

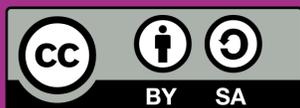
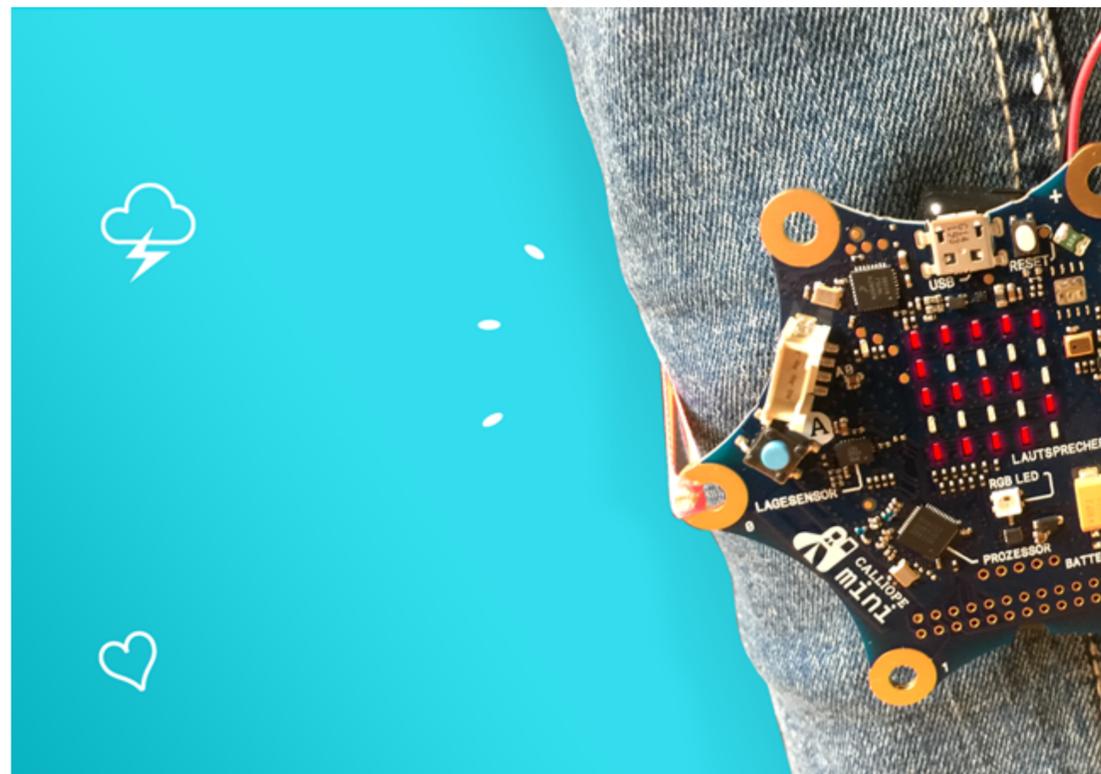
STEP COUNTER



How many steps do you walk in the apartment per day?

Do you exercise a lot or just a little at the moment?

Check it out with your self-built step counter!



STEP COUNTER



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.

Loops

Logic

show number 0

Show number

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

Variables

on button A pressed

On button A pressed

The mini performs a certain action when button A is pressed and released.

acceleration (mg) strength

Acceleration sensor

Outputs the acceleration value in milli-earth gravity.

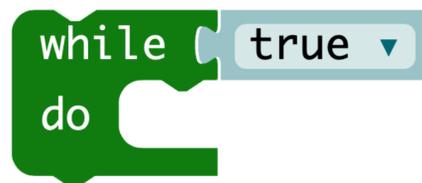


STEP COUNTER



You need the following blocks and categories for this program:

Basic



Input

Loops



Logic



Variables



While/do loop

Executes the same sequence of actions while the condition is met.

Comparison of values

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

Set item to

Assigns the value to this variable.

Change item by

Changes the value of the variable by this value.



STEP COUNTER



1

Select the block `on start` from the basic category.

Basic



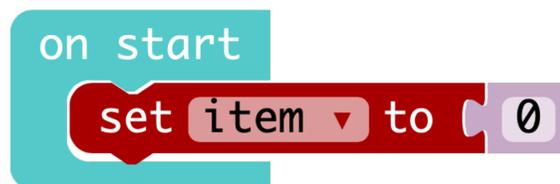
STEP COUNTER



2

Insert the block **set item to** from the variables category in the loop of the "on start" block.

Variables



STEP COUNTER



3

Click on "item" and select "Rename variable" to give the variable an appropriate name, such as "steps".

Variables

```
on start  
  set steps to 0
```

- ✓ item
- Rename variable...
- Delete the "item" variable



STEP COUNTER



4

Add a **forever**-loop to your program.

Basic

```
on start
  set steps to 0
```

```
forever
```



STEP COUNTER



5

Add a **while/do** condition into the forever-loop.

Loops

```
on start
  set steps to 0
```

```
forever
  while true
  do
```



STEP COUNTER



6

In the next step you need the **> comparison block** from the logic category. Make sure that you choose the correct arithmetic sign.

Logic

```
on start
  set steps to 0

forever
  while ( 0 > 0 )
  do
```



STEP COUNTER



7

The Calliope mini detects the movement of the step through the accelerometer. Insert the **acceleration block** into the comparison block and select **strength** as the measured force.

Input

```
on start
  set steps to 0

forever
  while ( acceleration (mg) strength > 0 )
  do
```



STEP COUNTER



8

To enable the Calliope mini to recognise your movement as a step, it needs a so-called threshold value. This defines when a movement counts as a step. Change the "0" in the comparison block to a "950".

Logic

```
on start
  set steps to 0

forever
  while (acceleration (mg) strength > 950)
  do
```

Tip: If you do not move your Calliope mini, the accelerometer will display the number "1024". This corresponds to the acceleration of gravity. The threshold value for the pedometer should be just above or below this value. If your Calliope mini does not detect your steps, slightly change the threshold value.



STEP COUNTER



9

Insert a **change item by** block in the forever-loop and select the variable "steps". Make sure you increase the value by "1". Now you have programmed the heart of the step counter.

Variables

```
on start
  set steps to 0

forever
  while ( acceleration (mg) strength > 950
  do
    change steps by 1
```



STEP COUNTER



10

Add the block `show number` at the bottom of the forever-loop. Replace the "0" with the block `steps` from the variables category.

Basic

Variables

```
on start
  set steps to 0

forever
  while (acceleration (mg) strength > 950)
  do
    change steps by 1
    show number steps
```



STEP COUNTER



11

To reset the step counter, repeat the first three steps of this manual. Instead of the on start loop use the button input block **on button A pressed** from the input category.

Input

Variables

```
on start
  set steps to 0

forever
  while (acceleration (mg) strength > 950)
  do
    change steps by 1
    show number steps

on button A pressed
  set steps to 0
```

