



Micro:bit u nastavi matematike

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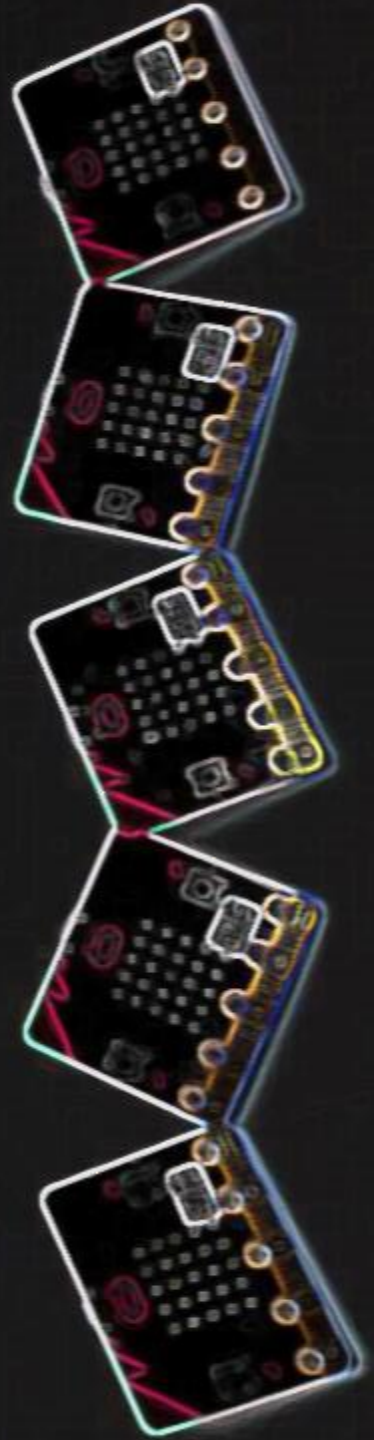
OŠ Zrinskih Nuštar, PŠ Cerić

MICRO:BIT – Što je to?

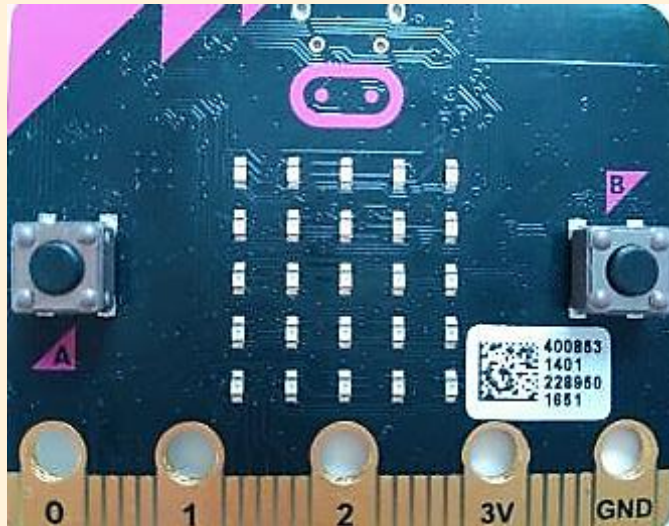
Microbit je minijaturno računalo.

Vrlo je pristupačan za programiranje i izvrsno je sredstvo koje potiče kod djece kreativnost i kritičko razmišljanje na zabavan način.

Razvili su ga BBC, Microsoft i dr. partneri, a u Hrvatsku ga je donio IRIM - Institut za Razvoj i Inovativnost Mladih.

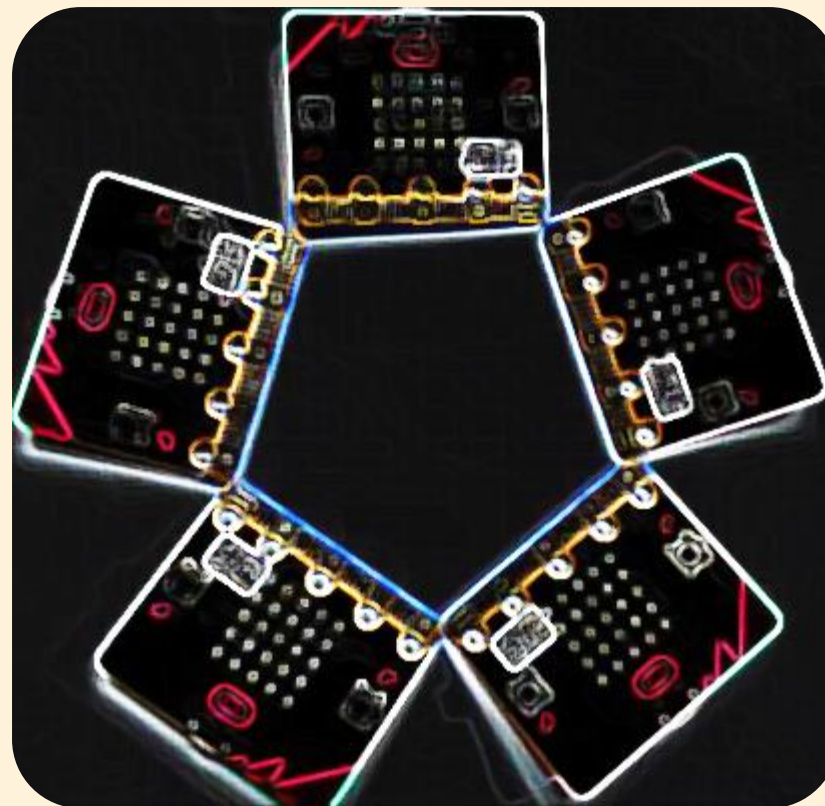


Kako izgleda micro:bit?



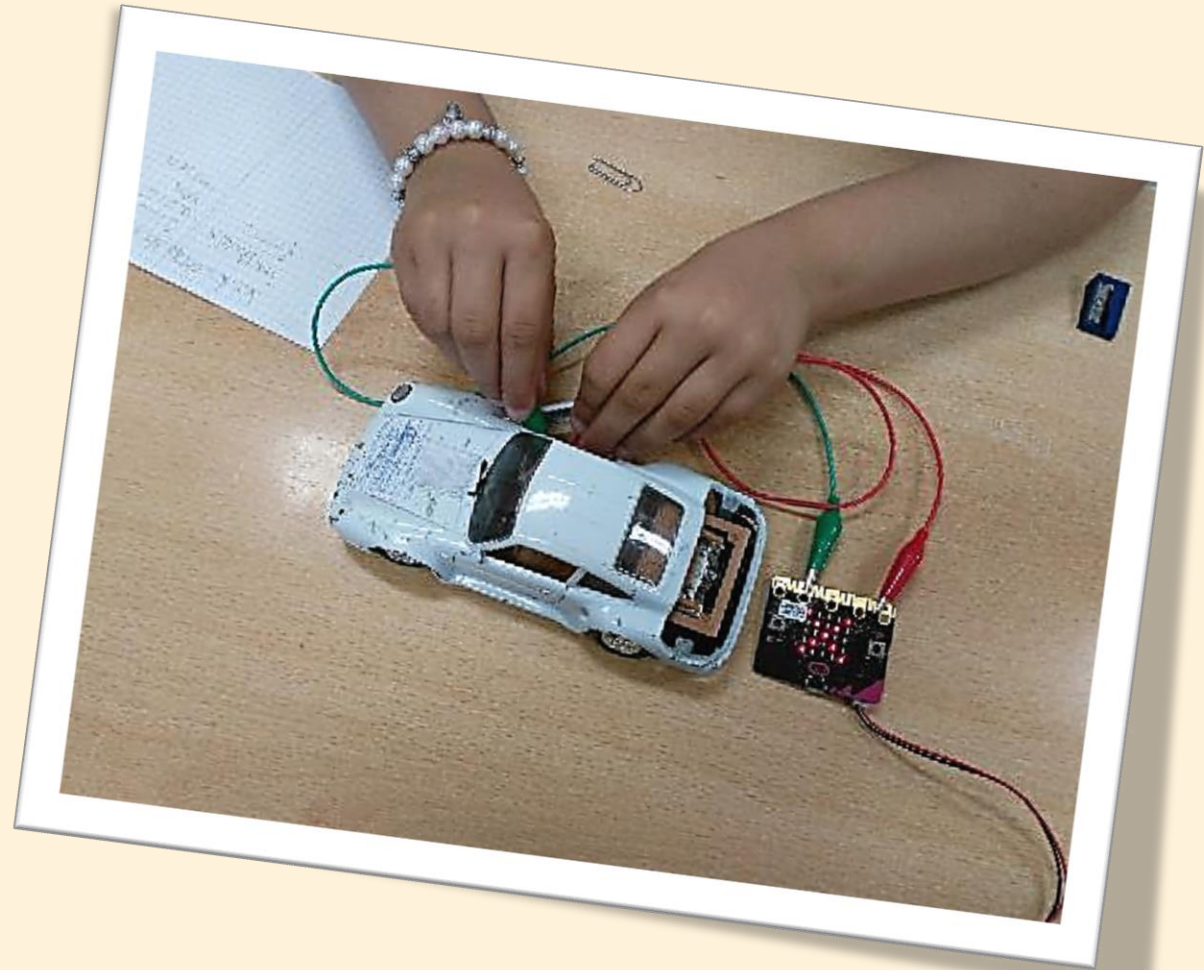
Mogućnosti:

- radio komunikacija
- Bluetooth komunikacija
- senzor temperature
- senzor svjetla
- kompas
- mjerač ubrzanja

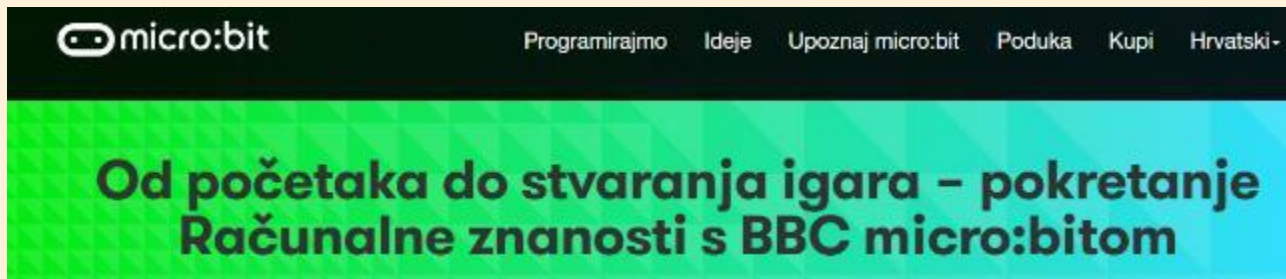


Primjena u nastavi

- Informatika
- Fizika
- Tehnička kultura
- Matematika
- Priroda (i društvo)
- Glazbena kultura
- Tjelesna i zdravstvena kultura
- Hrvatski jezik
- INA
- ...



Primjeri iz prakse

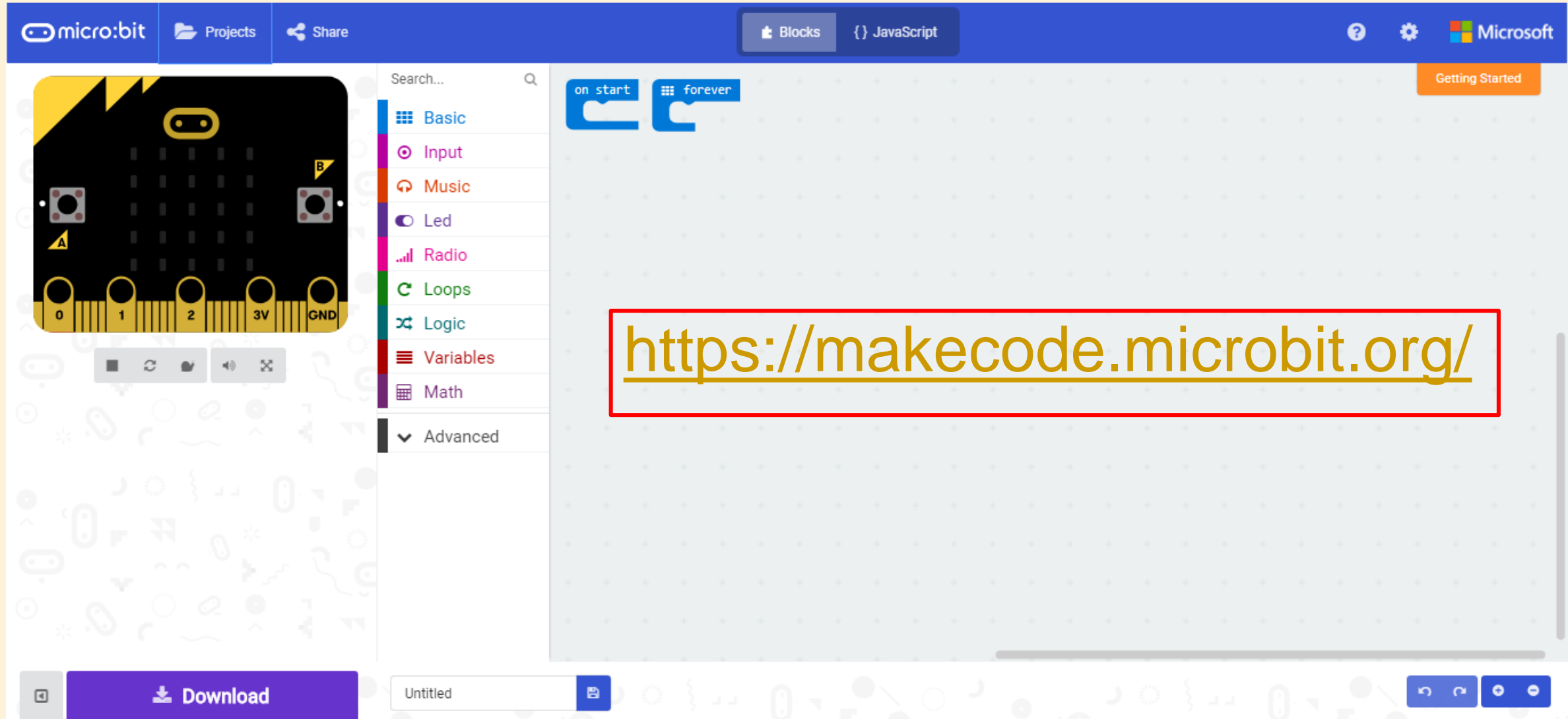


NOVO NA ŠKOLSKOM PORTALU

Micro:bit kutak za razrednu nastavu

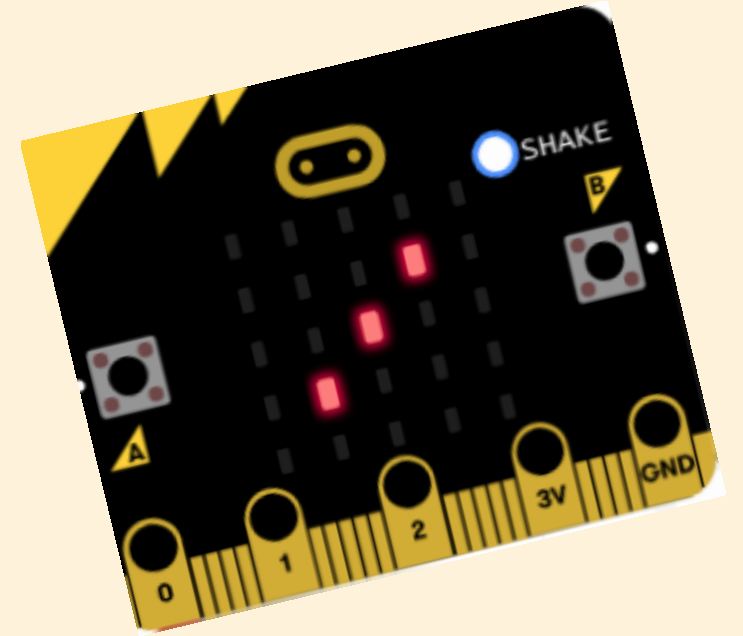
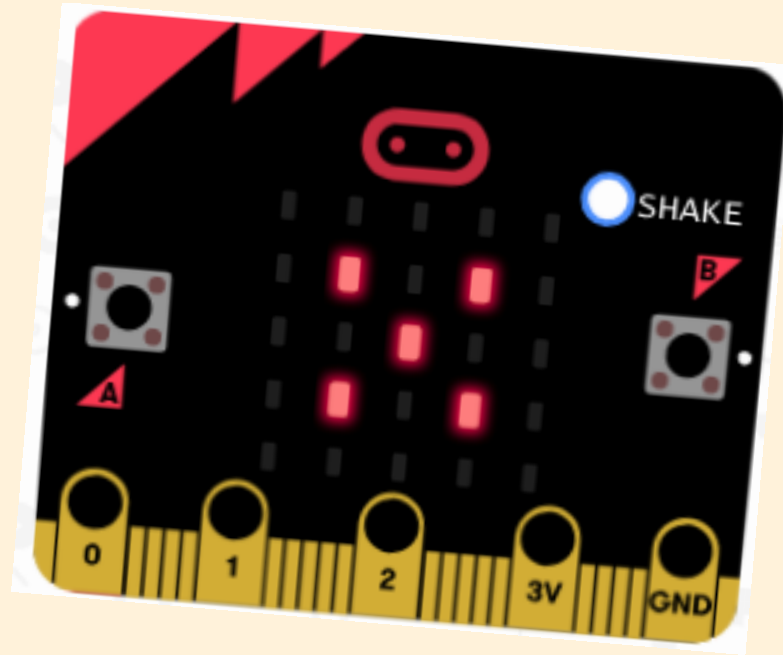
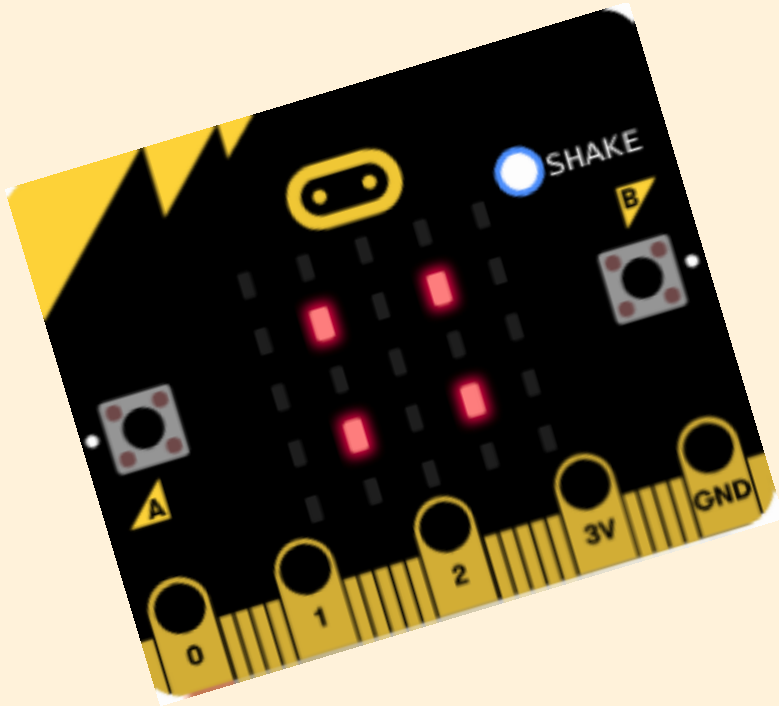


Početna stranica



The image shows the Microsoft MakeCode Micro:bit IDE interface. At the top, there is a blue header bar with the 'micro:bit' logo, 'Projects', 'Share', 'Blocks', and 'JavaScript' tabs. On the right side of the header, there are icons for help, settings, and the Microsoft logo. Below the header, on the left, is a large image of a Micro:bit board with pins labeled 0, 1, 2, 3V, and GND. To the right of the board is a search bar and a list of categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, and Advanced. The main workspace is a grid with 'on start' and 'forever' blocks. A red-bordered box highlights the URL <https://makecode.microbit.org/>. At the bottom, there is a 'Download' button, a file name 'Untitled', and navigation icons.

Kockica



https://makecode.microbit.org/_iCsRWXgYCWmK

Uspoređivanje brojeva

The image shows the MakeCode Microbit IDE interface. On the left is a virtual Microbit board with buttons labeled A, B, and A+B. The central block palette lists categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, and Math. The script area contains the following code:

```
on start
  set A to 0
  set B to 0

on button A pressed
  set A to pick random 0 to 100
  set B to pick random 0 to 100
  show number A
  pause (ms) 1500
  clear screen
  show number B
  pause (ms) 1000
  clear screen

on button B pressed
  show number A
  pause (ms) 1500

on button A+B pressed
  if A < B
  then
    show number A
    pause (ms) 1500
    show leds
    pause (ms) 1500
    clear screen
    show number B
    pause (ms) 1500
    clear screen
  if A > B
  then
    show number A
```

https://makecode.microbit.org/_DUeWkddCyUh1

Pisano zbrajanje

The image displays four Scratch code blocks for a dice game simulation. The first block, 'on button A pressed', sets variable A to a random number between 100 and 399, shows it, pauses for 1000ms, and clears the screen. The second block, 'on button B pressed', shows A, pauses, clears the screen, shows B, pauses, and clears the screen. The third block, 'on button A+B pressed', sets 'zbroj' to the sum of A and B, shows it, pauses, and clears the screen. The fourth block, 'on shake', sets 'kockica' to a random number between 1 and 3, and uses three 'if' statements to show a 3x3 grid of LEDs with one red LED in the center for value 1, in the middle-right for value 2, and in the bottom-right for value 3.

```
on button A pressed
  set A to 100 + pick random 0 to 399
  show number A
  pause (ms) 1000
  clear screen
  set B to 100 + pick random 0 to 398
  show number B
  pause (ms) 1000
  clear screen

on button B pressed
  show number A
  pause (ms) 1000
  clear screen
  show number B
  pause (ms) 1000
  clear screen

on button A+B pressed
  set zbroj to A + B
  show number zbroj
  pause (ms) 1000
  clear screen

on shake
  set kockica to 1 + pick random 0 to 3
  if kockica = 1
    then show leds
  if kockica = 2
    then show leds
  if kockica = 3
    then show leds
```

https://makecode.microbit.org/_MKz45HA3FLbq

Oduzimanje

```
on button A pressed
  set A to 1 + pick random 0 to 19
  show number A
  pause (ms) 1500
  clear screen
  set B to 1 + pick random 0 to 8
  show number B
  pause (ms) 1500
  clear screen
```

```
on button A+B pressed
  if A < B
  then
    set C to B - A
  else
    set C to A - B
  show number C
  pause (ms) 1500
  clear screen
```

https://makecode.microbit.org/_1pK2KtfyDYjX

Tablica množenja

```
on button A pressed
  set A to pick random 0 to 10
  show number A
  pause (ms) 1000
  clear screen
  set B to pick random 0 to 10
  show number B
  pause (ms) 1000
  clear screen
```

```
on button B pressed
  set umnožak to A x B
  show number umnožak
  pause (ms) 1000
  clear screen
```

https://makecode.microbit.org/_VJ87tkaEgfah

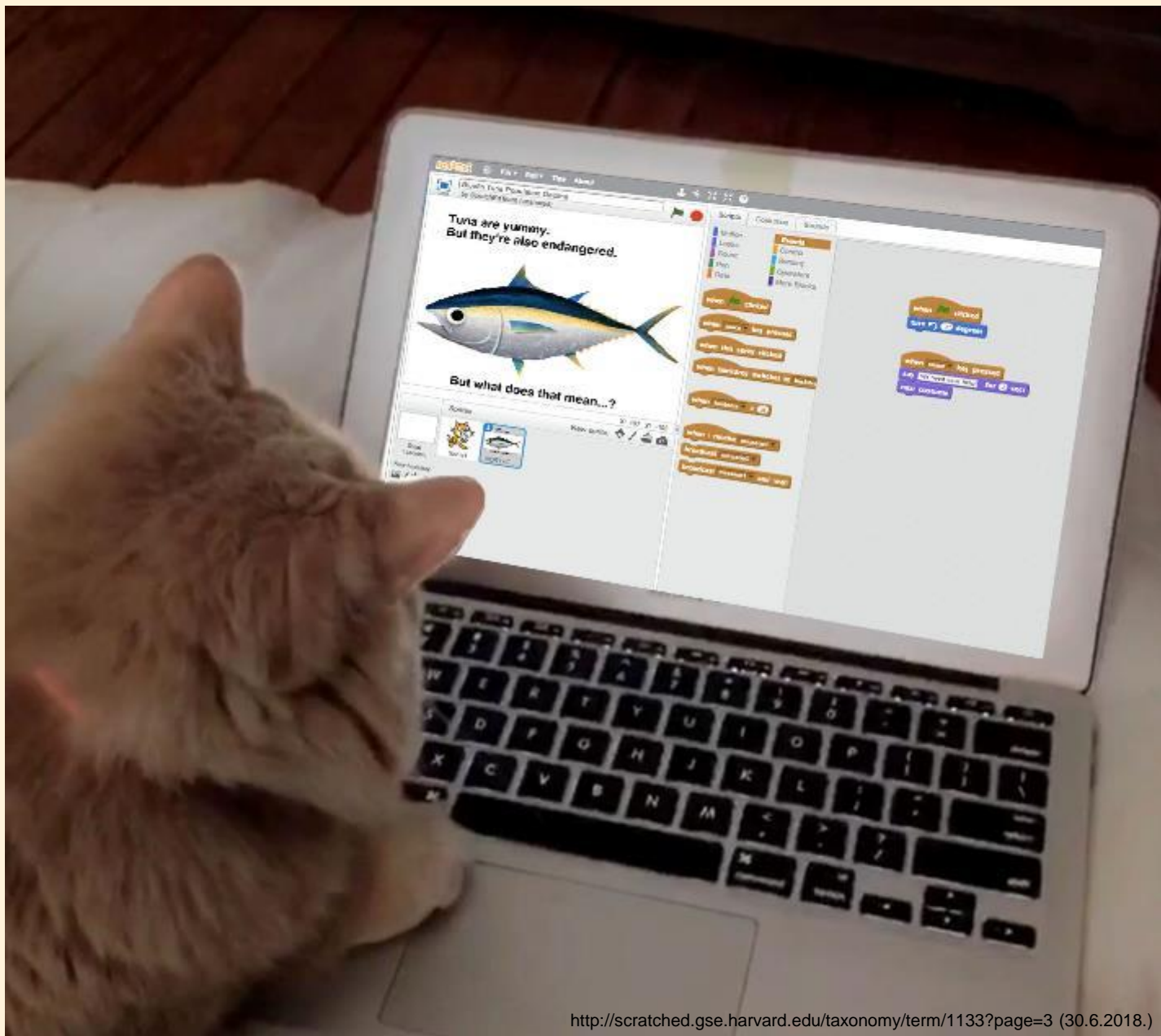
Dijeljenje s ostatkom

The image shows two Scratch code blocks. The left block, titled 'on button A pressed', contains the following steps: set A to 100 plus a random number from 0 to 900; show number A; pause for 1500 ms; clear screen; pause for 800 ms; set B to 2 plus a random number from 0 to 7; show number B; pause for 800 ms; clear screen. The right block, titled 'on button B pressed', contains the following steps: set C to A divided by B; show number C; pause for 1500 ms; clear screen; set D to B multiplied by C; show number A minus D; pause for 800 ms; clear screen.

```
on button A pressed
  set A to 100 + pick random 0 to 900
  show number A
  pause (ms) 1500
  clear screen
  pause (ms) 800
  set B to 2 + pick random 0 to 7
  show number B
  pause (ms) 800
  clear screen

on button B pressed
  set C to A ÷ B
  show number C
  pause (ms) 1500
  clear screen
  set D to B × C
  show number A - D
  pause (ms) 800
  clear screen
```

https://makecode.microbit.org/_YXqg7bPMkA9o



Hvala
na
pažnji!

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