

Úvod pre micro:bit

Richard Balogh

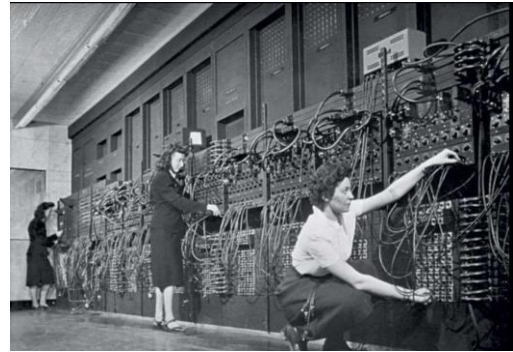


SLOVAK UNIVERSITY OF
TECHNOLOGY IN BRATISLAVA
FACULTY OF ELECTRICAL ENGINEERING
AND INFORMATION TECHNOLOGY



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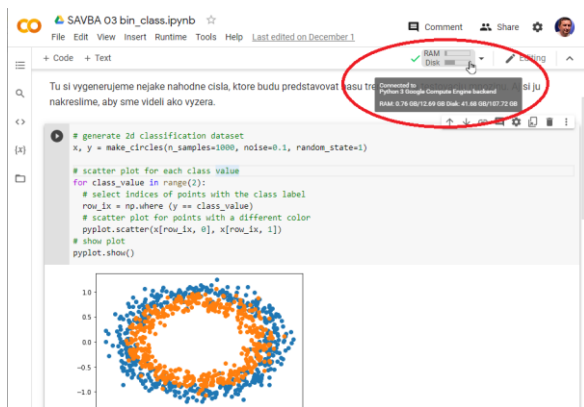
Physical / Virtual Computing



Jean Jennings, Marilyn Wescoff a Ruth Lichterman programujú počítač ENIAC na Pennsylvánskej univerzite v USA, 1946.

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Physical / Virtual Computing



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Miniaturizácia



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Miniaturizácia



Embedded Computing



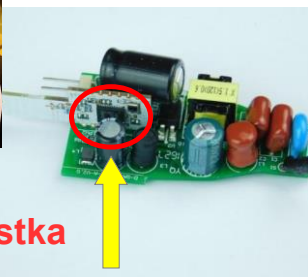
Play Games With the Entire Family!



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Embedded Computing



počítač = súčiastka

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Vývoj SW

```
.ORG 0030h
DB 03h,01h,02h,03h
.ORG 0000

LDA 0030h
MOV A, ; Initialize C
SUB A, sum = 0
LXI H,0031h ; Initialize
ADD M ; SUM = SUM + data
INX H ; increment pointer
DCR C ; Decrement counter
JNZ BACK ; if counter 0 repeat
STA 040h ; Store sum
```

```
for (i=0; i<10; i++)
{
    c = (char)rand();
    printf("%d,%d\n", (int) (100*(sin(x)+1)), c);
    if (c>245)
        printf("Alarm! Temperature HIGH!!!\n");
    if (c<5)
        printf("Alarm! Temperature LOW!!!\n");
    delay_ms(300);
    x=x+0.1;
}
return 0;
} /* End Of Main */
```

```
from microbit import *

display.show(Image.YES)

while True:
    if button_a.is_pressed() and button_b.is_pressed():
        display.show(Image.HEART)
        sleep(500)
    elif button_a.is_pressed():
        display.show(Image.HAPPY)
    elif button_b.is_pressed():
        display.show(Image.SAD)
```



Vývoj programovacích jazykov: **Assembler**, **jazyk C**, **Python** a **Node-Red**

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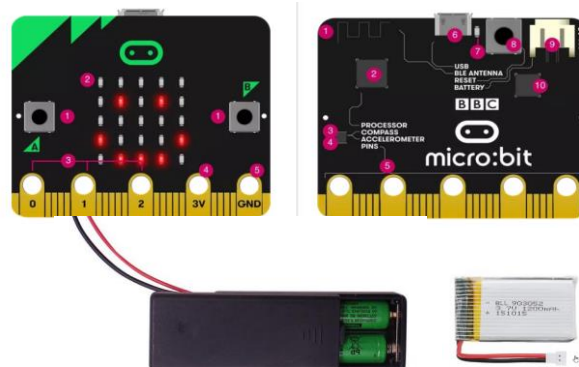
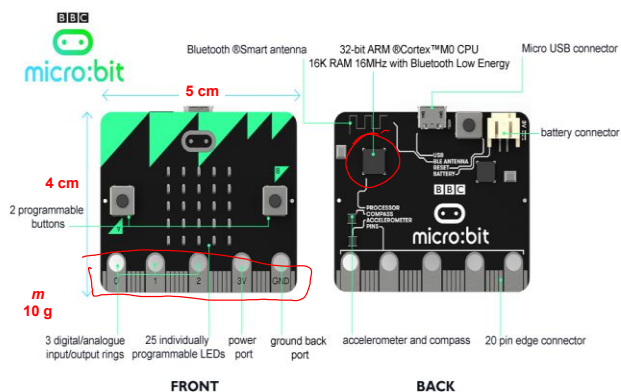
1981: BBC micro Computer literacy project



Foto: The Computer Literacy Project 1980 – 1989 History

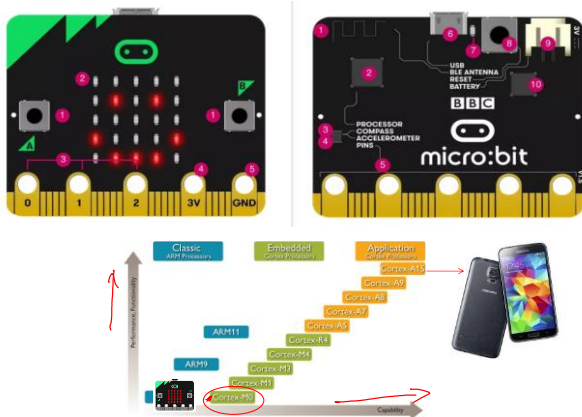
<https://computer-literacy-project.pilots.bbcoconnectedstudio.co.uk/history>

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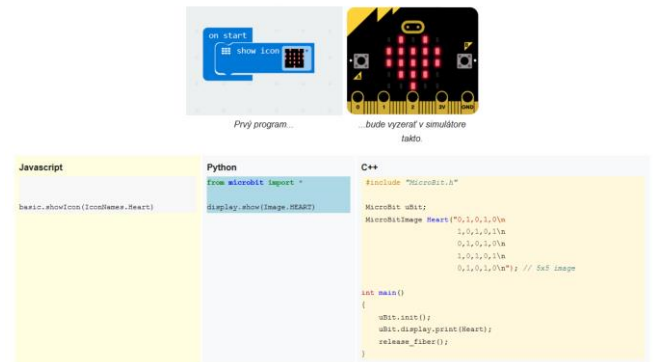
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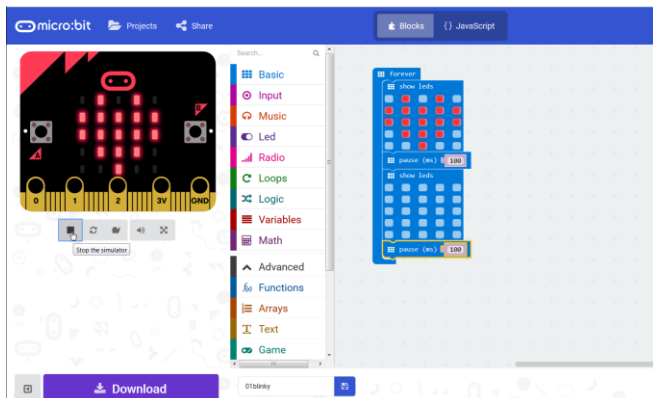
možnosti programovania



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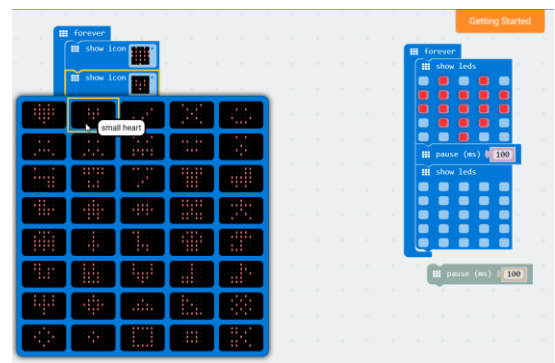
<https://makecode.microbit.org/>



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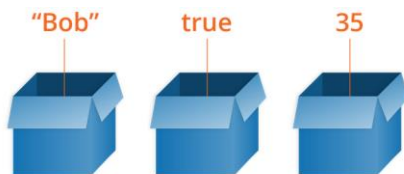
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program 01



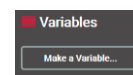
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Premenná variable



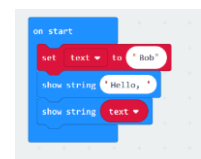
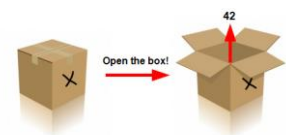
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Premenná variable



```
int x;
x = 42;
x = x + 1;
```

C++



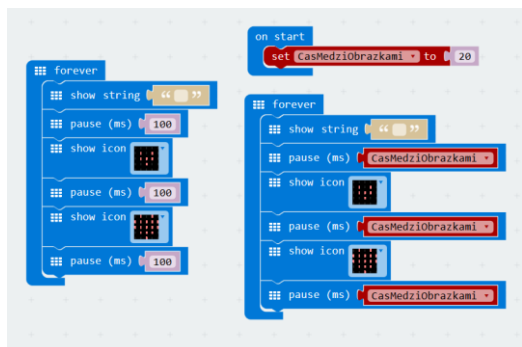
```
let text = "Bob"
basic.showString("Hello, ")
basic.showString(text)
```

javascript

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program01

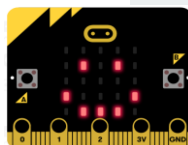
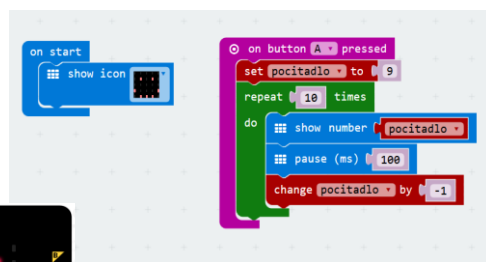


Animácia s
premennou

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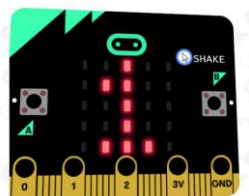
program02



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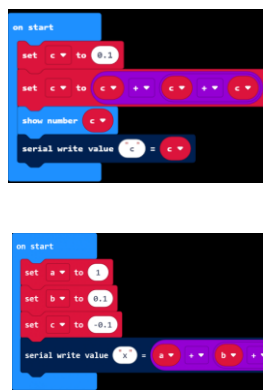
program03



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program04



Tu otvoríte okno
simulátora dát

Tu uvidíte výsledok

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