EX NO:14 **REGISTER NO:210701509**

DATE:

SPEECH TO TEXT

AIM:

Develop an android application to perform Speech to Text.

PROCEDURE:

- Open Android Studio and import the package
- In activity_main.xml drag and drop the buttons
- The button needs to perform actions to change the colour, font size and background colour
- Click android virtual device that should control the toolbar
- Design the graphical layout with the textview and buttons
- Run the application
- The version of android and name is displayed
- The theme of the file is also mentioned in a file
- Run the file using the version which is displayed to the users.

PROGRAM CODE:

AndroidManifest.xml:

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
package="com.example.speechtotext">
<uses-permission android:name="android.permission.RECORD_AUDIO" />
<uses-permission android:name="android.permission.INTERNET" />
<application
android:allowBackup="true"
android:icon="@mipmap/ic_launcher"
android:label="@string/app_name"
android:roundIcon="@mipmap/ic_launcher_round"
android:supportsRtl="true"
android:theme="@style/AppTheme">
<activity android:name=".MainActivity">
<intent-filter>
<action android:name="android.intent.action.MAIN" />
<category android:name="android.intent.category.LAUNCHER" />
</intent-filter>
</activity>
</application>
</manifest>
```

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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"
tools:context=".MainActivity">
<Button
android:id="@+id/buttonRecord"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Record"
android:layout_centerHorizontal="true"
android:layout_marginTop="16dp" />
<TextView
android:id="@+id/textViewResult"
android:layout_below="@id/buttonRecord"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="16dp"
android:text="Result:"
android:textSize="18sp"
android:textStyle="bold" />
</RelativeLayout>
```

MainActivity.kt:

```
package com.example.speechtotext
import android.content.Intent
import android.speech.RecognizerIntent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.speech.RecognitionListener
import android.speech.SpeechRecognizer
import android.widget.Button
import android.widget.TextView
import java.util.*
class MainActivity : AppCompatActivity() {
private lateinit var buttonRecord: Button
private lateinit var textViewResult: TextView
private lateinit var speechRecognizer: SpeechRecognizer
override fun onCreate(savedInstanceState: Bundle?) {
super.onCreate(savedInstanceState)
setContentView(R.layout.activity_main)
buttonRecord = findViewById(R.id.buttonRecord)
textViewResult = findViewById(R.id.textViewResult)
speechRecognizer = SpeechRecognizer.createSpeechRecognizer(this)
```

```
buttonRecord.setOnClickListener {
startSpeechToText()
}
speechRecognizer.setRecognitionListener(object : RecognitionListener {
override fun onReadyForSpeech(params: Bundle?) {}
override fun onBeginningOfSpeech() {}
override fun onRmsChanged(rmsdB: Float) {}
override fun onBufferReceived(buffer: ByteArray?) {}
override fun onEndOfSpeech() {}
override fun onError(error: Int) {}
override fun onResults(results: Bundle?) {
val matches = results?.getStringArrayList(SpeechRecognizer.RESULTS_RECOGNITION)
if (matches != null) {
val result = matches[0]
textViewResult.text = "Result: $result"
}
}
override fun onPartialResults(partialResults: Bundle?) {}
override fun onEvent(eventType: Int, params: Bundle?) {}
})
}
private fun startSpeechToText() {
val intent = Intent(RecognizerIntent.ACTION_RECOGNIZE_SPEECH)
intent.putExtra(RecognizerIntent.EXTRA_LANGUAGE_MODEL,
RecognizerIntent.LANGUAGE_MODEL_FREE_FORM)
intent.putExtra(RecognizerIntent.EXTRA_LANGUAGE, Locale.getDefault())
speechRecognizer.startListening(intent)
}
}
```

OUTPUT:

RESULT: