Slip no – 3

Q1. Create an Android Application that will change color of the College Name on click of Push Button and change the font size, font style of text view using xml.

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">  
  
 <TextView  
 *android:id*="@+id/collegeNameTextView"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="wrap\_content"  
 *android:text*="S.M Joshi College Hadapsar"  
 *android:textSize*="18sp"  
 *android:textStyle*="normal"  
 *android:textColor*="@android:color/black"  
 *app:layout\_constraintTop\_toTopOf*="parent"  
 *app:layout\_constraintStart\_toStartOf*="parent"  
 *app:layout\_constraintEnd\_toEndOf*="parent"  
 *android:layout\_marginTop*="16dp"/>  
  
 <Button  
 *android:id*="@+id/submitBtn"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="wrap\_content"  
 *android:text*="Submit"  
 *app:layout\_constraintTop\_toBottomOf*="@+id/collegeNameTextView"  
 *app:layout\_constraintStart\_toStartOf*="parent"  
 *app:layout\_constraintEnd\_toEndOf*="parent"  
 *android:layout\_marginTop*="16dp"  
 *android:onClick*="onSubmitButtonClick"/>  
  
</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

*package* com.example.slipno3;  
  
*import* android.graphics.Color;  
*import* android.graphics.Typeface;  
*import* android.os.Bundle;  
*import* android.view.View;  
*import* android.widget.Button;  
*import* android.widget.TextView;  
  
*import* androidx.appcompat.app.AppCompatActivity;  
  
*public class* MainActivity *extends* AppCompatActivity {  
  
 *private* TextView collegeNameTextView;  
 *private* Button submitBtn;  
  
 @Override  
 *protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 collegeNameTextView = findViewById(R.id.*collegeNameTextView*);  
 submitBtn = findViewById(R.id.*submitBtn*);  
 }  
  
 *public void* onSubmitButtonClick(View view) {  
 *// Change text color to red* collegeNameTextView.setTextColor(Color.***RED***);  
 *// Change font size to 24sp* collegeNameTextView.setTextSize(24);  
 *// Change font style to bold* collegeNameTextView.setTypeface(*null*, Typeface.***BOLD***);  
 }  
}

Q2. Create an Android Application to find the factorial of a number and Display the Resulton Alert Box.

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">  
  
 <EditText  
 *android:id*="@+id/numberInput"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="wrap\_content"  
 *android:hint*="Enter a number"  
 *android:inputType*="number" />  
  
 <Button  
 *android:id*="@+id/calculateButton"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="wrap\_content"  
 *android:layout\_below*="@id/numberInput"  
 *android:layout\_centerHorizontal*="true"  
 *android:layout\_marginTop*="16dp"  
 *android:text*="Calculate Factorial" />  
  
</RelativeLayout>

MainActivity.java

*package* com.example.slipno3;  
  
*import* android.app.AlertDialog;  
*import* android.content.*DialogInterface*;  
*import* android.os.Bundle;  
*import* android.view.View;  
*import* android.widget.Button;  
*import* android.widget.EditText;  
*import* androidx.appcompat.app.AppCompatActivity;  
  
*public class* MainActivity *extends* AppCompatActivity {  
  
 @Override  
 *protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 *final* EditText numberInput = findViewById(R.id.*numberInput*);  
 Button calculateButton = findViewById(R.id.*calculateButton*);  
  
 calculateButton.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View v) {  
 String inputStr = numberInput.getText().toString();  
 *if* (!inputStr.isEmpty()) {  
 *int* number = Integer.*parseInt*(inputStr);  
 *long* factorial = calculateFactorial(number);  
 displayResult(factorial);  
 }  
 }  
 });  
 }  
  
 *private long* calculateFactorial(*int* n) {  
 *if* (n == 0)  
 *return* 1;  
 *else  
 return* n \* calculateFactorial(n - 1);  
 }  
  
 *private void* displayResult(*long* result) {  
 AlertDialog.Builder builder = *new* AlertDialog.Builder(*this*);  
 builder.setMessage("Factorial is: " + result)  
 .setPositiveButton("OK", *new DialogInterface*.OnClickListener() {  
 *public void* onClick(*DialogInterface* dialog, *int* id) {  
 dialog.dismiss();  
 }  
 });  
 AlertDialog alert = builder.create();  
 alert.show();  
 }  
}