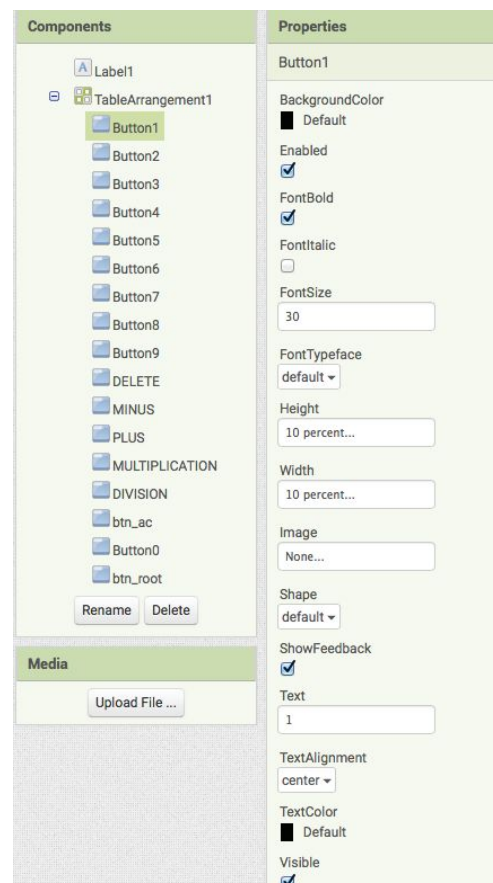
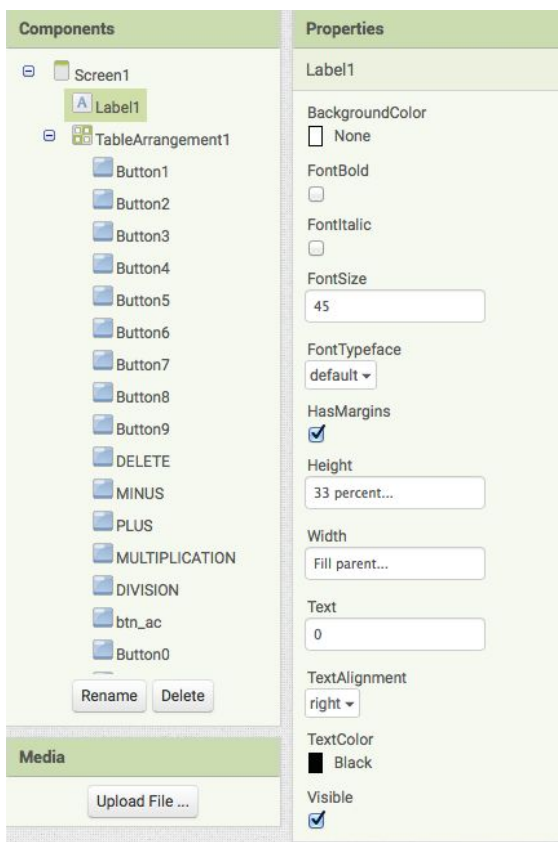
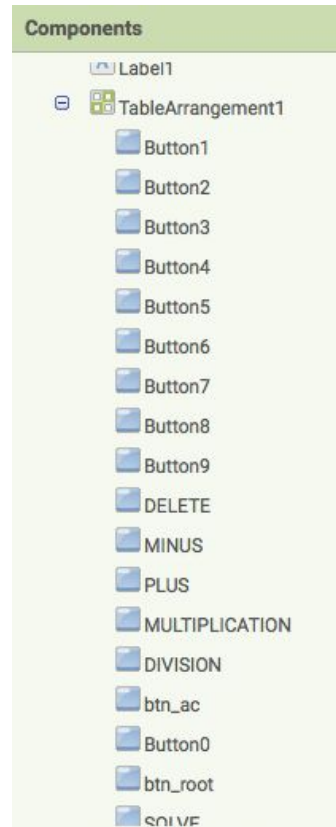
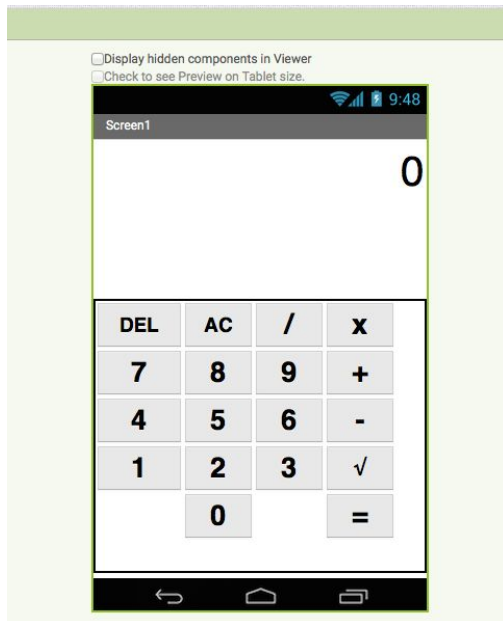


CHALLENGE 3: ALGEBRA

In this challenge we develop a general calculator that can do a multiplication, a division, an addition, a subtraction and a square root.

INTERFACE:



Components	Properties
<ul style="list-style-type: none"> Screen1 <ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 	Button2 BackgroundColor <input type="checkbox"/> Default Enabled <input checked="" type="checkbox"/> FontBold <input checked="" type="checkbox"/> FontItalic <input type="checkbox"/> FontSize <input type="text" value="30"/> FontTypeface <input type="text" value="default"/> Height <input type="text" value="10 percent..."/> Width <input type="text" value="20 percent..."/> Image <input type="text" value="None..."/> Shape <input type="text" value="default"/> ShowFeedback <input checked="" type="checkbox"/> Text <input type="text" value="2"/> TextAlignment <input type="text" value="center"/> TextColor <input type="checkbox"/> Default Visible <input checked="" type="checkbox"/>
Media <input type="text" value="Upload File ..."/>	

Components	Properties
<ul style="list-style-type: none"> Screen1 <ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 	Button3 BackgroundColor <input type="checkbox"/> Default Enabled <input checked="" type="checkbox"/> FontBold <input checked="" type="checkbox"/> FontItalic <input type="checkbox"/> FontSize <input type="text" value="30"/> FontTypeface <input type="text" value="default"/> Height <input type="text" value="10 percent..."/> Width <input type="text" value="20 percent..."/> Image <input type="text" value="None..."/> Shape <input type="text" value="default"/> ShowFeedback <input checked="" type="checkbox"/> Text <input type="text" value="3"/> TextAlignment <input type="text" value="center"/> TextColor <input type="checkbox"/> Default Visible <input checked="" type="checkbox"/>
Media <input type="text" value="Upload File ..."/>	

Components	Properties
<ul style="list-style-type: none"> Screen1 <ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 	Button4 BackgroundColor <input type="checkbox"/> Default Enabled <input checked="" type="checkbox"/> FontBold <input checked="" type="checkbox"/> FontItalic <input type="checkbox"/> FontSize <input type="text" value="30"/> FontTypeface <input type="text" value="default"/> Height <input type="text" value="10 percent..."/> Width <input type="text" value="20 percent..."/> Image <input type="text" value="None..."/> Shape <input type="text" value="default"/> ShowFeedback <input checked="" type="checkbox"/> Text <input type="text" value="4"/> TextAlignment <input type="text" value="center"/> TextColor <input type="checkbox"/> Default Visible <input checked="" type="checkbox"/>
Media <input type="text" value="Upload File ..."/>	

Components	Properties
<ul style="list-style-type: none"> Screen1 <ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 	Button5 BackgroundColor <input type="checkbox"/> Default Enabled <input checked="" type="checkbox"/> FontBold <input checked="" type="checkbox"/> FontItalic <input type="checkbox"/> FontSize <input type="text" value="30"/> FontTypeface <input type="text" value="default"/> Height <input type="text" value="10 percent..."/> Width <input type="text" value="20 percent..."/> Image <input type="text" value="None..."/> Shape <input type="text" value="default"/> ShowFeedback <input checked="" type="checkbox"/> Text <input type="text" value="5"/> TextAlignment <input type="text" value="center"/> TextColor <input type="checkbox"/> Default Visible <input checked="" type="checkbox"/>
Media <input type="text" value="Upload File ..."/>	

Components	Properties
<ul style="list-style-type: none"> Screen1 <ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 	Button6 BackgroundColor: Default Enabled: <input checked="" type="checkbox"/> FontBold: <input checked="" type="checkbox"/> FontItalic: <input type="checkbox"/> FontSize: 30 FontTypeface: default Height: 10 percent... Width: 20 percent... Image: None... Shape: default ShowFeedback: <input checked="" type="checkbox"/> Text: 6 TextAlignment: center TextColor: Black Visible: <input checked="" type="checkbox"/>
Media Upload File...	

Components	Properties
<ul style="list-style-type: none"> Screen1 <ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 	Button7 BackgroundColor: Default Enabled: <input checked="" type="checkbox"/> FontBold: <input checked="" type="checkbox"/> FontItalic: <input type="checkbox"/> FontSize: 30 FontTypeface: default Height: 10 percent... Width: 20 percent... Image: None... Shape: default ShowFeedback: <input checked="" type="checkbox"/> Text: 7 TextAlignment: center TextColor: Default Visible: <input checked="" type="checkbox"/>
Media Upload File...	

Components	Properties
<ul style="list-style-type: none"> Screen1 <ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 	Button8 BackgroundColor: Default Enabled: <input checked="" type="checkbox"/> FontBold: <input checked="" type="checkbox"/> FontItalic: <input type="checkbox"/> FontSize: 30 FontTypeface: default Height: 10 percent... Width: 20 percent... Image: None... Shape: default ShowFeedback: <input checked="" type="checkbox"/> Text: 8 TextAlignment: center TextColor: Default Visible: <input checked="" type="checkbox"/>
Media Upload File...	

Components	Properties
<ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 btn_root 	Button9 BackgroundColor: Default Enabled: <input checked="" type="checkbox"/> FontBold: <input checked="" type="checkbox"/> FontItalic: <input type="checkbox"/> FontSize: 30 FontTypeface: default Height: 10 percent... Width: 20 percent... Image: None... Shape: default ShowFeedback: <input checked="" type="checkbox"/> Text: 9 TextAlignment: center TextColor: Default Visible: <input checked="" type="checkbox"/>
Media Upload File...	

Components	Properties
<ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 btn_root 	<p>DELETE</p> <p>BackgroundColor Default</p> <p>Enabled <input checked="" type="checkbox"/></p> <p>FontBold <input checked="" type="checkbox"/></p> <p>FontItalic <input type="checkbox"/></p> <p>FontSize 22</p> <p>FontTypeface default</p> <p>Height 10 percent...</p> <p>Width 25 percent...</p> <p>Image None...</p> <p>Shape default</p> <p>ShowFeedback <input checked="" type="checkbox"/></p> <p>Text DEL</p> <p>TextAlignment center</p> <p>TextColor Default</p> <p>Visible <input checked="" type="checkbox"/></p>
<p>Media</p> <p>Upload File ...</p>	

Components	Properties
<ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 btn_root 	<p>MINUS</p> <p>BackgroundColor Default</p> <p>Enabled <input checked="" type="checkbox"/></p> <p>FontBold <input checked="" type="checkbox"/></p> <p>FontItalic <input type="checkbox"/></p> <p>FontSize 30</p> <p>FontTypeface default</p> <p>Height 10 percent...</p> <p>Width 20 percent...</p> <p>Image None...</p> <p>Shape default</p> <p>ShowFeedback <input checked="" type="checkbox"/></p> <p>Text -</p> <p>TextAlignment center</p> <p>TextColor Default</p> <p>Visible <input checked="" type="checkbox"/></p>
<p>Media</p> <p>Upload File ...</p>	

Components	Properties
<ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 btn_root 	<p>PLUS</p> <p>BackgroundColor Default</p> <p>Enabled <input checked="" type="checkbox"/></p> <p>FontBold <input checked="" type="checkbox"/></p> <p>FontItalic <input type="checkbox"/></p> <p>FontSize 30</p> <p>FontTypeface default</p> <p>Height 10 percent...</p> <p>Width 20 percent...</p> <p>Image None...</p> <p>Shape default</p> <p>ShowFeedback <input checked="" type="checkbox"/></p> <p>Text +</p> <p>TextAlignment center</p> <p>TextColor Default</p> <p>Visible <input checked="" type="checkbox"/></p>
<p>Media</p> <p>Upload File ...</p>	

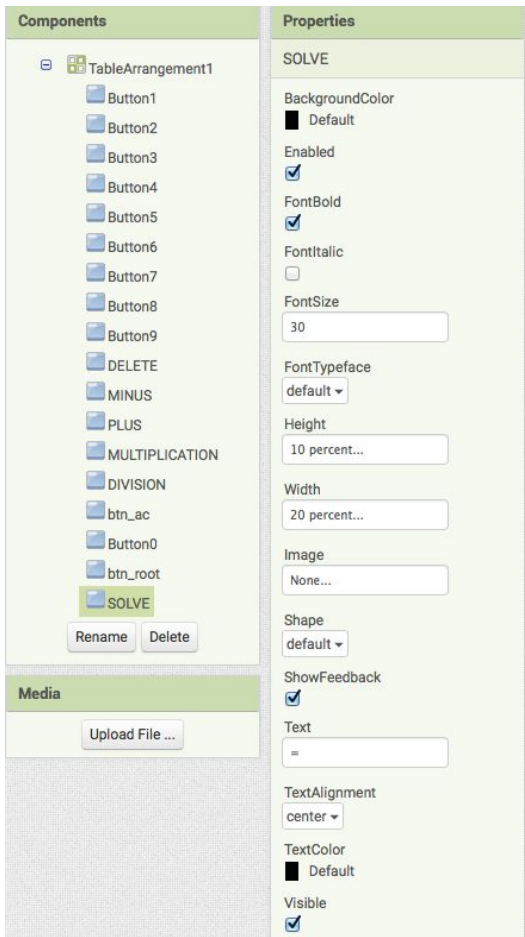
Components	Properties
<ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 btn_root 	<p>MULTIPLICATION</p> <p>BackgroundColor Default</p> <p>Enabled <input checked="" type="checkbox"/></p> <p>FontBold <input checked="" type="checkbox"/></p> <p>FontItalic <input type="checkbox"/></p> <p>FontSize 30</p> <p>FontTypeface default</p> <p>Height 10 percent...</p> <p>Width 20 percent...</p> <p>Image None...</p> <p>Shape default</p> <p>ShowFeedback <input checked="" type="checkbox"/></p> <p>Text x</p> <p>TextAlignment center</p> <p>TextColor Default</p> <p>Visible <input checked="" type="checkbox"/></p>
<p>Media</p> <p>Upload File ...</p>	

Components	Properties
<ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 btn_root 	<p>DIVISION</p> <p>BackgroundColor Default</p> <p>Enabled <input checked="" type="checkbox"/></p> <p>FontBold <input checked="" type="checkbox"/></p> <p>FontItalic <input type="checkbox"/></p> <p>FontSize 30</p> <p>FontTypeface default</p> <p>Height 10 percent...</p> <p>Width 20 percent...</p> <p>Image None...</p> <p>Shape default</p> <p>ShowFeedback <input checked="" type="checkbox"/></p> <p>Text /</p> <p>TextAlignment center</p> <p>TextColor Default</p> <p>Visible <input checked="" type="checkbox"/></p>
<p>Media</p> <p>Upload File ...</p>	

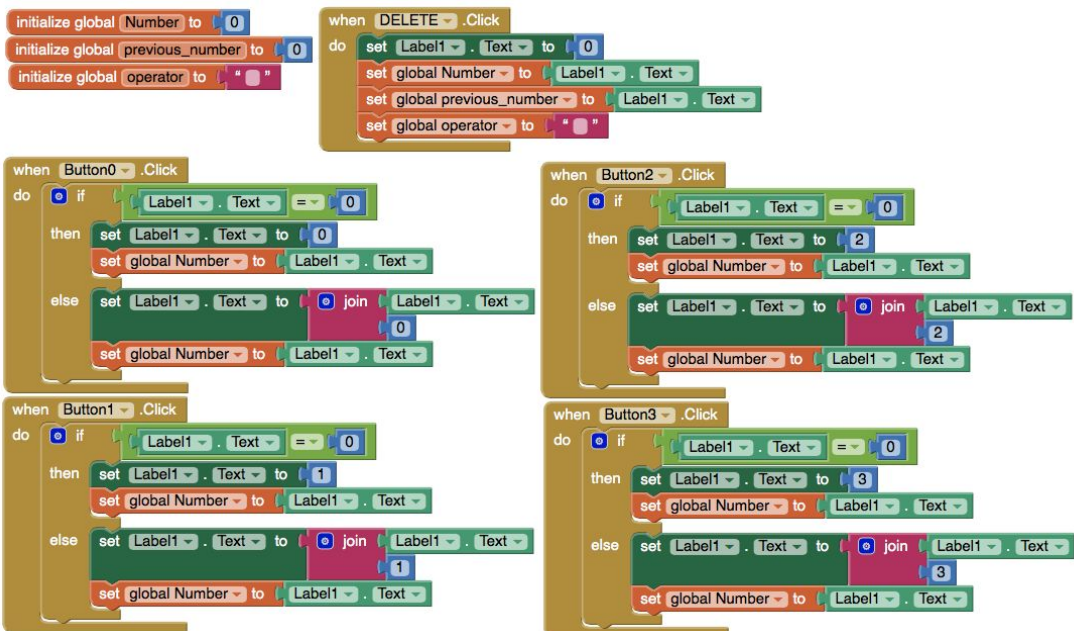
Components	Properties
<ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION <ul style="list-style-type: none"> btn_ac Button0 btn_root 	<p>btn_ac</p> <p>BackgroundColor Default</p> <p>Enabled <input checked="" type="checkbox"/></p> <p>FontBold <input checked="" type="checkbox"/></p> <p>FontItalic <input type="checkbox"/></p> <p>FontSize 22</p> <p>FontTypeface default</p> <p>Height 10 percent...</p> <p>Width 20 percent...</p> <p>Image None...</p> <p>Shape default</p> <p>ShowFeedback <input checked="" type="checkbox"/></p> <p>Text AC</p> <p>TextAlignment center</p> <p>TextColor Default</p> <p>Visible <input checked="" type="checkbox"/></p>
<p>Media</p> <p>Upload File ...</p>	

Components	Properties
<ul style="list-style-type: none"> Label1 TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 btn_root 	<p>Button0</p> <p>BackgroundColor Default</p> <p>Enabled <input checked="" type="checkbox"/></p> <p>FontBold <input checked="" type="checkbox"/></p> <p>FontItalic <input type="checkbox"/></p> <p>FontSize 30</p> <p>FontTypeface default</p> <p>Height 10 percent...</p> <p>Width 20 percent...</p> <p>Image None...</p> <p>Shape default</p> <p>ShowFeedback <input checked="" type="checkbox"/></p> <p>Text 0</p> <p>TextAlignment center</p> <p>TextColor Default</p> <p>Visible <input checked="" type="checkbox"/></p>
<p>Media</p> <p>Upload File ...</p>	

Components	Properties
<ul style="list-style-type: none"> TableArrangement1 <ul style="list-style-type: none"> Button1 Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 DELETE MINUS PLUS MULTIPLICATION DIVISION btn_ac Button0 btn_root SOLVE 	<p>btn_root</p> <p>BackgroundColor Default</p> <p>Enabled <input checked="" type="checkbox"/></p> <p>FontBold <input checked="" type="checkbox"/></p> <p>FontItalic <input type="checkbox"/></p> <p>FontSize 22</p> <p>FontTypeface default</p> <p>Height 10 percent...</p> <p>Width Automatic...</p> <p>Image None...</p> <p>Shape default</p> <p>ShowFeedback <input checked="" type="checkbox"/></p> <p>Text √</p> <p>TextAlignment center</p> <p>TextColor Default</p> <p>Visible <input checked="" type="checkbox"/></p>
<p>Media</p> <p>Upload File ...</p>	



BLOCKS:




```
when Button4 .Click
do
  if Label1 . Text == 0
  then
    set Label1 . Text to 4
    set global Number to Label1 . Text
  else
    set Label1 . Text to join Label1 . Text 4
    set global Number to Label1 . Text
```

```
when Button5 .Click
do
  if Label1 . Text == 0
  then
    set Label1 . Text to 5
    set global Number to Label1 . Text
  else
    set Label1 . Text to join Label1 . Text 5
    set global Number to Label1 . Text
```

```
when Button6 .Click
do
  if Label1 . Text == 0
  then
    set Label1 . Text to 6
    set global Number to Label1 . Text
  else
    set Label1 . Text to join Label1 . Text 6
    set global Number to Label1 . Text
```

```
when Button7 .Click
do
  if Label1 . Text == 0
  then
    set Label1 . Text to 7
    set global Number to Label1 . Text
  else
    set Label1 . Text to join Label1 . Text 7
    set global Number to Label1 . Text
```

```
when Button8 .Click
do
  if Label1 . Text == 0
  then
    set Label1 . Text to 8
    set global Number to Label1 . Text
  else
    set Label1 . Text to join Label1 . Text 8
    set global Number to Label1 . Text
```

```
when Button9 .Click
do
  if Label1 . Text == 0
  then
    set Label1 . Text to 9
    set global Number to Label1 . Text
  else
    set Label1 . Text to join Label1 . Text 9
    set global Number to Label1 . Text
```

```
when PLUS .Click
do
  set global previous_number to get global Number
  set global operator to "+"
  set global Number to 0
  set Label1 . Text to get global Number
```

```
when MINUS .Click
do
  set global previous_number to get global Number
  set global operator to "-"
  set global Number to 0
  set Label1 . Text to get global Number
```

```
when MULTIPLICATION .Click
do
  set global previous_number to get global Number
  set global operator to "x"
  set global Number to 0
  set Label1 . Text to get global Number
```

```
when DIVISION .Click
do
  set global previous_number to get global Number
  set global operator to "/"
  set global Number to 0
  set Label1 . Text to get global Number
```

```
when btn_root .Click
do
  set global previous_number to get global Number
  set global operator to "√"
  set Label1 . Text to get global Number
```

```
when btn_ac .Click
do
  set Label1 . Text to get global previous_number
  set global Number to Label1 . Text
  set global previous_number to Label1 . Text
  set global operator to ""
```

```
when SOLVE .Click
do
  if get global operator == "+"
  then
    set global Number to get global previous_number + get global Number
  else if get global operator == "-"
  then
    set global Number to get global previous_number - get global Number
  else if get global operator == "x"
  then
    set global Number to get global previous_number * get global Number
  else if get global operator == "/"
  then
    if get global Number == 0
    then
      set global Number to "Impossible"
    else
      set global Number to get global previous_number / get global Number
  else if get global operator == "√"
  then
    set global Number to square root of get global Number
  set Label1 . Text to get global Number
  set global operator to ""
```



SCREENSHOT:

Screen1

0

