Run-in-Place Race | 1. Players

Connect the BBC micro:bit to MicroBlocks.

You'll need three BBC micro:bits: one for each player and one to keep score. Each player micro:bit sends the player's name and step count to the scorekeeper via radio.

Add the Radio, Scrolling, and Web Thing libraries:

Libraries **+**   **Radio**   **Scrolling**   **Web Thing**

Make these scripts, then disconnect the micro:bit and attach a battery. Do the same for a second micro:bit but change the player name to "B".

```
when started
  set player name ▾ to A          ← Change to "B" for the
  start step counter                  second player
  forever
    radio send pair  player name = step count
    wait 50 millisecs
```

```
when started
  forever
    scroll text  player name  ▶
    scroll number  step count  ▶
```

This script lets the scorekeeper reset the steps via radio when starting a race:

```
when  radio message received?
  if  clear steps = radio last string
    clear step count
```

This script lets you use button B on the micro:bit to clear your own step count:

```
when button B ▾ pressed
  clear step count
```

http://microblocks.fun
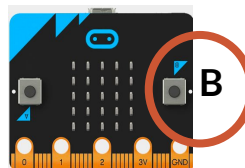
The scorekeeper receives step count updates from both players via radio. The B button sends a message to clear all step counts.

This script updates the script count for player A or B when a radio message is received.

```
when radio message received?
if  A  =  radio last string
    set stepsA ▼ to  radio last number
▶
if  B  =  radio last string
    set stepsB ▼ to  radio last number
▶
```

This script displays the name and step count for each player.

```
when started
forever
    scroll text  join A  stepsA  ▶ ▶
    scroll text  join B  stepsB  ▶ ▶
```

This script sends a radio message to clear all the players' step counts.

```
when button B ▼ pressed
radio send string  clear steps
```

This script tells the gateway about this Web Thing:

```
when started
set stepsA ▼ to  0
set stepsB ▼ to  0
define thing RunInPlaceRace capability MultiLevelSensor ▼
add number property title PlayerA variable stepsA ▼ min 0 max 1000
@Type LevelProperty ▼
add number property title PlayerB variable stepsB ▼ min 0 max 1000
@Type LevelProperty ▼
```
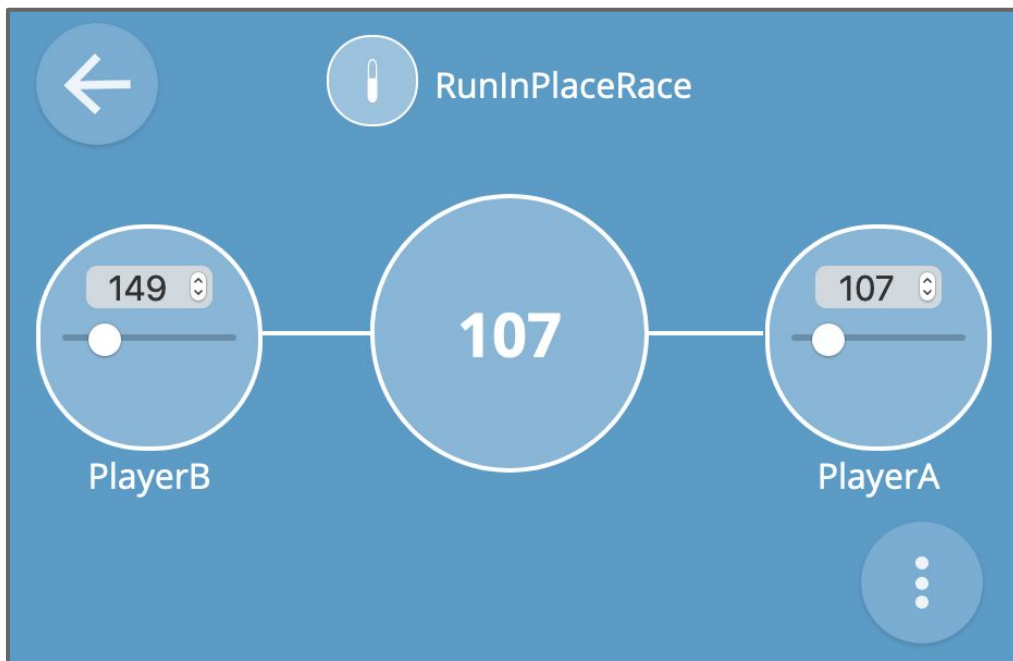
http://microblocks.fun
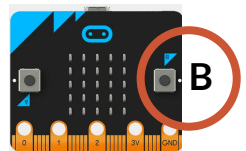
Connect the micro:bit to Mozilla gateway and add your Thing (see Web Light activity), then view step counts in a web browser:

Press the B button on the scorekeeper micro:bit to reset all step counts and start a race. Next, players can put micro:bits in their pockets and run in place until they reach steps goal (i.e. 100 steps).

How would you change this to allow more players to race?

http://microblocks.fun