

COOKIE ALERT



Do you always have something disappearing from your room?
Program a Calliope mini alarm that alerts you if someone is trying
to eat your cookies!

By measuring the intensity of ambient light, the Calliope mini can
detect when the lights suddenly turn brighter and alert you.



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You need the following blocks and categories for this program:

Basic

on start

On start

Execute the program when it starts

Input

forever

Forever

Repeats the code permanently in the background.

Music

show number 0

Show number

Displays a number on the LED screen. For higher numbers, the last digit remains standing.

Logic

set led to red

Set led to

Specifies the color of the built-in LED-RGB.

Variables

show string "Hello!"

Show string

Displays text on the screen, letter by letter.



light level

Light level

Measures the light intensity in the range from 0 (dark) to 255 (bright).

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You need the following blocks and categories for this program:

Basic

play tone for beat

Play tone

Plays a sound for the specified period.

Input

if then

If/then condition

If a condition is true, then execute specific commands.

Music

if then
else

If/then/else condition

If a condition is true, then execute certain commands, else execute other commands.

Logic

<

Comparison of values

If the first value is smaller than the second, the condition is true.

Variables

set to

Set item to

Assigns the value to this variable.

change by

Change item by

Changes the value of the variable by this value.



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1

First of all, you create two variables. To do so, click on "Make a variable" in the variables category. Then you name one variable "countdown" and the other "light". The starting value of countdown is set to 10. The start value of "light" should be the value of the ambient light.

Basic

Input

Variables

on start

set countdown ▾ to 10

set light ▾ to (light level



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2

Select the **forever**-loop under basics to run your following code in an infinite loop.

Basic

```
on start
  set countdown to 10
  set light to (light level)

forever
```



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3

In this section you define what should happen if the variable „countdown“ has not yet reached 0. First select the *if/then/else* block in the logic category and place it in the infinite loop.

Logic

```
on start
  set countdown to 10
  set light to light level

forever
  if true
  then
  else
```



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4

Now add the `<` block from the logic menu and rotate the character to a greater-than sign. Then you fill the block with the variable `countdown`.

Logic

Variables

```
on start
  set countdown to 10
  set light to light level

forever
  if (countdown > 0)
  then
  else
```



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5

Next, find the **change item by** block from the variables menu, add the variable "countdown" and change the value to "-1". To display the countdown each time it starts counting down, take the **show number** block from the basics. Insert the variable "countdown" here as well. To prevent the alarm from starting too early, set the variable "light" to "0" with the **set item to** block.

Variables

Basic

```
on start
  set countdown to 10
  set light to light level

forever
  if (countdown > 0)
  then
    change countdown by -1
    show number countdown
    set light to 0
  else
```



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6

Next, you enter what should happen when the countdown reaches "0". Activate the brightness sensor and retrieve the value for the ambient light. To do this, use the **set item to** block from the variables category and attach the **light level** block.

Variables

Input

```
on start
  set countdown to 10
  set light to light level

forever
  if (countdown > 0)
  then
    change countdown by -1
    show number countdown
    set light to 0
  else
    set item to light level
```



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7

To make sure the alarm only goes off when the mini is in the light, take the **if/then** block and the **< block** from the logic menu and change the character to a greater-or-equal sign. Then add the variable **"light"** and a suitable value. The value must be between 0 (dark) and 255 (bright). Now you can insert different blocks for the alarm. Let the RGB-LED light up, play sounds and display the text "Alert".

Logic

Variables

Music

Basic

```
on start
  set countdown to 10
  set light to light level

forever
  if (countdown > 0)
  then
    change countdown by -1
    show number countdown
    set light to 0
  else
    set item to light level
    if (light ≥ 120)
    then
      play tone Middle C for 1 beat
      set led to red
      show string Alert
```

