MainActivity.java

package org.techtown.helloandroid;  
  
import …  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 // 버튼 정의  
 ImageButton btnMemo = (ImageButton) findViewById(R.id.*btnMemo*);  
 ImageButton btnQuiz = (ImageButton) findViewById(R.id.*btnQuiz*);  
 ImageButton btnCheck = (ImageButton) findViewById(R.id.*btnCheck*);  
 ImageButton btnAdvice = (ImageButton) findViewById(R.id.*btnAdvice*);  
 // 버튼 클릭 시 해당 페이지로 넘어감  
 btnMemo.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Intent intent = new Intent(getApplicationContext(), MemoActivity.class);  
 startActivity(intent);  
 }  
 });  
 btnQuiz.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Intent intent = new Intent(getApplicationContext(), QuizActivity.class);  
 startActivity(intent);  
 }  
 });  
 btnCheck.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Intent intent = new Intent(getApplicationContext(), CheckActivity.class);  
 startActivity(intent);  
 }  
 });  
 btnAdvice.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Intent intent = new Intent(getApplicationContext(), SmileActivity.class);  
 startActivity(intent);  
 }  
 });  
 }  
}

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:orientation="vertical"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:background="@drawable/background"  
 tools:context=".MainActivity">  
 <!--메모하기 버튼-->  
 <ImageButton  
 android:id="@+id/btnMemo"  
 android:layout\_width="140dp"  
 android:layout\_height="140dp"  
 android:layout\_marginLeft="55dp"  
 android:layout\_marginTop="200dp"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:srcCompat="@drawable/btnmemo" />  
 <!--퀴즈풀기 버튼-->  
 <ImageButton  
 android:id="@+id/btnQuiz"  
 android:layout\_width="140dp"  
 android:layout\_height="140dp"  
 android:layout\_marginLeft="20dp"  
 android:layout\_marginTop="200dp"  
 app:layout\_constraintLeft\_toRightOf="@+id/btnMemo"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:srcCompat="@drawable/btnquiz" />  
 <!--확인하기 버튼-->  
 <ImageButton  
 android:id="@+id/btnCheck"  
 android:layout\_width="140dp"  
 android:layout\_height="140dp"  
 android:layout\_marginLeft="55dp"  
 android:layout\_marginTop="20dp"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/btnMemo"  
 app:srcCompat="@drawable/btncheck" />  
 <!--상담하기 버튼-->  
 <ImageButton  
 android:id="@+id/btnAdvice"  
 android:layout\_width="140dp"  
 android:layout\_height="140dp"  
 android:layout\_marginTop="20dp"  
 android:layout\_marginLeft="20dp"  
 app:layout\_constraintLeft\_toRightOf="@+id/btnCheck"  
 app:layout\_constraintTop\_toBottomOf="@+id/btnQuiz"  
 app:srcCompat="@drawable/btnadvice" />  
 <!--설정하기 버튼-->  
 <ImageButton  
 android:id="@+id/btnOption"  
 android:layout\_width="140dp"  
 android:layout\_height="140dp"  
 android:layout\_marginLeft="55dp"  
 android:layout\_marginTop="20dp"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/btnCheck"  
 app:srcCompat="@drawable/btnoption" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

QuizActivity.java

package org.techtown.helloandroid;  
  
import …  
  
public class QuizActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_quiz*);  
  
 // 커스텀 다이얼로그를 호출할 버튼을 정의  
 ImageButton button1 = (ImageButton) findViewById(R.id.*button1*);  
 ImageButton button2 = (ImageButton) findViewById(R.id.*button2*);  
 ImageButton button3 = (ImageButton) findViewById(R.id.*button3*);  
 ImageButton button4 = (ImageButton) findViewById(R.id.*button4*);  
  
 // 커스텀 다이얼로그 호출할 클릭 이벤트 리스너 정의  
 button1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 // 커스텀 다이얼로그를 생성  
 CustomDialog customDialog = new CustomDialog(QuizActivity.this);  
  
 // 다이얼로그를 호출  
 // 다이얼로그 내용을 결정할 정수도 같이 넘겨줌  
 customDialog.callFunction(1);  
 }  
 });  
 button2.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 CustomDialog customDialog = new CustomDialog(QuizActivity.this);  
 customDialog.callFunction(2);  
 }  
 });  
 button3.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 CustomDialog2 customDialog2 = new CustomDialog2(QuizActivity.this);  
 customDialog2.callFunction(3);  
 }  
 });  
 button4.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 CustomDialog customDialog = new CustomDialog(QuizActivity.this);  
 customDialog.callFunction(4);  
 }  
 });  
 }  
}

Activity\_quiz.xmi (퀴즈풀기화면)

<?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"  
 android:background="@drawable/quiz"  
 tools:context=".QuizActivity">  
 <!--선택지 1번-->  
 <ImageButton  
 android:id="@+id/button1"  
 android:layout\_width="372dp"  
 android:layout\_height="47dp"  
 android:layout\_marginTop="430dp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:srcCompat="@drawable/button1" />  
 <!--선택지 2번-->  
 <ImageButton  
 android:id="@+id/button2"  
 android:layout\_width="372dp"  
 android:layout\_height="47dp"  
 android:layout\_marginTop="10dp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/button1"  
 app:srcCompat="@drawable/button2" />  
 <!--선택지 3번-->  
 <ImageButton  
 android:id="@+id/button3"  
 android:layout\_width="372dp"  
 android:layout\_height="47dp"  
 android:layout\_marginTop="10dp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/button2"  
 app:srcCompat="@drawable/button3" />  
 <!--선택지 4번-->  
 <ImageButton  
 android:id="@+id/button4"  
 android:layout\_width="372dp"  
 android:layout\_height="47dp"  
 android:layout\_marginTop="10dp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/button3"  
 app:srcCompat="@drawable/button4" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

CustomDialog.java (오답시 다이얼로그)

package org.techtown.helloandroid;  
  
import …  
  
public class CustomDialog {  
 int i=0;  
  
 private Context context;  
  
 public CustomDialog(Context context) {  
 this.context = context;  
 }  
  
 // 호출할 다이얼로그 함수를 정의한다.  
 public void callFunction(int num) {  
 // 커스텀 다이얼로그를 정의하기위해 Dialog클래스를 생성한다.  
 final Dialog dlg = new Dialog(context);  
 // 커스텀 다이얼로그의 레이아웃을 설정한다.  
 dlg.setContentView(R.layout.*custom\_dialog*);  
 // 액티비티의 타이틀바를 숨긴다.  
 dlg.requestWindowFeature(Window.*FEATURE\_NO\_TITLE*);  
 // 커스텀 다이얼로그를 노출한다.  
 dlg.show();  
 // 커스텀 다이얼로그의 버튼과 이미지를 정의한다.  
 ImageButton next = (ImageButton) dlg.findViewById(R.id.*next*);  
 final ImageView imageview1 = (ImageView) dlg.findViewById(R.id.*incorrect1*);  
 final ImageView imageview2 = (ImageView) dlg.findViewById(R.id.*incorrect2*);  
 final ImageView imageview4 = (ImageView) dlg.findViewById(R.id.*incorrect4*);  
 final ImageView smilemessage = (ImageView) dlg.findViewById(R.id.*incorrect5*);  
 // 이미지들을 비활성화한다.  
 imageview1.setVisibility(View.*INVISIBLE*);  
 imageview2.setVisibility(View.*INVISIBLE*);  
 imageview4.setVisibility(View.*INVISIBLE*);  
 smilemessage.setVisibility(View.*INVISIBLE*);  
 // 각 선택지 선택 시 오답이미지를 활성화한다.  
 switch(num) {  
 case 1:  
 imageview1.setVisibility(View.*VISIBLE*);  
 break;  
 case 2:  
 imageview2.setVisibility(View.*VISIBLE*);  
 break;  
 case 4:  
 imageview4.setVisibility(View.*VISIBLE*);  
 break;  
 }  
  
 next.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 // 첫번째로 버튼 클릭 시 웃음 유도 이미지를 활성화한다.  
 if(i==0) {  
 smilemessage.setVisibility(View.*VISIBLE*);  
 imageview1.setVisibility(View.*INVISIBLE*);  
 imageview2.setVisibility(View.*INVISIBLE*);  
 imageview4.setVisibility(View.*INVISIBLE*);  
 i++;  
 }  
 // 버튼 한번 더 클릭 시 다이얼로그를 종료한다.  
 else {  
 dlg.dismiss();  
 }  
 }  
 });  
 }  
}

custom\_dialog.xml (오답시 다이얼로그)

<?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"  
 android:background="#ffffff"  
 tools:context=".QuizActivity">  
 <!--1번선택지로 오답-->  
 <ImageView  
 android:id="@+id/incorrect1"  
 android:layout\_width="match\_parent"  
 android:layout\_height="250dp"  
 android:background="@drawable/incorrect1"/>  
 <!--2번선택지로 오답-->  
 <ImageView  
 android:id="@+id/incorrect2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="250dp"  
 android:background="@drawable/incorrect2"/>  
 <!--4번선택지로 오답-->  
 <ImageView  
 android:id="@+id/incorrect4"  
 android:layout\_width="match\_parent"  
 android:layout\_height="250dp"  
 android:background="@drawable/incorrect4"/>  
 <!--오답 웃음유도문구-->  
 <ImageView  
 android:id="@+id/incorrect5"  
 android:layout\_width="match\_parent"  
 android:layout\_height="250dp"  
 android:background="@drawable/incorrect5"/>  
 <!--계속하기 버튼-->  
 <ImageButton  
 android:id="@+id/next"  
 android:layout\_width="132dp"  
 android:layout\_height="31dp"  
 android:layout\_marginTop="208dp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:srcCompat="@drawable/next" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

CustomDialog2.java (정답시 다이얼로그)

package org.techtown.helloandroid;  
  
import android.app.Dialog;  
import android.content.Context;  
import android.view.View;  
import android.view.Window;  
import android.widget.ImageButton;  
import android.widget.ImageView;  
  
  
public class CustomDialog2 {  
  
 int i=0;  
  
 private Context context;  
  
 public CustomDialog2(Context context) {  
 this.context = context;  
 }  
  
 // 호출할 다이얼로그 함수를 정의한다.  
 public void callFunction(int num) {  
 // 커스텀 다이얼로그를 정의하기위해 Dialog클래스를 생성한다.  
 final Dialog dlg = new Dialog(context);  
 // 액티비티의 타이틀바를 숨긴다.  
 dlg.requestWindowFeature(Window.*FEATURE\_NO\_TITLE*);  
 // 커스텀 다이얼로그의 레이아웃을 설정한다.  
 dlg.setContentView(R.layout.*custom\_dialog2*);  
 // 커스텀 다이얼로그를 노출한다.  
 dlg.show();  
 // 커스텀 다이얼로그의 버튼과 이미지를 정의한다.  
 ImageButton next = (ImageButton) dlg.findViewById(R.id.*next*);  
 final ImageView imageview1 = (ImageView) dlg.findViewById(R.id.*correct*);  
 final ImageView smilemessage = (ImageView) dlg.findViewById(R.id.*correct2*);  
 // 정답 안내 이미지만 활성화한다.  
 imageview1.setVisibility(View.*VISIBLE*);  
 smilemessage.setVisibility(View.*INVISIBLE*);  
  
 next.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 // 첫번째로 버튼 클릭 시 웃음 유도 이미지를 활성화한다.  
 if(i==0) {  
 smilemessage.setVisibility(View.*VISIBLE*);  
 imageview1.setVisibility(View.*INVISIBLE*);  
 // dlg.dismiss();  
 i++;  
 }  
 // 버튼 한번 더 클릭 시 다이얼로그를 종료한다.  
 else {  
 dlg.dismiss();  
 }  
 }  
 });  
 }  
}

Custom\_dialog2.xml (정답시 다이얼로그)

<?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"  
 android:background="#ffffff"  
 tools:context=".QuizActivity">  
 <!--정답시-->  
 <ImageView  
 android:id="@+id/correct2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="250dp"  
 android:background="@drawable/correct2"/>  
 <!--정답시 웃음유도 문구-->  
 <ImageView  
 android:id="@+id/correct"  
 android:layout\_width="match\_parent"  
 android:layout\_height="250dp"  
 android:background="@drawable/correct"/>  
 <!--계속하기 버튼-->  
 <ImageButton  
 android:id="@+id/next"  
 android:layout\_width="132dp"  
 android:layout\_height="31dp"  
 android:layout\_marginTop="208dp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:srcCompat="@drawable/next" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

CheckActivity.java (인지능력 보고서)

package org.techtown.helloandroid;  
  
import …  
  
public class CheckActivity extends AppCompatActivity {  
 //임의로 변화량 설정  
 int quizChange = 1;  
 int smileChange = -1;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_check*);  
 // 이미지 선언  
 ImageView like = (ImageView) findViewById(R.id.*like*);  
 ImageView quizup = (ImageView) findViewById(R.id.*quizup*);  
 ImageView smileup = (ImageView) findViewById(R.id.*smileup*);  
 ImageView smileup2 = (ImageView) findViewById(R.id.*smileup2*);  
 ImageView sad = (ImageView) findViewById(R.id.*sad*);  
 ImageView quizdown = (ImageView) findViewById(R.id.*quizdown*);  
 ImageView smiledown = (ImageView) findViewById(R.id.*smiledown*);  
 ImageView smiledown2 = (ImageView) findViewById(R.id.*smiledown2*);  
 // 퀴즈변화량과 웃음변화량에 따른 메시지 출력조정 조건문  
 if(quizChange >= 0) {  
 like.setVisibility(View.*VISIBLE*);  
 quizup.setVisibility(View.*VISIBLE*);  
 quizdown.setVisibility(View.*INVISIBLE*);  
 smileup.setVisibility(View.*INVISIBLE*);  
 smiledown2.setVisibility(View.*INVISIBLE*);  
 if(smileChange >=0) {  
 sad.setVisibility(View.*INVISIBLE*);  
 smileup2.setVisibility(View.*VISIBLE*);  
 smiledown.setVisibility(View.*INVISIBLE*);  
 }  
 else {  
 sad.setVisibility(View.*VISIBLE*);  
 smileup2.setVisibility(View.*INVISIBLE*);  
 smiledown.setVisibility(View.*VISIBLE*);  
 }  
 }  
 else {  
 sad.setVisibility(View.*VISIBLE*);  
 quizup.setVisibility(View.*INVISIBLE*);  
 quizdown.setVisibility(View.*VISIBLE*);  
 smileup2.setVisibility(View.*INVISIBLE*);  
 smiledown.setVisibility(View.*INVISIBLE*);  
 if (smileChange >= 0) {  
 like.setVisibility(View.*VISIBLE*);  
 smileup.setVisibility(View.*VISIBLE*);  
 smiledown2.setVisibility(View.*INVISIBLE*);  
 } else {  
 like.setVisibility(View.*INVISIBLE*);  
 smileup.setVisibility(View.*INVISIBLE*);  
 smiledown2.setVisibility(View.*VISIBLE*);  
 }  
 }  
 }  
}

activity\_check.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"  
 android:background="@drawable/check"  
 tools:context=".CheckActivity">  
 <!--그래프-->  
 <ImageView  
 android:id="@+id/graph"  
 android:layout\_width="320dp"  
 android:layout\_height="160dp"  
 android:layout\_marginTop="150dp"  
 android:background="@drawable/graph"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
 <!--상담하기 버튼-->  
 <ImageButton  
 android:id="@+id/checkAdvice"  
 android:layout\_width="365dp"  
 android:layout\_height="56dp"  
 android:layout\_marginBottom="20dp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:srcCompat="@drawable/checkadvice" />  
 <!--좋아요-->  
 <ImageView  
 android:id="@+id/like"  
 android:layout\_width="100dp"  
 android:layout\_height="40dp"  
 android:layout\_marginTop="20dp"  
 android:background="@drawable/like"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/graph" />  
 <!--퀴즈능력이 좋아지고 있어요-->  
 <ImageView  
 android:id="@+id/quizup"  
 android:layout\_width="300dp"  
 android:layout\_height="40dp"  
 android:layout\_marginTop="0dp"  
 android:background="@drawable/quizup"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/like" />  
 <!--웃음달성도가 좋아지고 있어요-->  
 <ImageView  
 android:id="@+id/smileup"  
 android:layout\_width="300dp"  
 android:layout\_height="40dp"  
 android:layout\_marginTop="0dp"  
 android:background="@drawable/smileup"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/like" />  
 <!--퀴즈능력과 웃음달성도가 둘다 좋을시 웃음달성도를 아래쪽에 출력하기 위한 이미지뷰-->  
 <ImageView  
 android:id="@+id/smileup2"  
 android:layout\_width="300dp"  
 android:layout\_height="40dp"  
 android:layout\_marginTop="0dp"  
 android:background="@drawable/smileup"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/quizup" />  
 <!--슬퍼요-->  
 <ImageView  
 android:id="@+id/sad"  
 android:layout\_width="100dp"  
 android:layout\_height="40dp"  
 android:layout\_marginTop="0dp"  
 android:background="@drawable/sad"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/smileup2" />  
 <!--퀴즈능력이 낮아지고 있어요-->  
 <ImageView  
 android:id="@+id/quizdown"  
 android:layout\_width="300dp"  
 android:layout\_height="40dp"  
 android:layout\_marginTop="0dp"  
 android:background="@drawable/quizdown"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/sad" />  
 <!--웃음달성도가 낮아지고 있어요-->  
 <ImageView  
 android:id="@+id/smiledown"  
 android:layout\_width="300dp"  
 android:layout\_height="40dp"  
 android:layout\_marginTop="0dp"  
 android:background="@drawable/smiledown"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/sad" />  
 <!--퀴즈능력과 웃음달성도가 둘다 나쁠시 웃음달성도를 아래쪽에 출력하기 위한 이미지뷰-->  
 <ImageView  
 android:id="@+id/smiledown2"  
 android:layout\_width="300dp"  
 android:layout\_height="40dp"  
 android:layout\_marginTop="0dp"  
 android:background="@drawable/smiledown"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/quizdown" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>