**[2CEIT5PE5: MOBILE APPLICATION DEVELOPMENT]**

Practical: 5

AIM: What is Service? Write down types of Service. Create an MP3 player application by using service by following below instructions.



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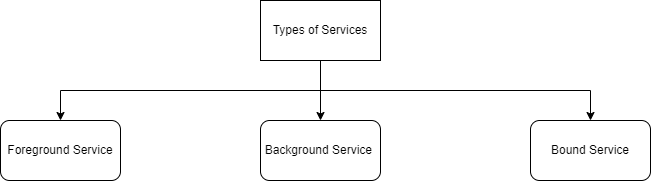


**Department of Computer Engineering/Information Technology**

**What is Service?**

Service are code that runs in the background. They can be started and stopped. Services doesn’t have UI.

**Types of Service?**



1. **Foreground:** Foreground services require user interface.
2. **Background:** Background services do not require any user intervention.
3. **Bound:** This type of android service allows the components of the application like activity to bound themselves with it.

**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">  
 <com.google.android.material.card.MaterialCardView  
 android:id="@+id/img\_cardview"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 android:layout\_marginStart="30dp"  
 android:layout\_marginEnd="30dp"  
 android:layout\_marginTop="50dp"  
 app:cardElevation="20dp"  
 app:cardCornerRadius="15dp">  
 <androidx.constraintlayout.widget.ConstraintLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent">  
 <com.google.android.material.card.MaterialCardView  
 android:layout\_width="300dp"  
 android:layout\_height="300dp"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 android:layout\_marginTop="10dp"  
 android:layout\_marginBottom="10dp"  
 app:cardCornerRadius="25dp">  
 <ImageView  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:src="@drawable/song"  
 />  
 </com.google.android.material.card.MaterialCardView>  
  
 <View  
 android:layout\_width="30dp"  
 android:layout\_height="120dp"  
 android:background="@drawable/design\_view1"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 android:layout\_marginEnd="-10dp"/>  
 <View  
 android:layout\_width="30dp"  
 android:layout\_height="120dp"  
 android:background="@drawable/design\_view2"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 android:layout\_marginStart="-10dp"/>  
 </androidx.constraintlayout.widget.ConstraintLayout>  
  
  
 </com.google.android.material.card.MaterialCardView>  
  
 <com.google.android.material.card.MaterialCardView  
 android:id="@+id/control\_cardView"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 app:cardElevation="20dp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 android:layout\_marginBottom="-5dp">  
  
 <androidx.constraintlayout.widget.ConstraintLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent">  
  
 <androidx.constraintlayout.widget.ConstraintLayout  
 android:id="@+id/song\_layout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:padding="10dp"  
 app:layout\_constraintBottom\_toTopOf="@id/view1"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent">  
  
 <TextView  
 android:id="@+id/song\_text"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Song Name"  
 android:textSize="24dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
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 <View  
 android:id="@+id/view1"  
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 android:layout\_height="120dp"  
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 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"/>  
  
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 android:layout\_marginTop="30dp"  
 android:layout\_marginBottom="40dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/song\_layout">  
  
 <com.google.android.material.floatingactionbutton.FloatingActionButton  
 android:id="@+id/btn\_play"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:backgroundTint="@color/white"  
 android:src="@drawable/ic\_baseline\_play\_arrow\_24"  
 app:elevation="0dp"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintStart\_toEndOf="@+id/btn\_previous"  
 app:layout\_constraintEnd\_toStartOf="@+id/btn\_stop"  
 android:layout\_marginStart="5dp"  
 />  
  
 <com.google.android.material.floatingactionbutton.FloatingActionButton  
 android:id="@+id/btn\_stop"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:backgroundTint="@color/white"  
 android:src="@drawable/ic\_baseline\_stop\_24"  
 app:elevation="0dp"  
 app:layout\_constraintStart\_toEndOf="@id/btn\_play"  
 app:layout\_constraintEnd\_toStartOf="@+id/btn\_next"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 android:layout\_marginStart="5dp"/>  
  
 <com.google.android.material.floatingactionbutton.FloatingActionButton  
 android:id="@+id/btn\_next"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:backgroundTint="@color/white"  
 android:src="@drawable/ic\_baseline\_keyboard\_arrow\_right\_24"  
 app:elevation="0dp"  
 app:layout\_constraintStart\_toEndOf="@id/btn\_stop"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 android:layout\_marginStart="5dp"/>  
  
 <com.google.android.material.floatingactionbutton.FloatingActionButton  
 android:id="@+id/btn\_previous"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:backgroundTint="@color/white"  
 android:src="@drawable/ic\_baseline\_keyboard\_arrow\_left\_24"  
 app:elevation="0dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toStartOf="@id/btn\_play"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
 </androidx.constraintlayout.widget.ConstraintLayout>  
  
 </androidx.constraintlayout.widget.ConstraintLayout>  
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M**ainActivity.kt**

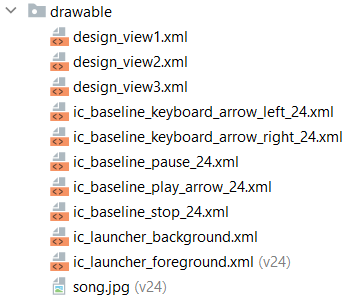
**package com.example.madpractical5\_21012022022  
  
import android.content.Intent  
import android.os.Bundle  
import android.widget.TextView  
import androidx.appcompat.app.AppCompatActivity  
import com.google.android.material.floatingactionbutton.FloatingActionButton  
  
class MainActivity : AppCompatActivity() {  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.*activity\_main*)  
 val btnPlay:FloatingActionButton=findViewById(R.id.*btn\_play*)  
 val btnStop:FloatingActionButton=findViewById(R.id.*btn\_stop*)  
 val btnNext:FloatingActionButton=findViewById(R.id.*btn\_next*)  
 val btnPrevious:FloatingActionButton=findViewById(R.id.*btn\_previous*)  
 val txtSong:TextView=findViewById(R.id.*song\_text*)  
 txtSong.*text*="No Song Playing"  
 var i=0;  
 btnPlay.setOnClickListener {  
 txtSong.*text*="Song"  
 play()  
 if(i==0)  
 {  
 btnPlay.setImageResource(android.R.drawable.*ic\_media\_pause*)  
 i=1  
 }  
 else{  
 btnPlay.setImageResource(android.R.drawable.*ic\_media\_play*)  
 i=0  
 }  
  
 }  
 btnStop.setOnClickListener {  
 txtSong.*text*="No Song Playing"  
 stop()  
 if(i==1)  
 {  
 btnPlay.setImageResource(android.R.drawable.*ic\_media\_play*)  
 i=0  
 }  
 }  
  
 btnNext.setOnClickListener {  
  
 }  
 btnPrevious.setOnClickListener {  
  
 }  
 }  
 fun play()  
 {  
 Intent(*applicationContext*,MediaService::class.*java*)**

**.putExtra(MediaService.DATA\_KEY,MediaService.DATA\_VALUE).*apply* {  
 startService(this)  
 }  
 }  
 fun stop()  
 {  
 Intent(*applicationContext*,MediaService::class.*java*).*apply* {  
 stopService(this)  
 }  
 }  
}**

**MediaService.kt**

**package com.example.madpractical5\_21012022022  
  
import android.app.Service  
import android.content.Intent  
import android.media.MediaPlayer  
import android.os.IBinder  
  
class MediaService : Service() {  
 companion object{  
 public final val DATA\_KEY="service"  
 public val DATA\_VALUE="play/pause"  
 }  
 private lateinit var player: MediaPlayer  
 override fun onBind(intent: Intent): IBinder {  
 *TODO*("Return the communication channel to the service.")  
 }  
  
 override fun onStartCommand(intent: Intent?, flags: Int, startId: Int): Int {  
 if(!this::player.*isInitialized*){  
 player=MediaPlayer.create(this,R.raw.*song*)  
 }  
 if(intent!=null){  
 val str=intent.getStringExtra(DATA\_KEY)  
 if(str == DATA\_VALUE)  
 {  
 if(player.*isPlaying*)  
 {  
 player.pause()  
 }  
 else{  
 player.start()  
 var dur = player.*duration* }  
 }  
 }  
 else{  
 player.start()  
 }  
 return *START\_STICKY* }  
  
 override fun onDestroy() {  
 player.stop()  
 super.onDestroy()  
 }  
}**

**Resource:**

** **

**Output:**

