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Fa18-bse-050

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Constraint layout:

```
fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.keyframe_one)
    constraintLayout = findViewById(R.id.constraint_layout) // member variable
}

fun animateToKeyframeTwo() {
    val constraintSet = ConstraintSet()
    constraintSet.load(this, R.layout.keyframe_two)
    TransitionManager.beginDelayedTransition()
    constraintSet.applyTo(constraintLayout)
}
```

```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"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <Button
        android:id="@+id/button2"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:text="Button"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

```
// layout/keyframe2.xml
// Keyframe 2 contains another ConstraintLayout with the final positions

<?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"
  android:layout_width="match_parent"
  android:layout_height="match_parent">

  <Button
    android:id="@+id/button2"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="Button"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintBottom_toBottomOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

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Relative layout:

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  android:paddingLeft="16dp"
  android:paddingRight="16dp" >
  <EditText
    android:id="@+id/name"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="@string/reminder" />
```

```xml
<Spinner
    android:id="@+id/dates"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_below="@id/name"
    android:layout_alignParentLeft="true"
    android:layout_toLeftOf="@+id/times" />
<Spinner
    android:id="@id/times"
    android:layout_width="96dp"
    android:layout_height="wrap_content"
    android:layout_below="@id/name"
    android:layout_alignParentRight="true" />
<Button
    android:layout_width="96dp"
    android:layout_height="wrap_content"
    android:layout_below="@id/times"
    android:layout_alignParentRight="true"
    android:text="@string/done" />

android:layout_width="fill_parent"

android:layout_height="fill_parent"

android:paddingLeft="16dp"

android:paddingRight="16dp" >


<EditText

    android:id="@+id/name"

    android:layout_width="fill_parent"

    android:layout_height="wrap_content"

    android:hint="@string/reminder" />


<LinearLayout

    android:orientation="vertical"

    android:layout_width="fill_parent"
```

```xml
        android:layout_height="fill_parent"

        android:layout_alignParentStart="true"

        android:layout_below="@+id/name">


        <Button

            android:layout_width="wrap_content"

            android:layout_height="wrap_content"

            android:text="New Button"

            android:id="@+id/button" />


        <Button

            android:layout_width="wrap_content"

            android:layout_height="wrap_content"

            android:text="New Button"

            android:id="@+id/button2" />


    </LinearLayout>

</RelativeLayout>
```

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