContentValues
import android.content.Context
import android.database.sqlite.SQLiteDatabase
import android.database.sqlite.SQLiteOpenHelper
import android.widget.Toast

val DATABASE_NAME = "myDatabase5" // Database Name
val TABLE_NAME = "myTable" // Table Name
val DATABASE_Version = 1 // Database Version
val UID = "id" // Column I (Primary Key)
val NAME = "Name" //Column II
val MyPASSWORD = "Password" // Column III
val CREATE_TABLE = "CREATE TABLE " + TABLE_NAME +
        " (" + UID + " INTEGER PRIMARY KEY AUTOINCREMENT, " + NAME + "
VARCHAR(255) ," + MyPASSWORD + " VARCHAR(225));"
val DROP_TABLE = "DROP TABLE IF EXISTS " + TABLE_NAME

class DBHelper(var context: Context) :
    SQLiteOpenHelper(context, DATABASE_NAME, null, DATABASE_Version) {
    override fun onCreate(db: SQLiteDatabase) {
        try {
            db.execSQL(CREATE_TABLE)
        } catch (e: Exception) {
            Toast.makeText(context, e.message, Toast.LENGTH_LONG).show()
        }
    }
```

```
override fun onUpgrade(db: SQLiteDatabase, oldVersion: Int, newVersion: Int) {
    try {
        Toast.makeText(context, "OnUpgrade", Toast.LENGTH_SHORT).show()
        db.execSQL(DROP_TABLE)
        onCreate(db)
    } catch (e: Exception) {
        Toast.makeText(context, e.message, Toast.LENGTH_LONG).show()
    }
}
fun insertData(name: String?, pass: String?): Long {
    val dbb = this.writableDatabase
    val contentValues = ContentValues()
    contentValues.put(NAME, name)
    contentValues.put(MyPASSWORD, pass)
    return dbb.insert(TABLE_NAME, null, contentValues)
}
fun deletedata(id:Int){
    val db = this.writableDatabase
    var res=db.delete("myTable", UID+"="+id,null)
    if(res>0)
        Toast.makeText(context,"DEleted",Toast.LENGTH_LONG).show()
    else
        Toast.makeText(context,"Unsuccesful",Toast.LENGTH_LONG).show()
}
fun update(name:String, pass:String)
{
    val db = this.writableDatabase
    db.execSQL("UPDATE "+TABLE_NAME+" SET
"+MyPASSWORD+"="+"'"+pass+"'"+ " WHERE "+NAME+"="+"'"+name+"'")
    db.close()
```

```
    }
    fun readdata():String
    {
        var result = ""
        val db:SQLiteDatabase=this.readableDatabase
        val cursor = db.rawQuery ("select * from myTable", null)
        while (cursor.moveToNext()) {
            val result_0 = cursor.getInt(0)
            val result_1 = cursor.getString(1)
            val result_2 = cursor.getString(2)
            result += (result_0).toString() + " " + result_1 + " " + result_2 + "\n "
        }
        cursor.close()
        return result
    }

}
```

MainActivity.kt

```
package com.example.sqllite

import android.annotation.SuppressLint
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.TextView
import android.widget.Toast

class MainActivity : AppCompatActivity() {
    lateinit var sname:EditText
```

```
    lateinit var spass: EditText
    @SuppressLint("MissingInflatedId")
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        var data: Button =findViewById(R.id.save)
        var show: Button =findViewById(R.id.show)
        var del:Button =findViewById(R.id.delete)
        var upade:Button =findViewById(R.id.update)
        var tv: TextView =findViewById(R.id.tv)

        sname =findViewById(R.id.name)
        spass =findViewById(R.id.password)

        val db =DBHelper(this)
        data.setOnClickListener {
            db.insertData(sname.text.toString(), spass.text.toString())
            Toast.makeText(this, " data added to database",
Toast.LENGTH_LONG).show()
            sname.text.clear()
            spass.text.clear()
        }
        show.setOnClickListener {
            var data=db.readdata()
            tv.setText(data)
        }
        del.setOnClickListener {
            db.deletedata(4)
        }
        upade.setOnClickListener {
            db.update(sname.text.toString() ,spass.text.toString())
```

```
        }
    }
}
```

Gesture

```
package com.example.gestures

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.view.GestureDetector
import android.view.MotionEvent
import android.widget.Button
import android.widget.TextView
import android.widget.Toast
import androidx.constraintlayout.widget.ConstraintLayout
import java.lang.Math.abs

class MainActivity : AppCompatActivity(),GestureDetector.OnGestureListener {
    lateinit var gest:GestureDetector
    var x1=0.0f
    var x2=0.0f
    var y1=0.0f
    var y2=0.0f
    val MIN_DIST=150
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        var layout = findViewById<ConstraintLayout>(R.id.cl)
        var btn: Button = findViewById(R.id.one)
```

```
    var tv = findViewById<TextView>(R.id.tv)
    btn.setOnTouchListener { view, motionEvent ->
        if (motionEvent.action == MotionEvent.ACTION_DOWN)
            tv.setText("Action Down")
        if (motionEvent.action == MotionEvent.ACTION_UP)
            tv.setText("Action UP")
        if (motionEvent.action == MotionEvent.ACTION_MOVE)
            tv.setText("Action Move")

        return@setOnTouchListener true
    }

    gest= GestureDetector(this,this)

}

override fun onTouchEvent(event: MotionEvent?): Boolean {
    gest.onTouchEvent(event)
    if(event?.action==0)
    {
        x1=event.x
        y1=event.y
    }
    if(event?.action==1)
    {
        x2=event.x
        y2=event.y
        val diffx=x2-x1
        val diffy=y2-y1
```

```
        if(abs(diffx)>MIN_DIST)
        {
            if(x2>x1)
                Toast.makeText(this,"Right Swipe",Toast.LENGTH_LONG).show()
            else
                Toast.makeText(this,"Left Swipe",Toast.LENGTH_LONG).show()

        }
        else if(abs(diffy)>MIN_DIST)
        {
            if(y2>y1)
                Toast.makeText(this,"Bottom Swipe",Toast.LENGTH_LONG).show()
            else
                Toast.makeText(this,"Up Swipe",Toast.LENGTH_LONG).show()

        }
    }

    return super.onTouchEvent(event)
}

override fun onDown(p0: MotionEvent?): Boolean {
    // TODO("Not yet implemented")
    return false
}

override fun onShowPress(p0: MotionEvent?) {
    // TODO("Not yet implemented")
}
```

```
    override fun onSingleTapUp(p0: MotionEvent?): Boolean {
        Toast.makeText(this,"Sinle Tap", Toast.LENGTH_LONG).show()
        return true
    }

    override fun onScroll(p0: MotionEvent?, p1: MotionEvent?, p2: Float, p3: Float):
Boolean {
        // TODO("Not yet implemented")
        return false
    }

    override fun onLongPress(p0: MotionEvent?) {
        Toast.makeText(this,"On long press",Toast.LENGTH_LONG).show()
    }

    override fun onFling(p0: MotionEvent?, p1: MotionEvent?, p2: Float, p3: Float):
Boolean {
        return false
    }

}
```

Firebase

Emp.kt

```
package com.example.firebase

class Emp {
    private var ename: String? = null
    private var phone: String? = null

    fun getename(): String? {
```

```
        return ename
    }
    fun setename(e: String?) {
        this.ename = e
    }
    fun getPhone(): String? {
        return phone
    }
    fun setPhone(p: String?) {
        this.phone = p
    }
}
```

MainActivity

```
package com.example.firebase

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.TextView
import android.widget.Toast
import com.google.firebase.database.DataSnapshot
import com.google.firebase.database.DatabaseError
import com.google.firebase.database.FirebaseDatabase
import com.google.firebase.database.ValueEventListener
import com.google.firebase.database.ktx.database
import com.google.firebase.ktx.Firebase

class MainActivity : AppCompatActivity() {
    lateinit var emp: Emp
```

```
    var str = ""

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

        var empid: EditText =findViewById(R.id.empid)
        var empname:EditText = findViewById(R.id.ename)
        var empphone:EditText = findViewById(R.id.phone)
        var submit: Button = findViewById(R.id.submit)
        var show:Button = findViewById(R.id.show)
        var del:Button = findViewById(R.id.delete)
        var update:Button = findViewById(R.id.update)
        var tv: TextView =findViewById(R.id.tv)

        emp=Emp()

        submit.setOnClickListener {
            val id:String=empid.getText().toString()
            val name: String = empname.getText().toString()
            val phone: String = empphone.getText().toString()

            emp.setename(name)
            emp.setPhone(phone)

FirebaseDatabase.getInstance().getReference().child("Emp").child(id).push().setValue(e
mp)
            Toast.makeText(this, "data added", Toast.LENGTH_SHORT).show()
        }

        show.setOnClickListener {
```

```
    Firebase.database.getReference("Emp").child("101")
        .addValueEventListener(object : ValueEventListener {
            override fun onDataChange(snapshot: DataSnapshot) {
                tv.setText("")
                str=""
                for ( postSnapshot:DataSnapshot in snapshot.getChildren()) {
                    var e:Emp?=postSnapshot.getValue(Emp::class.java)
                    str+=e?.getename()+" "+e?.getPhone()+"\n"
                }
                tv.setText(str)
                empid.text.clear()
                empname.text.clear()
                empphone.text.clear()
            }
            override fun onCancelled(error: DatabaseError) {
                tv.setText(error.toString())
            }
        })
}//show close
del.setOnClickListener {

    var ref = FirebaseDatabase.getInstance().getReference("Emp").child("102");
    ref.removeValue();
    Toast.makeText(this, "data deleted", Toast.LENGTH_SHORT).show()

}
update.setOnClickListener {
    var ref=FirebaseDatabase.getInstance().getReference("Emp").child("102")
    var emp=Emp()
    emp.setename("ami")
```

```
            emp.setPhone("999999")
            ref.setValue(emp)
            Toast.makeText(this, "Emp Updated", Toast.LENGTH_LONG).show();

        }
    }
}
```