



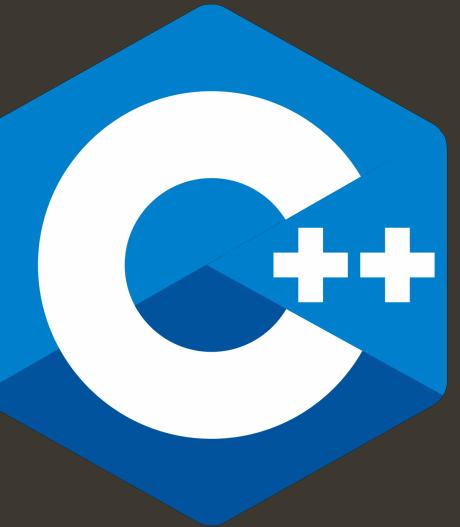
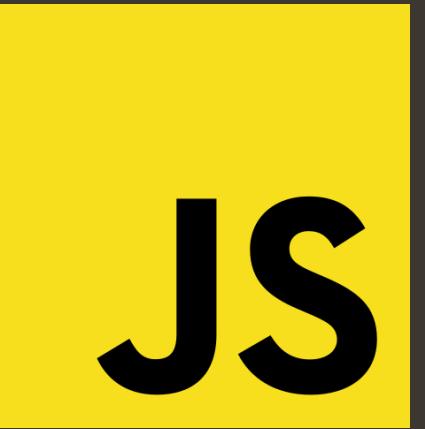
POLYGLOT PONG

PONG
IN
DIVER
SI
LINGUAGGI

POLIGLOTTA?

INTRODUZIONE ALLA PROGRAMMAZIONE, TRA DIVERSI LINGUAGGI

- **Demo Pong single-player**
- **Python vs JS**
- **Demo Pong multi-player Rust**
- **Rust vs C++**
- 

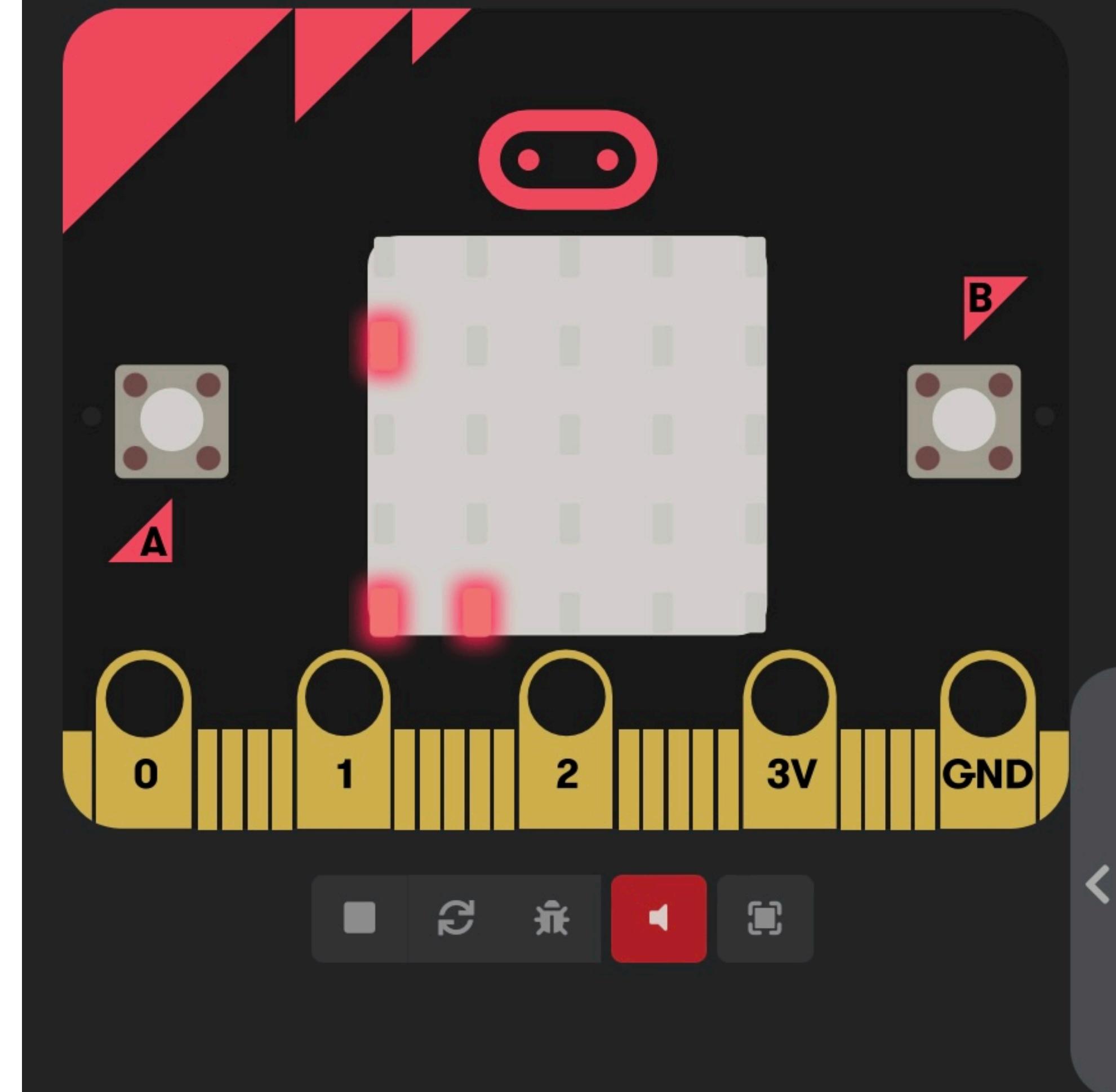


micro:bit

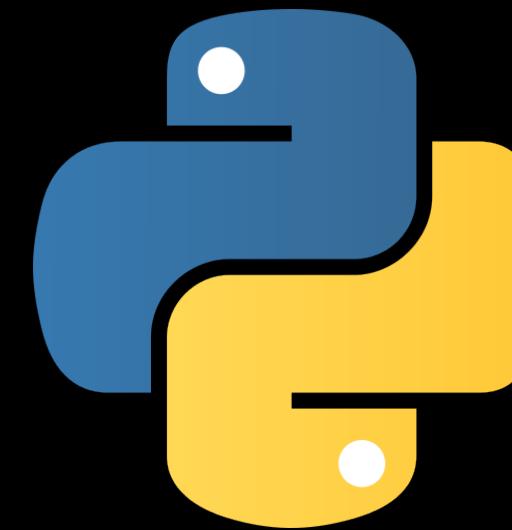
DEMO SINGLE PLAYER



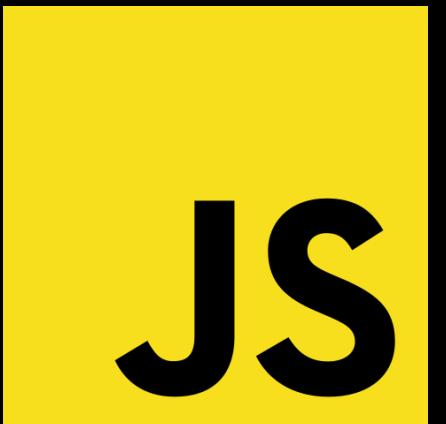
micro:bit



- Interpretato (Python VM)
- Sviluppo back-end
- No uso dei “;”, ma...
- ...indentazione per definire i code-block
- nomeVar = 7
- none
- Memoria delle variabili virtualmente infinita

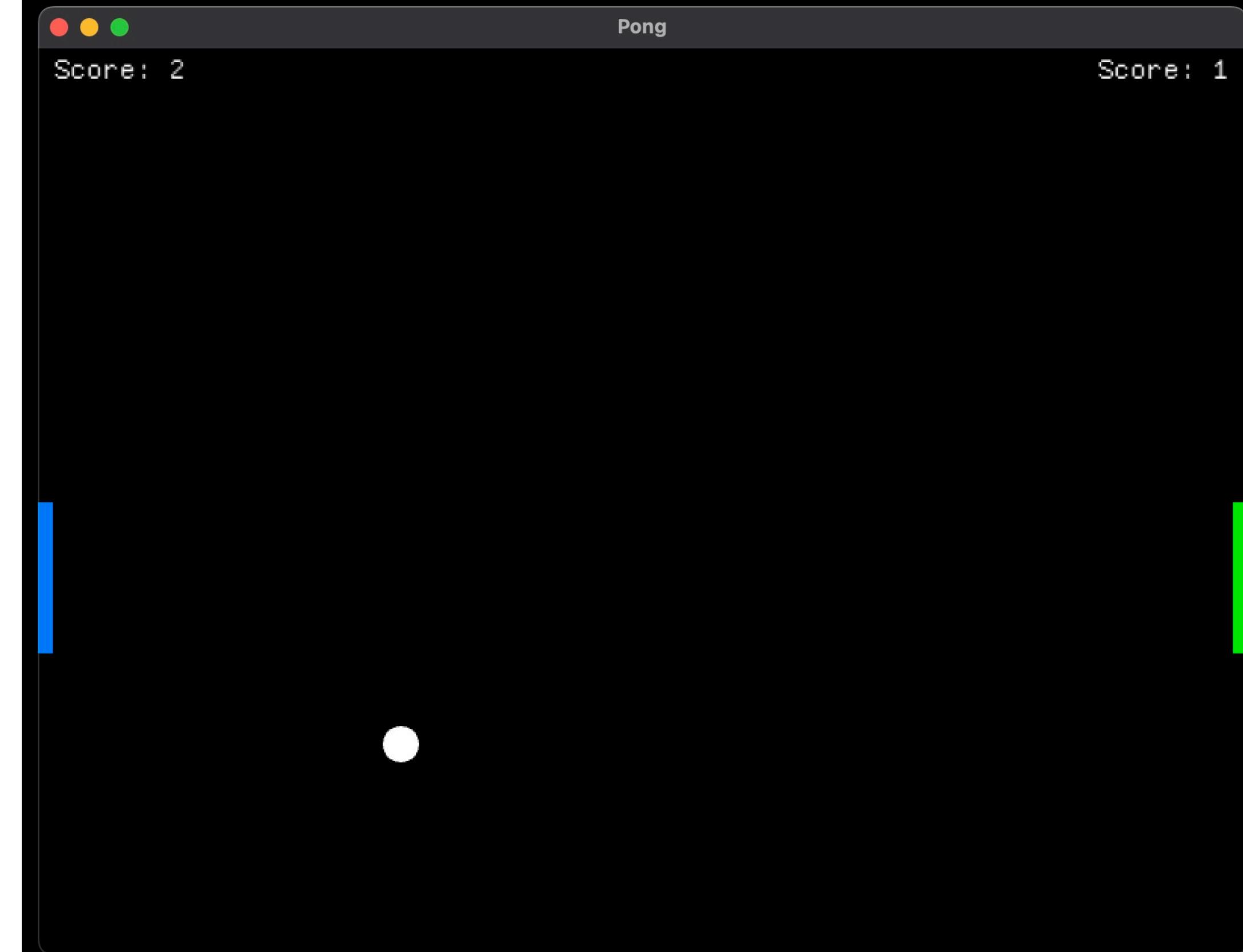
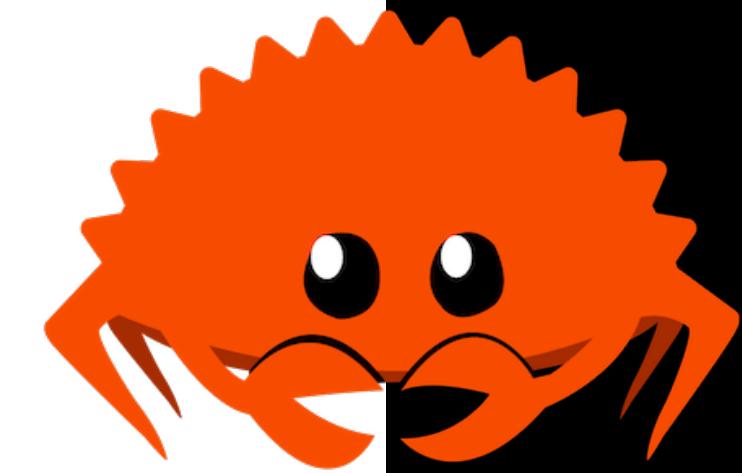


- Interpretato (nel browser)
- Sviluppo back-end E front-end
- Sì uso dei “;” e ...
- ...parentesi {} per definire i code-block
- var nomeVar = 7;
- null
- Variabili allocate automaticamente



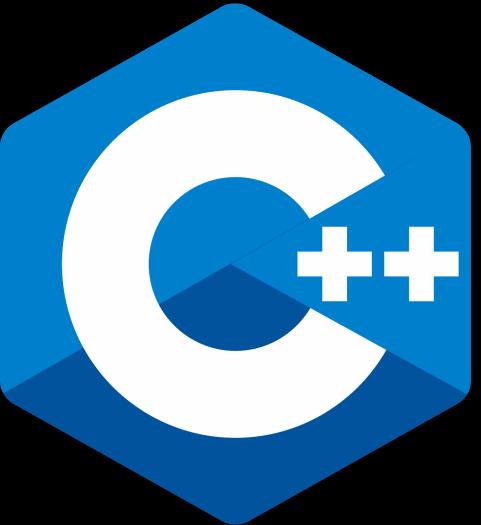
(De)Allocazione memoria automatica

DEMO MULTI PLAYER





- È più sicuro a livello di memoria (safe mode)
- Ownership (Proprietà)
- Strumenti sta per creare pacchetti (Cargo)
- Compila leggermente più lento
- Type checking statico o dinamico
- Espressioni di tipo esplicite o implicite
- `let i: i8 = 1;`
- Meno sicuro, gestione manuale
- Dangling Pointers
- Nessun strumento standard
- Compila leggermente più veloce
- Type checking solo statico
- Espressioni di tipo solo esplicite
- `int i = 1;`



Entrambi compilano in linguaggio macchina



Score: 3

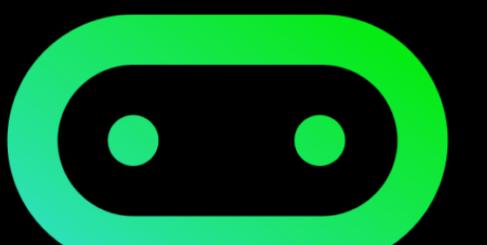
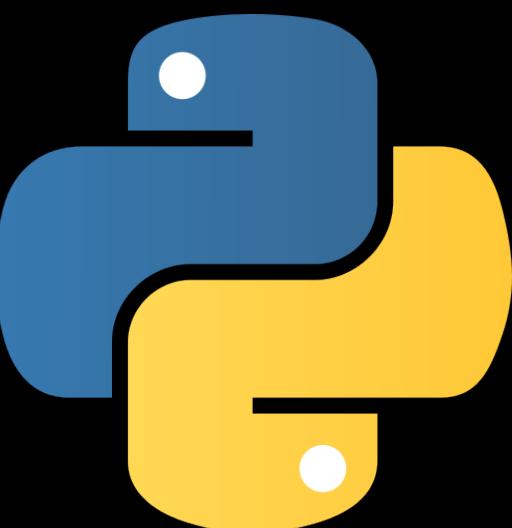
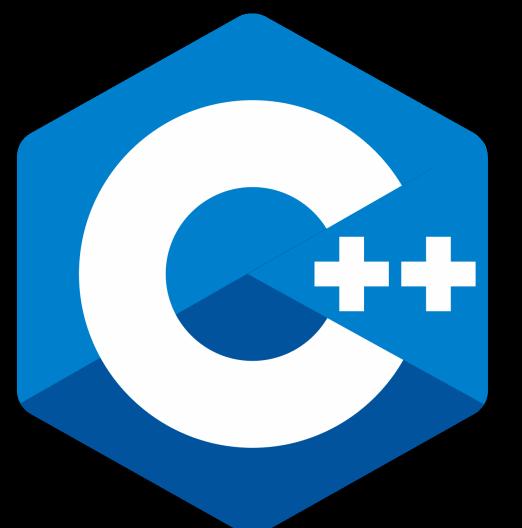
Score: 3



JS

www.kahoot.it

Kahoot!



micro:bit

**CODING IS TODAY'S LANGUAGE OF
CREATIVITY. ALL OUR CHILDREN
DESERVE A CHANCE TO BECOME
CREATORS INSTEAD OF CONSUMERS OF
COMPUTER SCIENCE.**

MARIA KLAWE, PRESIDENT OF HARVEY MUDD COLLEGE

TAKE-HOME MESSAGE



TROPPI LINGUAGGI?

- Ognuno ha le sue differenze (motivazioni storiche, memoria e garbage-collector)
- A seconda del contesto si sceglie il più adatto (tempi di compilazione, framework, etc)
- Difficoltà intrinseca
- Portabilità, cross-platform
- Didattica

