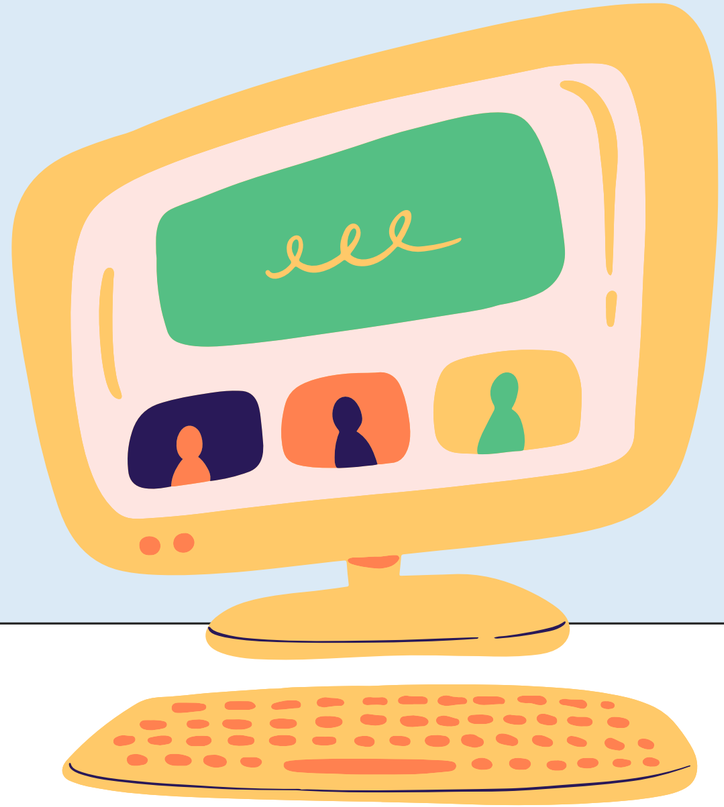
INFORMATIK FÜR KINDER



Sitzung 1

Darmeleon

Unser Team

Bojana

Lina

Elena

ABLAUFPLAN

Sitzung 1

Wiederholung
Logik
Binär
Computer
Programmiersprache

Sitzung 2

Scratch

Befehle dem Rechner übergeben

Sitzung 3

Programmiersprachen
Python

Sitzung 4

Themen

Logik

Übungen zum Aufwärmen

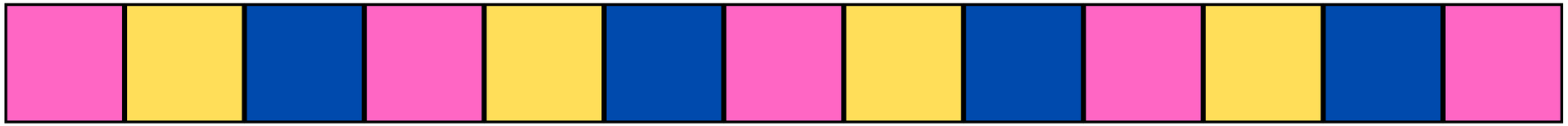
Einführung in Computerwelt

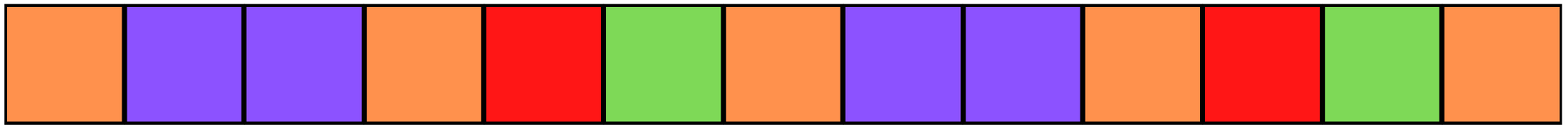
Was ist ein Computer, aus welchen Teilen besteht er, wie funktioniert er? Was ist Hardware, und was ist Software?

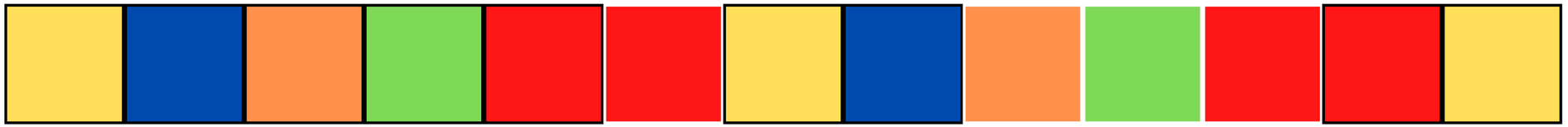
Programmiersprache

Einführung in Programme, Programmiersprachen

LOGIK - FARBENFOLGEN







LOGIK - ZAHLENFOLGEN

1	3	5	7	9	11	13	15	17	19	21	23	25

0	4	8	12	16	20	24	28	32	36	40	44	48

12+4

11 10 13 17 65*2

2	3	5	9	17	33	65	129

2+1 3+2 5+4

(5*2)-1 (9*2)-1 (17*2)-1 33*2

EINFÜHRUNG IN COMPUTERWELT

WIE DENKEN DIE COMPUTER? DAS BINÄRSYSTEM

MENSCHEN-
DENKWEISE

5 SINNE

COMPUTER-
DENKWEISE

1010
0101
1001

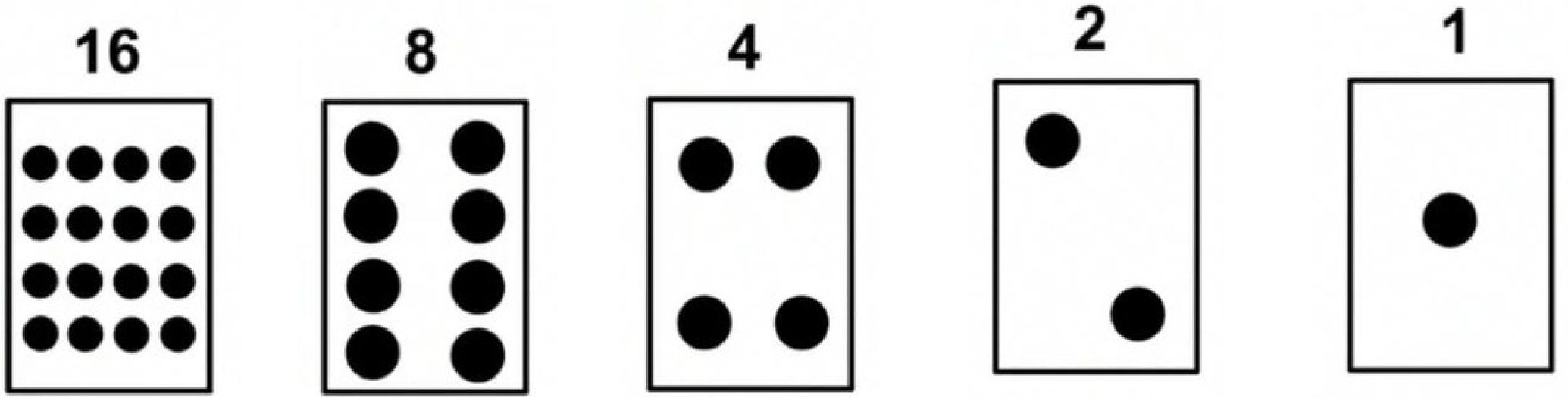
0,1 = 2 Ziffer,
2er System

23 23420248329

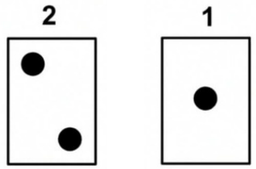
0,1,2,3,4,5,6,7,8,9
10 Ziffer, 10er System

EINFÜHRUNG IN COMPUTERWELT

DAS BINÄRSYSTEM



3 =

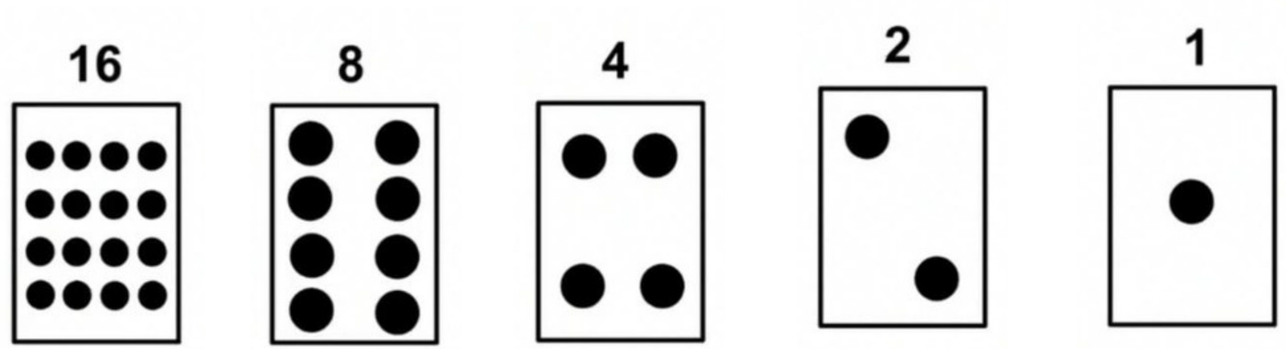


EINFÜHRUNG IN COMPUTERWELT

DAS BINÄRSYSTEM

22 = 000010110

256 128 64 32

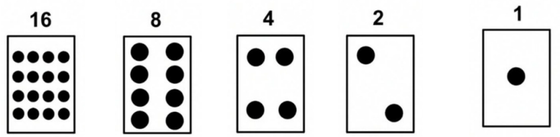


0 0 0 0 1 0 1 1 0

22 - 16 = 6 - 4 = 2 - 2 = 0

EINFÜHRUNG IN COMPUTERWELT

BINÄRSYSTEM - ÜBUNG - WELCHE ZAHL IST DAS?



9 =

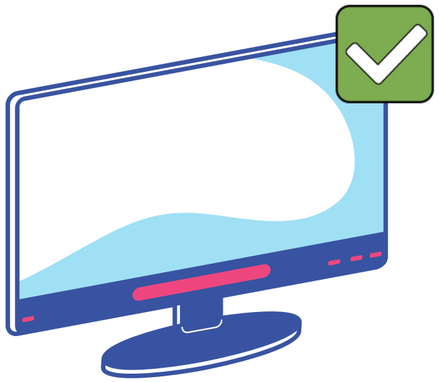
12 =

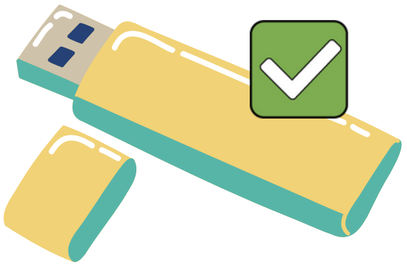
8 =

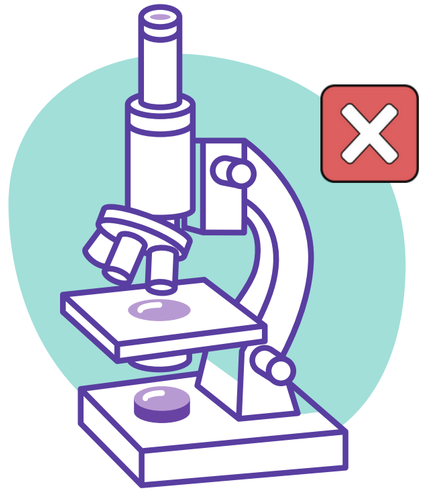
16 =

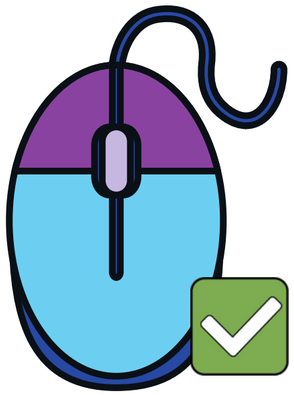
EINFÜHRUNG IN COMPUTERWELT

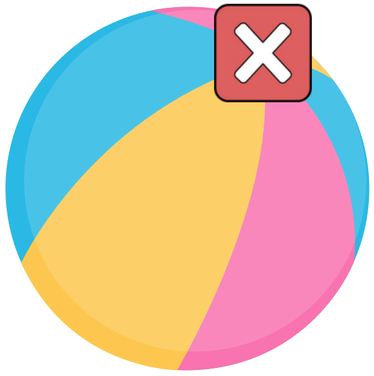
WAS GEHÖRT ZUM COMPUTER?

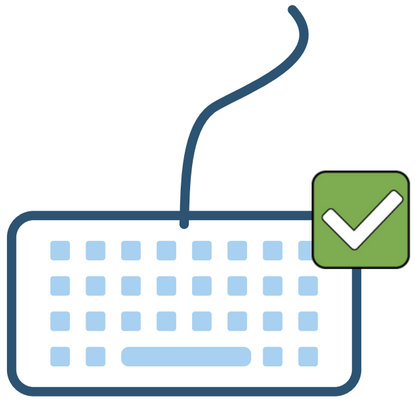






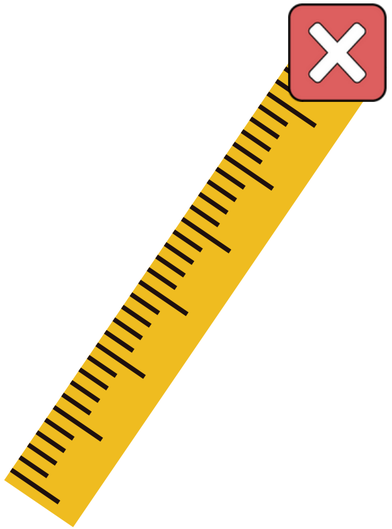


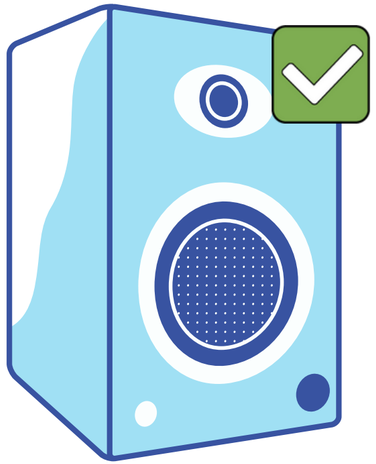


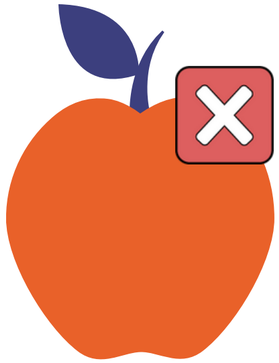


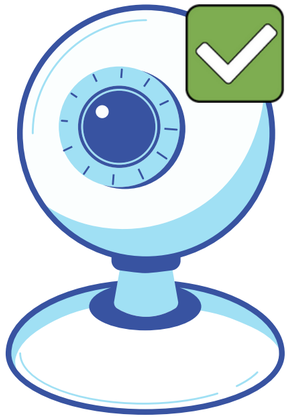
EINFÜHRUNG IN COMPUTERWELT

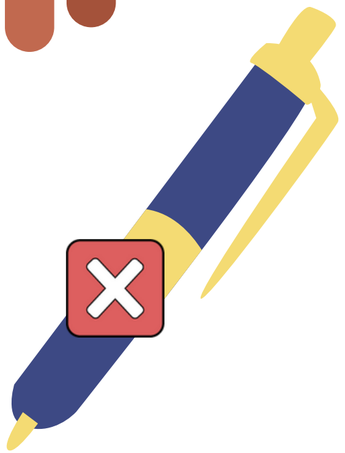
WAS GEHÖRT ZUM COMPUTER?





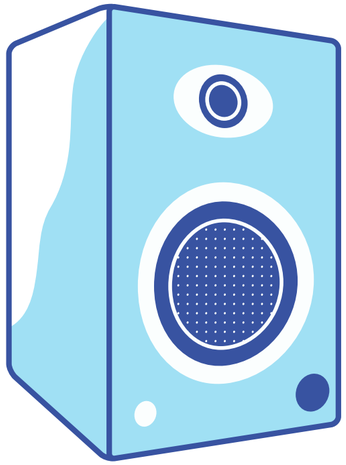






EINFÜHRUNG IN COMPUTERWELT

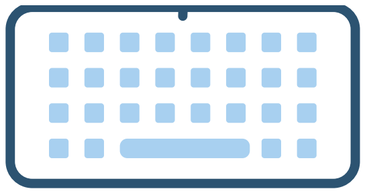
HARDWARE VS. SOFTWARE

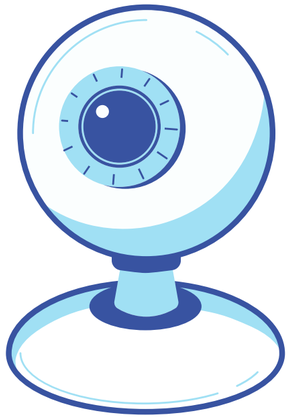


"schwer"
festes
berühren
anfassen

nicht berühren
nicht anfassen

ZOOM



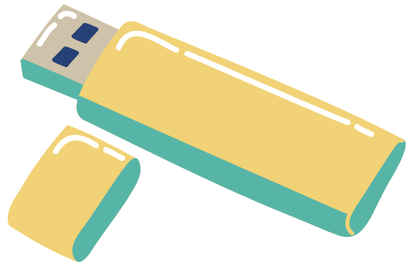


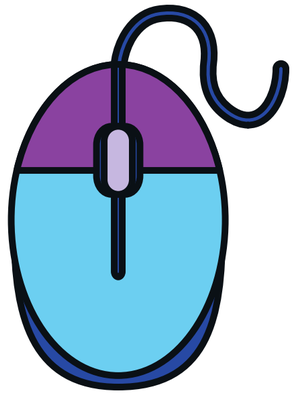
SCRATCH

MINECRAFT

EINFÜHRUNG IN COMPUTERWELT

ERKENNE - WAS IST SOFTWARE, WAS IST HARDWARE?





HARDWARE

FORTNITE

skype™

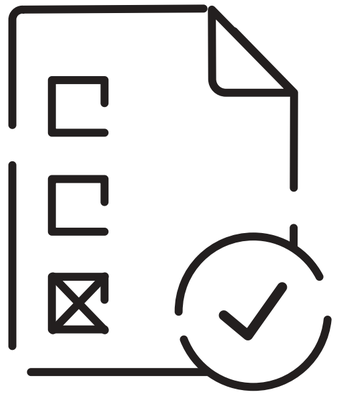
SOFTWARE

PROGRAMMIEREN

EINFÜHRUNG

WAS HEISST PROGRAMMIEREN?

AUFGABE



PROGRAMMIERSPRACHEN*

EINFÜHRUNG

Front-end web development	Back-end web development	Mobile development
JavaScript	JavaScript	Swift
Elm	Scala	Java
TypeScript	Python	Objective C
	Go	JavaScript
	Ruby	

Game development	Desktop applications	Systems programming
Unity	Scala	Go
TypeScript	Go	Rust
	Python	

PROGRAMMIERSPRACHEN*

EINFÜHRUNG

High-level program

```
class Triangle {
  ...
  float surface()
    return b*h/2;
  }
```

Low-level program

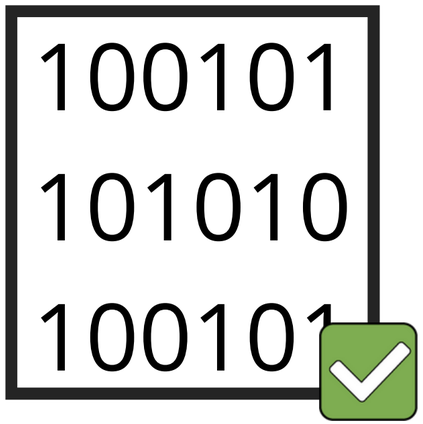
```
LOAD r1,b
LOAD r2,h
MUL r1,r2
DIV r1,#2
RET
```

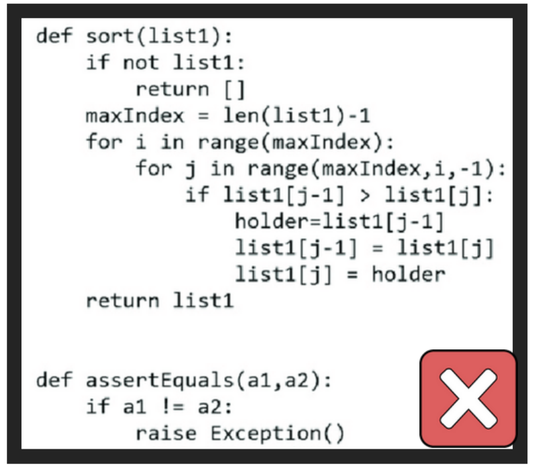
Executable Machine code

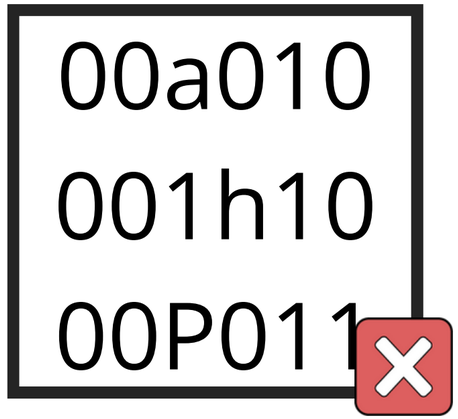
```
0001001001000101
0010010011101100
10101101001...
```

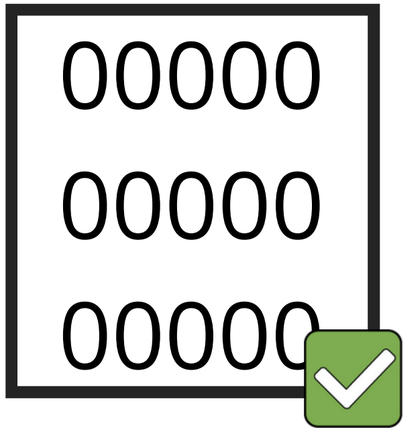
PROGRAMMIERSPRACHEN

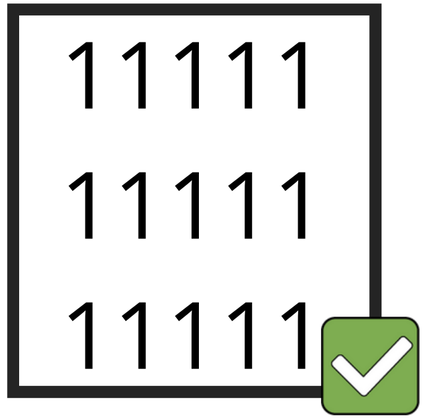
WELCHEN CODE ERKENNT DER COMPUTER ALLEINE?

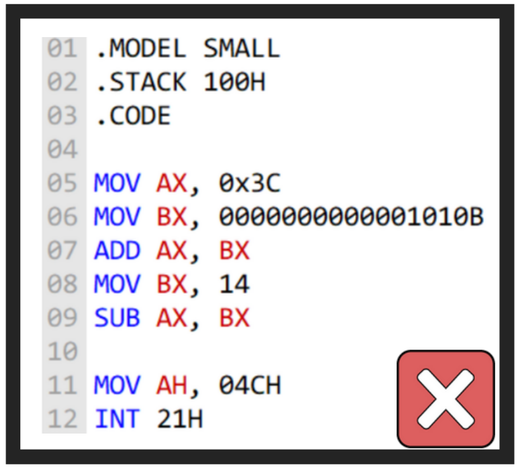


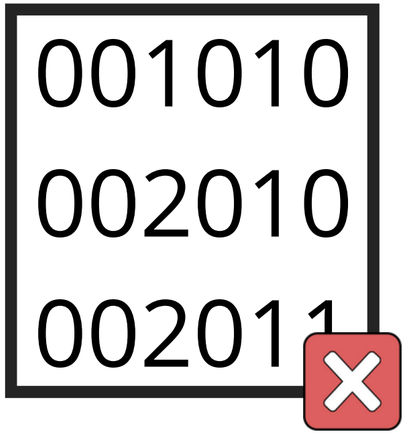










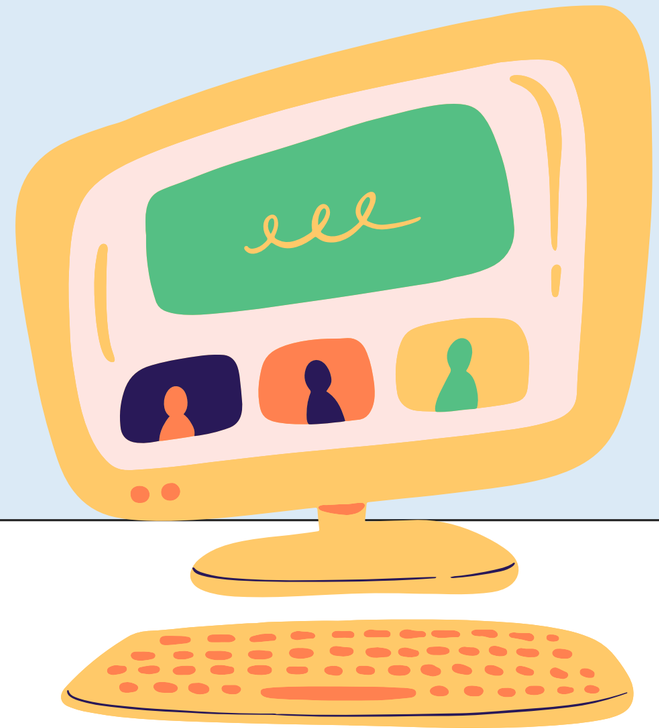


HAUSAUFGABE

bitte herunterladen

https://scratch.mit.edu/download

FRAGENRUNDE



Darmeleon