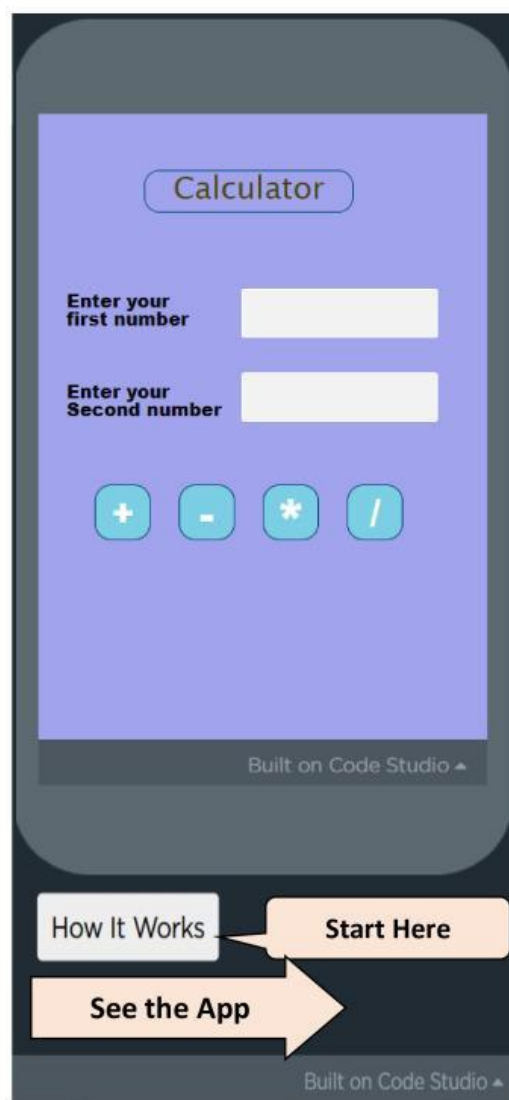


Project 39

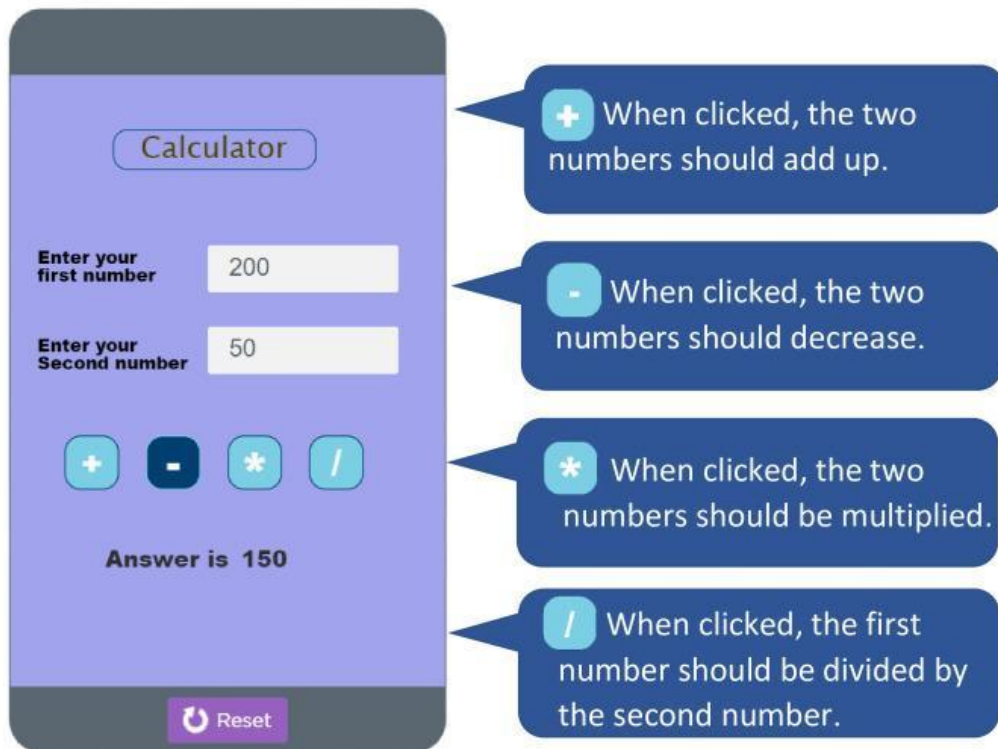


Coding School

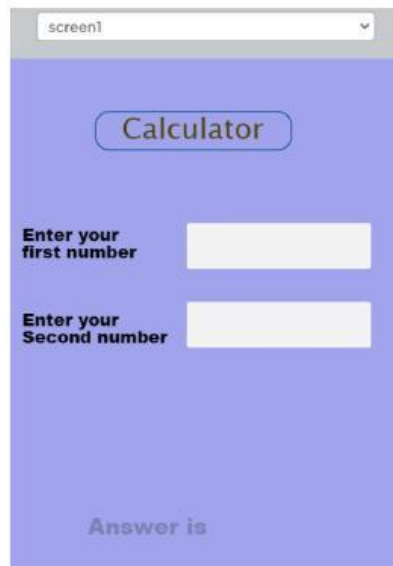


Project 39.

Let's create a Calculator . here,



❖ The necessary background and basics are provided.



❖ Button creation.

Click button and drag and drop it on screen1. Then create the properties as follows.

PROPERTIESEVENTS

id

button_plus

text

+

width (px)

40

height (px)

40

x position (px)

40

y position (px)

265

text color

rgb(255, 255, 255)

background color

rgb(123, 206, 227)

PROPERTIESEVENTS

font family

Arial Black

font size (px)

25

text alignment

center

image

Choose...

border width (px)

1

border color

rgb(0, 63, 112)

border radius (px)

12

❖ To create the other Buttons, change only the following properties. Other properties are the same as above.

 Button

id: button_minus

text: -

x position (px): 100

 Button

id: button_multiply

text: *

x position (px): 160

 Button

Id : button_divide

text: /

x position (px): 220

❖ Let's create a label to display the answer when the above buttons are clicked. Create properties as follows.

PROPERTIES EVENTS

id
labelAnswer

text
[]

width (px)
140

height (px)
30

x position (px)
155

y position (px)
345

text color
rgb(47, 47, 50)

PROPERTIES EVENTS

background color
rgba(0, 0, 0, 0)

font family
Arial Black

font size (px)
17

text alignment
left

border width (px)
0

border color
rgb(77, 87, 95)

border radius (px)
0

❖ Now the design is all over. Let's start coding now.

❖ First let's create variable for First number, Second number and Answer.

```
var Number1 = 0;
var Number2 = 0;
var Answer = 0;
```

❖ When the  button is clicked, the first number and the second number should be added and the answer should be set to the "labelAnswer" label.

❖ And the background color and border color of the  Button should be different.

❖  If another button has been clicked before clicking the button, the background color and border color of that button have changed, so it should be adjusted as before..

```

onEvent(▼"button_plus", ▼"click", function(●) {
    Number1 = getNumber(▼"Text_Number1");
    Number2 = getNumber(▼"Text_Number2");
    Answer = Number1 + Number2;
    setNumber(▼"labelAnswer", Answer);
    showElement(▼"labelAnswer");
    showElement(▼"label6");
    setProperty(▼"button_plus", ▼"background-color", ▼"#003F70");
    setProperty(▼"button_plus", ▼"border-color", ▼"#7BCEE3");
    setProperty(▼"button_minus", ▼"background-color", ▼"#7BCEE3");
    setProperty(▼"button_minus", ▼"border-color", ▼"#003F70");
    setProperty(▼"button_multiply", ▼"background-color", ▼"#7BCEE3");
    setProperty(▼"button_multiply", ▼"border-color", ▼"#003F70");
    setProperty(▼"button_divide", ▼"background-color", ▼"#7BCEE3");
    setProperty(▼"button_divide", ▼"border-color", ▼"#003F70");
});

```

- ❖ As above, when the other buttons are clicked, perform the calculation related to the button.

➤ For - Button

```

onEvent(▼"button_minus", ▼"click", function(●) {
    Number1 = getNumber(▼"Text_Number1");
    Number2 = getNumber(▼"Text_Number2");
    Answer = Number1 - Number2;
    setNumber(▼"labelAnswer", Answer);
    showElement(▼"labelAnswer");
    showElement(▼"label6");
    setProperty(▼"button_minus", ▼"background-color", ▼"#003F70");
    setProperty(▼"button_minus", ▼"border-color", ▼"#7BCEE3");
    setProperty(▼"button_plus", ▼"background-color", ▼"#7BCEE3");
    setProperty(▼"button_plus", ▼"border-color", ▼"#003F70");
    setProperty(▼"button_multiply", ▼"background-color", ▼"#7BCEE3");
    setProperty(▼"button_multiply", ▼"border-color", ▼"#003F70");
    setProperty(▼"button_divide", ▼"background-color", ▼"#7BCEE3");
    setProperty(▼"button_divide", ▼"border-color", ▼"#003F70");
});

```

➤ For * Button

```
onEvent(▼"button_multiply", ▼"click", function(●) {  
    Number1 = getNumber(▼"Text_Number1");  
    Number2 = getNumber(▼"Text_Number2");  
    Answer = Number1 * Number2;  
    setNumber(▼"labelAnswer", Answer);  
    showElement(▼"labelAnswer");  
    showElement(▼"label6");  
    setProperty(▼"button_multiply", ▼"background-color", ▼"#003F70");  
    setProperty(▼"button_multiply", ▼"border-color", ▼"#7BCEE3");  
    setProperty(▼"button_plus", ▼"background-color", ▼"#7BCEE3");  
    setProperty(▼"button_plus", ▼"border-color", ▼"#003F70");  
    setProperty(▼"button_minus", ▼"background-color", ▼"#7BCEE3");  
    setProperty(▼"button_minus", ▼"border-color", ▼"#003F70");  
    setProperty(▼"button_divide", ▼"background-color", ▼"#7BCEE3");  
    setProperty(▼"button_divide", ▼"border-color", ▼"#003F70");  
});
```

➤ For / Button

When a number is divided by 0, the answer is infinity. Therefore, even if division is done when Number2 is equal to 0, it should be displayed as "error".

```
onEvent(▼"button_divide", ▼"click", function(●) {  
    Number1 = getNumber(▼"Text_Number1");  
    Number2 = getNumber(▼"Text_Number2");  
    if (Number2 == 0) {  
        setText(▼"labelAnswer", "Error");  
        showElement(▼"labelAnswer");  
        showElement(▼"label6");  
    }  
    if (Number2 != 0) {  
        Answer = Number1 / Number2;  
        setNumber(▼"labelAnswer", Answer);  
        showElement(▼"labelAnswer");  
        showElement(▼"label6");  
    }  
    setProperty(▼"button_divide", ▼"background-color", ▼"#003F70");  
    setProperty(▼"button_divide", ▼"border-color", ▼"#7BCEE3");  
    setProperty(▼"button_plus", ▼"background-color", ▼"#7BCEE3");  
    setProperty(▼"button_plus", ▼"border-color", ▼"#003F70");  
    setProperty(▼"button_minus", ▼"background-color", ▼"#7BCEE3");  
    setProperty(▼"button_minus", ▼"border-color", ▼"#003F70");  
    setProperty(▼"button_multiply", ▼"background-color", ▼"#7BCEE3");  
    setProperty(▼"button_multiply", ▼"border-color", ▼"#003F70");  
});
```

Choose the correct answer.

1. When a number is divided by 0, what blocks are used to display as Error?

```
if (Number2 = 0) {  
  setText(▼"labelAnswer", "Error");  
  showElement(▼"labelAnswer");  
  showElement(▼"label6");  
}
```

```
if (Number2 == 0) {  
  setText(▼"labelAnswer", "Error");  
  showElement(▼"labelAnswer");  
  showElement(▼"label6");  
}
```

```
if (Number2 = "ZERO") {  
  setText(▼"labelAnswer", "Error");  
  showElement(▼"labelAnswer");  
  showElement(▼"label6");  
}
```

2. Which of the following statements regarding this block is correct?

```
onEvent(▼"button_plus", ▼"click", function( ) {  
  setProperty(▼"button_plus", ▼"background-color", ▼"#003F70");  
  setProperty(▼"button_plus", ▼"border-color", ▼"#7BCEE3");  
});
```

When the button is clicked, the background color of the button changes.

When the button is clicked, the border color of the button changes.

When the button is clicked, the background color and border color of the button will change.

3. What happens with the following blocks?

```
Answer = Number2 - Number1;
```

From Number1, subtract Number2

From Number2, subtract Number1

Divide Number1 by Number2

4. Which blocks are used to divide only when Number2 is not equal to 0?

```
if (Number2 != 0) {  
  Answer = Number1 / Number2;  
  setNumber(▼"labelAnswer", Answer);  
  showElement(▼"labelAnswer");  
  showElement(▼"label6");  
}
```

```
if (Number2 < 0) {  
  Answer = Number1 / Number2;  
  setNumber(▼"labelAnswer", Answer);  
  showElement(▼"labelAnswer");  
  showElement(▼"label6");  
}
```

```
if (Number2 == 0) {  
  Answer = Number1 / Number2;  
  setNumber(▼"labelAnswer", Answer);  
  showElement(▼"labelAnswer");  
  showElement(▼"label6");  
}
```

5. When Number2 is equal to 0, when  button is clicked, what blocks are used to display as "error" and emit a sound??

```
onEvent(▼"button_divide", ▼"click", function() {  
  Number1 = getNumber(▼"Text_Number1");  
  Number2 = getNumber(▼"Text_Number2");  
  if (Number2 == 0) {  
    setText(▼"labelAnswer", "Error");  
    showElement(▼"labelAnswer");  
    showElement(▼"label6");  
  }  
  if (Number2 != 0) {  
    Answer = Number1 / Number2;  
    setNumber(▼"labelAnswer", Answer);  
    showElement(▼"labelAnswer");  
    showElement(▼"label6");  
  }  
  playSound(▼"sound://default.mp3", ▼false);  
});
```

```
onEvent(▼"button_divide", ▼"click", function() {  
  Number1 = getNumber(▼"Text_Number1");  
  Number2 = getNumber(▼"Text_Number2");  
  if (Number2 = 0) {  
    setText(▼"labelAnswer", "Error");  
    showElement(▼"labelAnswer");  
    showElement(▼"label6");  
    playSound(▼"sound://default.mp3", ▼false);  
  }  
  if (Number2 != 0) {  
    Answer = Number1 / Number2;  
    setNumber(▼"labelAnswer", Answer);  
    showElement(▼"labelAnswer");  
    showElement(▼"label6");  
  }  
});
```