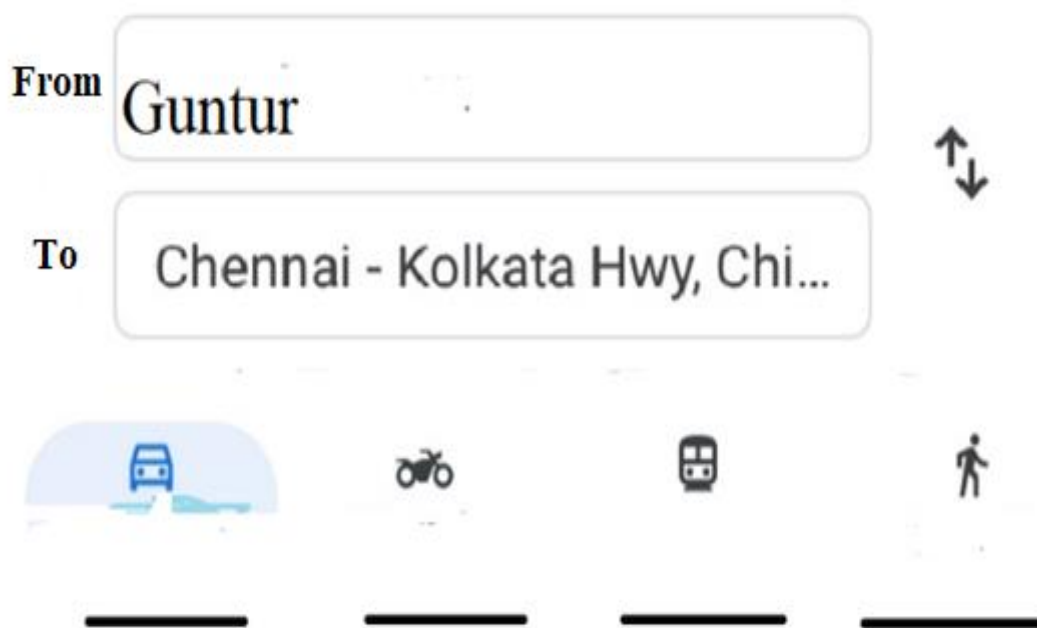**NAME: DARSI S S V GOPI KRISHNA**

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LAB: CSE4002 Mobile Application Development LAB

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Design an App Activity that finds the distance between Guntur to Chennai. When the image buttons car is clicked then the time 7hrs should display in the textfield1, when bike is clicked 9hrs should display in second textfield, when train image button is presses 6hrs should display and when run image button is presses then 40hrs should display in fouthtextfiled. When the arrow button is clicked, the editText should be swapped.

Main activity java:

```java
package com.example.distanceapp;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.ImageButton;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
```

```java
        EditText e1 = findViewById(R.id.editText1);
        EditText e2 = findViewById(R.id.editText2);
        ImageButton i1 = findViewById(R.id.imageButton1);
        ImageButton i2 = findViewById(R.id.imageButton2);
        ImageButton i3 = findViewById(R.id.imageButton3);
        ImageButton i4 = findViewById(R.id.imageButton4);
        ImageButton i5 = findViewById(R.id.imageButton5);
        TextView t1 = findViewById(R.id.textView3);
        TextView t2 = findViewById(R.id.textView4);
        TextView t3 = findViewById(R.id.textView5);
        TextView t4 = findViewById(R.id.textView6);
        i1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String temp = e1.getText().toString();
                e1.setText(e2.getText().toString());
                e2.setText(temp);
            }
        });
        i2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                t1.setText("7hrs");
            }
        });
        i3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                t2.setText("9hrs");
            }
        });
        i4.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                t3.setText("6hrs");
            }
        });
        i5.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                t4.setText("40hrs");
            }
        });
    }
}
```

xml:

```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">

    <ImageButton
        android:id="@+id/imageButton2"
        android:layout_width="0dp"
        android:layout_height="70dp"
        android:layout_marginStart="16dp"
        android:layout_marginTop="64dp"
```

```xml
        android:layout_marginEnd="13dp"
        android:layout_marginBottom="60dp"
        app:layout_constraintBottom_toBottomOf="@+id/textView3"
        app:layout_constraintEnd_toStartOf="@+id/imageButton3"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView2"
        app:srcCompat="@drawable/car"
        tools:ignore="SpeakableTextPresentCheck,TouchTargetSizeCheck" />

    <ImageButton
        android:id="@+id/imageButton3"
        android:layout_width="71dp"
        android:layout_height="0dp"
        android:layout_marginStart="73dp"
        android:layout_marginTop="1dp"
        android:layout_marginEnd="74dp"
        android:layout_marginBottom="1dp"
        app:layout_constraintBottom_toBottomOf="@+id/imageButton4"
        app:layout_constraintEnd_toStartOf="@+id/textView5"
        app:layout_constraintStart_toStartOf="@+id/textView2"
        app:layout_constraintTop_toTopOf="@+id/imageButton2"
        app:srcCompat="@drawable/bike"
        tools:ignore="SpeakableTextPresentCheck,TouchTargetSizeCheck" />

    <ImageButton
        android:id="@+id/imageButton4"
        android:layout_width="67dp"
        android:layout_height="0dp"
        android:layout_marginStart="94dp"
        android:layout_marginEnd="96dp"
        app:layout_constraintBottom_toBottomOf="@+id/imageButton2"
        app:layout_constraintEnd_toEndOf="@+id/imageButton5"
        app:layout_constraintStart_toStartOf="@+id/imageButton3"
        app:layout_constraintTop_toTopOf="@+id/imageButton2"
        app:srcCompat="@drawable/train"
        tools:ignore="SpeakableTextPresentCheck,TouchTargetSizeCheck" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="21dp"
        android:text="To"
        android:textColor="#179E1C"
        android:textStyle="bold"
        app:layout_constraintBaseline_toBaselineOf="@+id/editText2"
        app:layout_constraintStart_toStartOf="parent" />

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="13dp"
        android:text="From"
        android:textColor="#179E1C"
        android:textStyle="bold"
        app:layout_constraintBaseline_toBaselineOf="@+id/editText1"
        app:layout_constraintStart_toStartOf="parent" />

    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="12dp"
        android:layout_marginTop="86dp"
        android:background="#FFFFFF"
```

```xml
        android:ems="10"
        android:inputType="textPersonName"
        android:minHeight="48dp"
        android:textColor="#2F49D5"
        app:layout_constraintStart_toEndOf="@+id/textView1"
        app:layout_constraintTop_toTopOf="parent"
        tools:ignore="SpeakableTextPresentCheck" />

    <EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="21dp"
        android:layout_marginTop="42dp"
        android:background="#FFFFFF"
        android:ems="10"
        android:inputType="textPersonName"
        android:minHeight="48dp"
        android:textColor="#2F49D5"
        app:layout_constraintStart_toEndOf="@+id/textView2"
        app:layout_constraintTop_toBottomOf="@+id/editText1"
        tools:ignore="SpeakableTextPresentCheck" />

    <ImageButton
        android:id="@+id/imageButton1"
        android:layout_width="50dp"
        android:layout_height="50dp"
        android:layout_marginEnd="44dp"
        app:layout_constraintBottom_toTopOf="@+id/editText2"
        app:layout_constraintEnd_toEndOf="parent"
        app:srcCompat="@drawable/to"
        tools:ignore="TouchTargetSizeCheck,SpeakableTextPresentCheck" />

    <ImageButton
        android:id="@+id/imageButton5"
        android:layout_width="0dp"
        android:layout_height="0dp"

        android:layout_marginTop="1dp"
        android:layout_marginBottom="1dp"
        app:layout_constraintBottom_toBottomOf="@+id/imageButton4"
        app:layout_constraintEnd_toEndOf="@+id/textView6"
        app:layout_constraintStart_toStartOf="@+id/textView6"
        app:layout_constraintTop_toTopOf="@+id/imageButton3"
        app:srcCompat="@drawable/walk"
        tools:ignore="SpeakableTextPresentCheck,SpeakableTextPresentCheck,TouchTarg
etSizeCheck" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="37dp"
        android:layout_marginBottom="326dp"
        android:textColor="#E6420F"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent" />

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="41dp"
        android:layout_marginEnd="21dp"
        android:textColor="#E6420F"
        app:layout_constraintEnd_toEndOf="@+id/imageButton3"
```
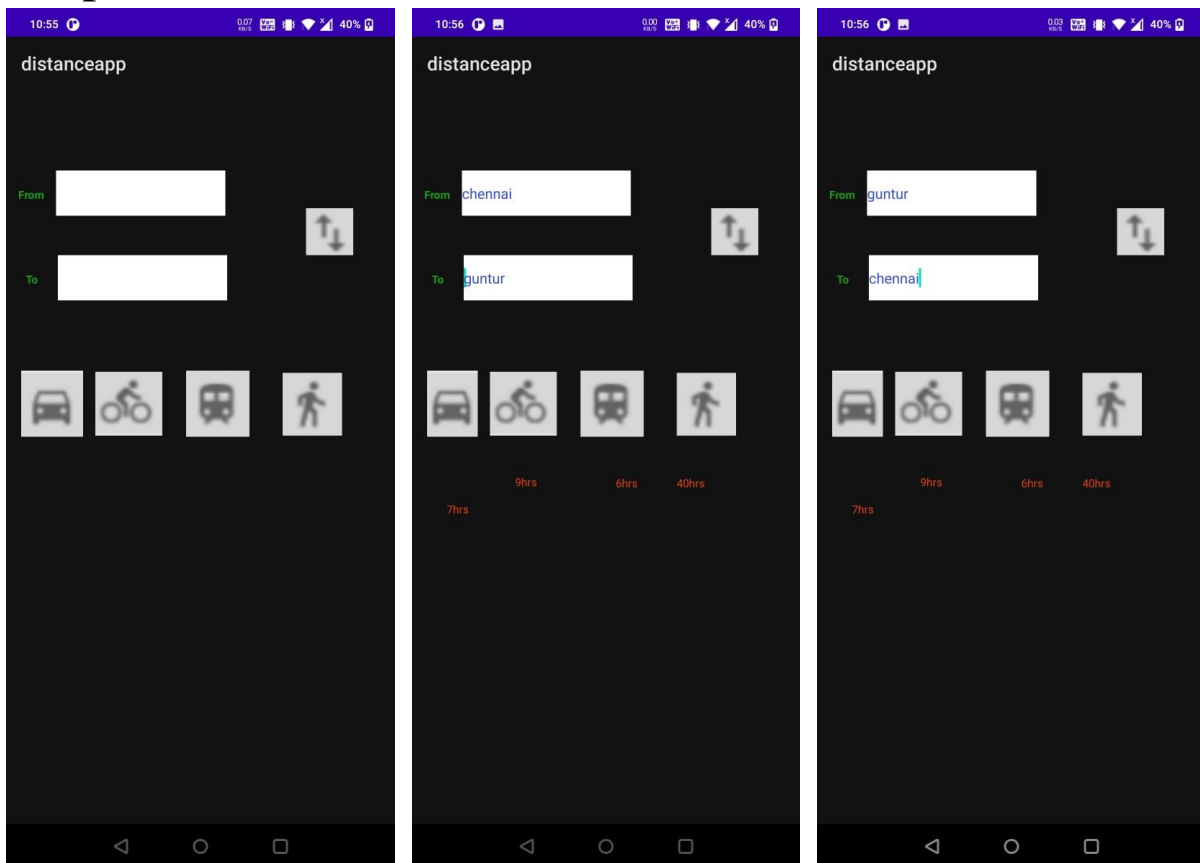
```
        app:layout_constraintTop_toBottomOf="@+id/imageButton3" />

    <TextView
        android:id="@+id/textView5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="41dp"
        android:layout_marginEnd="172dp"
        android:textColor="#E6420F"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/imageButton4" />

    <TextView
        android:id="@+id/textView6"
        android:layout_width="63dp"
        android:layout_height="32dp"
        android:layout_marginStart="53dp"
        android:layout_marginEnd="56dp"
        android:textColor="#E6420F"
        app:layout_constraintBaseline_toBaselineOf="@+id/textView5"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="@+id/textView5" />
</androidx.constraintlayout.widget.ConstraintLayout>
```
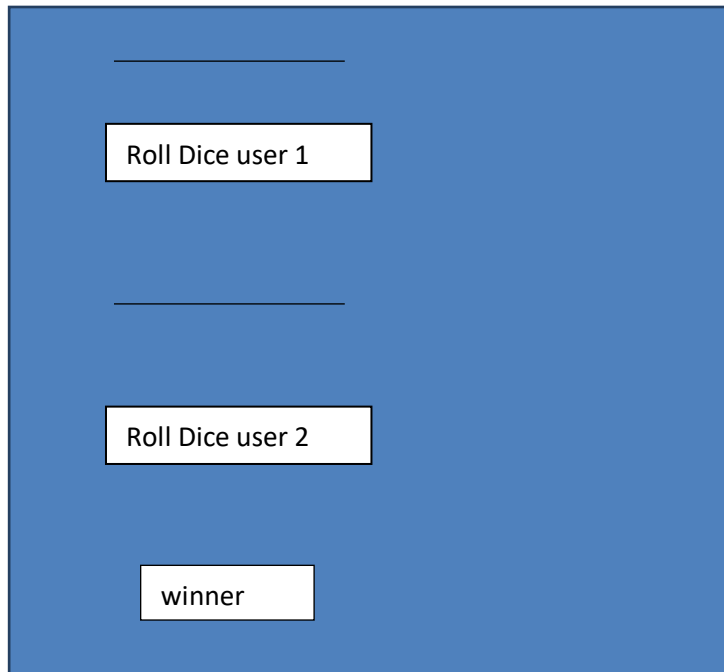
Outputs:

Design an Application that reads a random number between 1 to 6 whenever the user clicks Roll Dice. Do this for both the user. When the Winner button is pressed, the user whose number is greater will be

identified and raise an Alert notification indicating whether user1 or user2 is the winner.

Main activity java:

```java
package com.example.dicegame;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.content.DialogInterface;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        TextView t1 = findViewById(R.id.textView1);
        TextView t2 = findViewById(R.id.textView2);
        Button b1 = findViewById(R.id.button1);
        Button b2 = findViewById(R.id.button2);
        Button b3 = findViewById(R.id.button3);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                t1.setText(String.valueOf((int)(Math.random()*6.99)));
            }
        });
        b2.setOnClickListener(new View.OnClickListener() {
```

```java
            @Override
            public void onClick(View view) {
                t2.setText(String.valueOf((int)(Math.random()*6.99)));
            }
        });
        b3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                int i = 0;

                if(Integer.parseInt(t1.getText().toString())>Integer.parseInt(t2.getText().
                        toString()))
                    i=1;
                else

                if(Integer.parseInt(t1.getText().toString())<Integer.parseInt(t2.getText().
                        toString()))
                    i=2;
                AlertDialog.Builder builder = new
                        AlertDialog.Builder(MainActivity.this);
                if(i==0) {
                    builder.setTitle("Tie");
                    builder.setMessage("Tie between the players 1 & 2");
                } else {
                    builder.setTitle("Winner");
                    builder.setMessage("Winner in the roll dice is player:
                            "
                            + i);
                }
                builder.setPositiveButton("Close APP", new
                        DialogInterface.OnClickListener() {
                            public void onClick(DialogInterface dialog, int
                                    id) {
                                finish();
                            }
                        });
                builder.setNegativeButton("Re roll dice", new
                        DialogInterface.OnClickListener() {
                            public void onClick(DialogInterface dialog, int
                                    id) {
                                dialog.cancel();
                            }
                        });
                AlertDialog alert = builder.create();
                alert.show();
            }
        });
    }
```
xml:

```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/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Roll Dice 1st user "
        android:textAllCaps="false"
        app:layout_constraintBottom_toTopOf="@+id/textView2"
        app:layout_constraintEnd_toEndOf="parent"
```

```
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView1" />
    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Roll Dice 2nd user "
        android:textAllCaps="false"
        app:layout_constraintBottom_toTopOf="@+id/button3"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView2" />
    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="winner"
        android:textAllCaps="false"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/button2" />
    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="24sp"
        app:layout_constraintBottom_toTopOf="@+id/button1"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        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:textSize="24sp"
        app:layout_constraintBottom_toTopOf="@+id/button2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/button1" />
</androidx.constraintlayout.widget.ConstraintLayout>
Output:
```

Screen 1:

dicegame

Roll Dice 1st user

Roll Dice 2nd user

winner

Screen 2:

dicegame

2

Roll Dice 1st user

Winner

Winner in the roll dice is player: 1

RE ROLL DICE   CLOSE APP

Roll Dice 2nd user

winner

Screen 3:

dicegame

1

Roll Dice 1st user

Winner

Winner in the roll dice is player: 2

RE ROLL DICE   CLOSE APP

Roll Dice 2nd user

winner