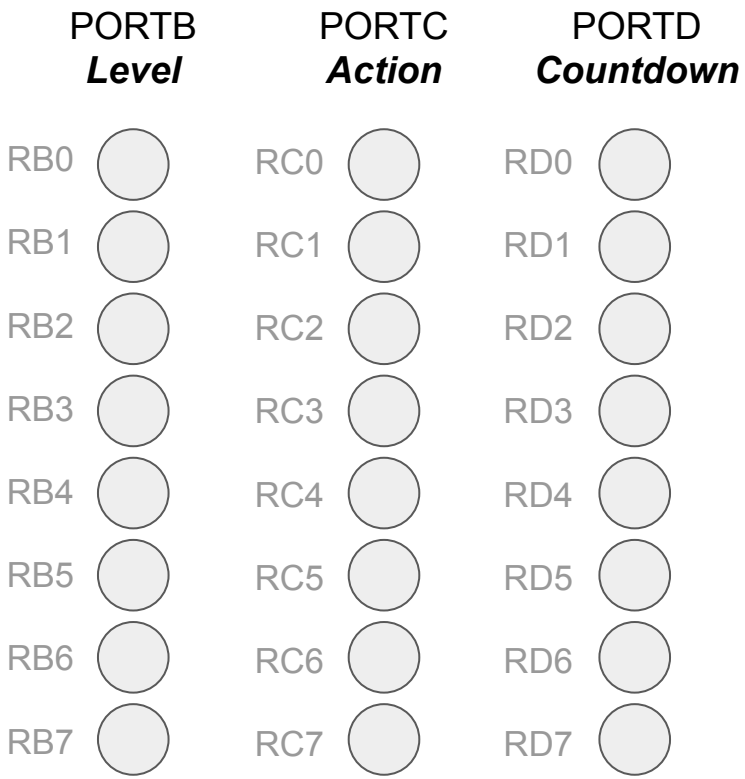
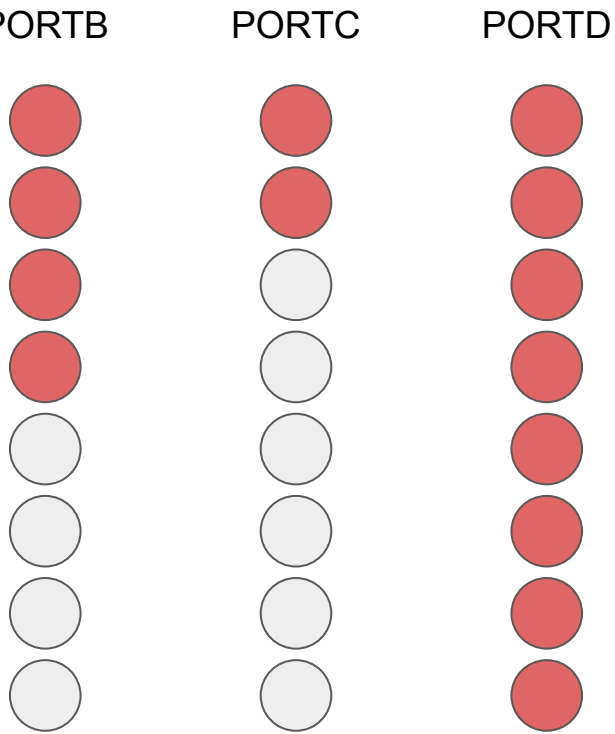
CENG336 - THE1

example execution - detailed

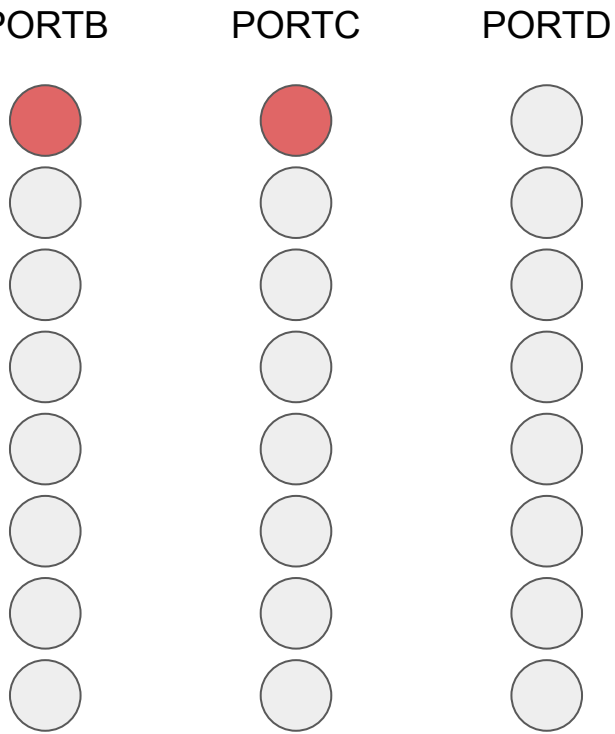
All LEDs turned off before we start the program.



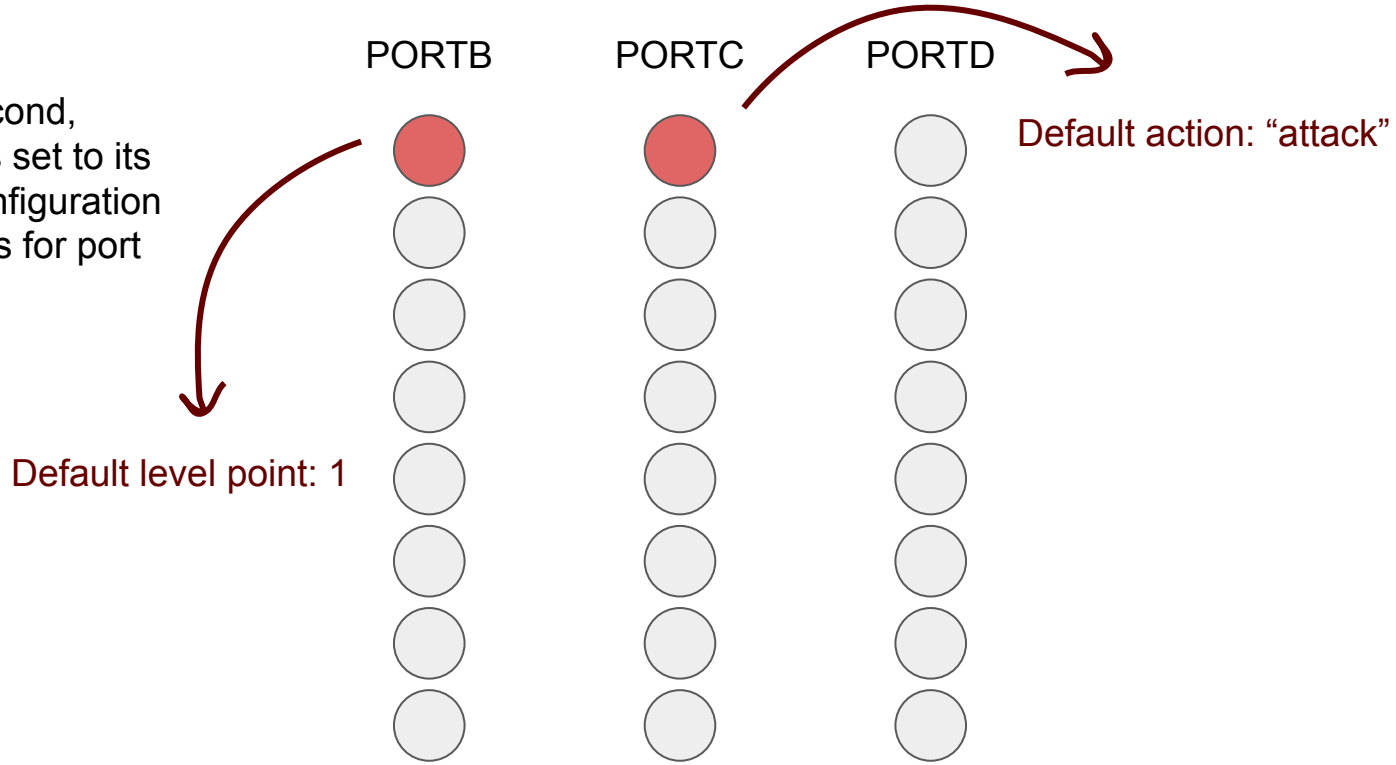
At the start of the program, all LEDs that are used will be turned on for 1 second.



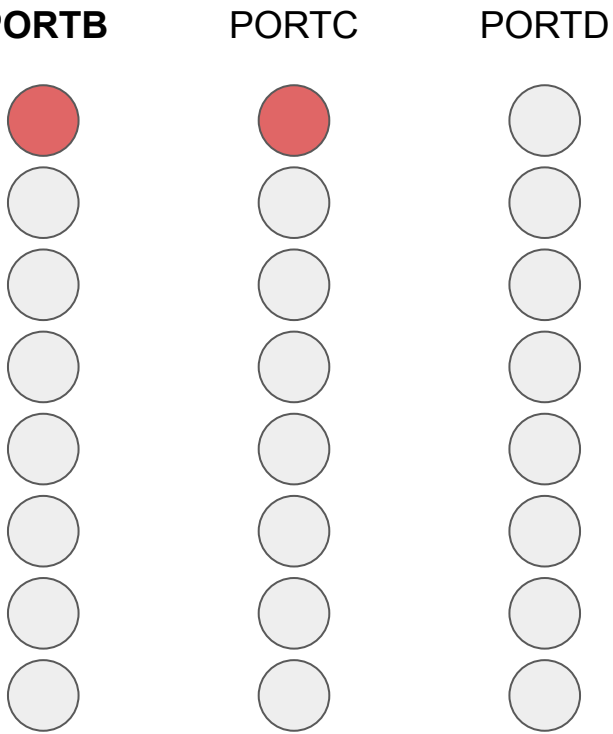
After 1 second, program is set to its default configuration and it waits for port selection.



After 1 second, program is set to its default configuration and it waits for port selection.

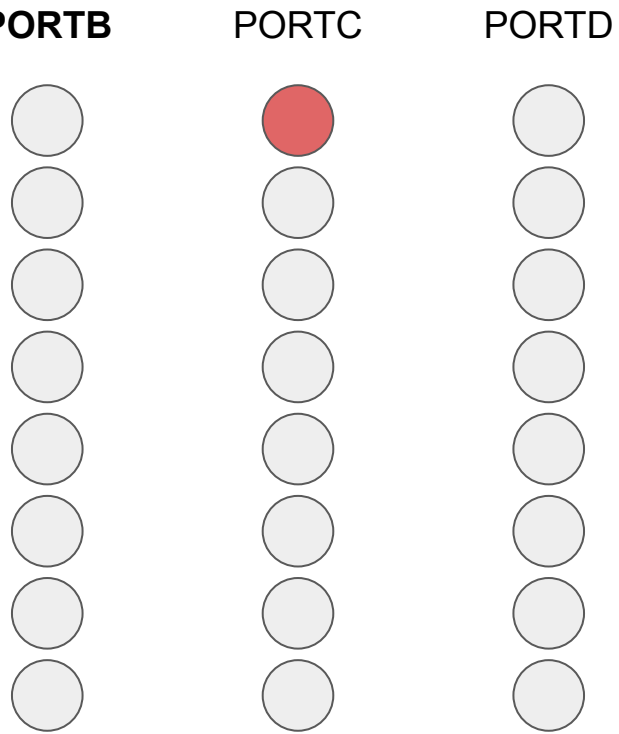


RE4 is pressed and released, PORTB is selected.



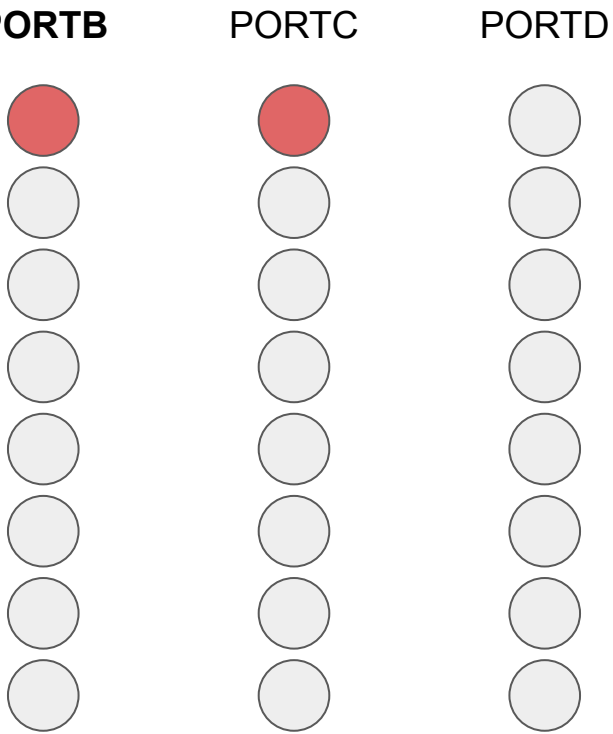
RE4 is pressed and released, PORTB is selected.

Since PORTB is selected, LEDs that are turned on in PORTB should blink with 500ms intervals.

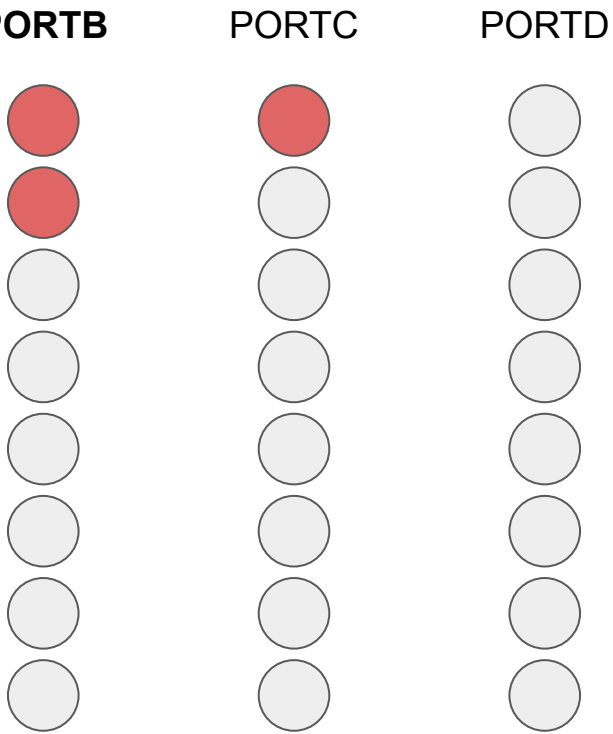


RE4 is pressed and released, PORTB is selected.

Since PORTB is selected, LEDs that are turned on in PORTB should blink with 500ms intervals.

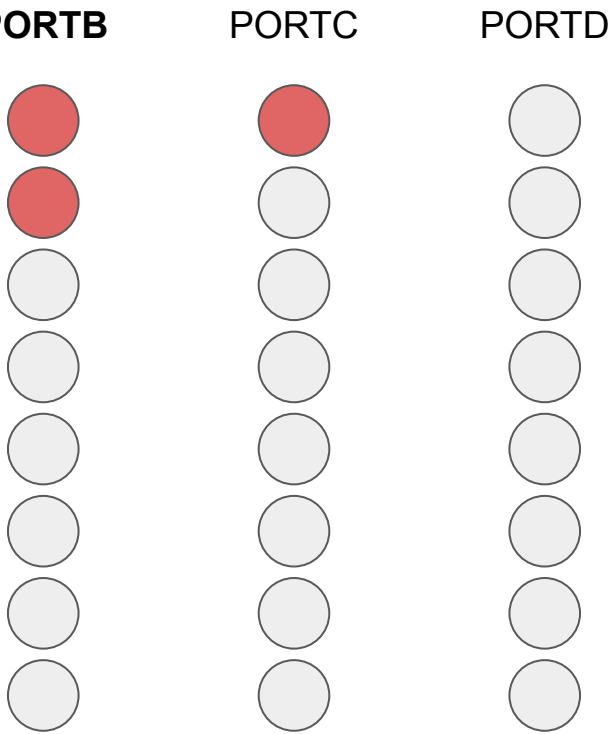


RA4 is pressed and released to configure the level point value as 2.



RA4 is pressed and released to configure the level point value as 2.

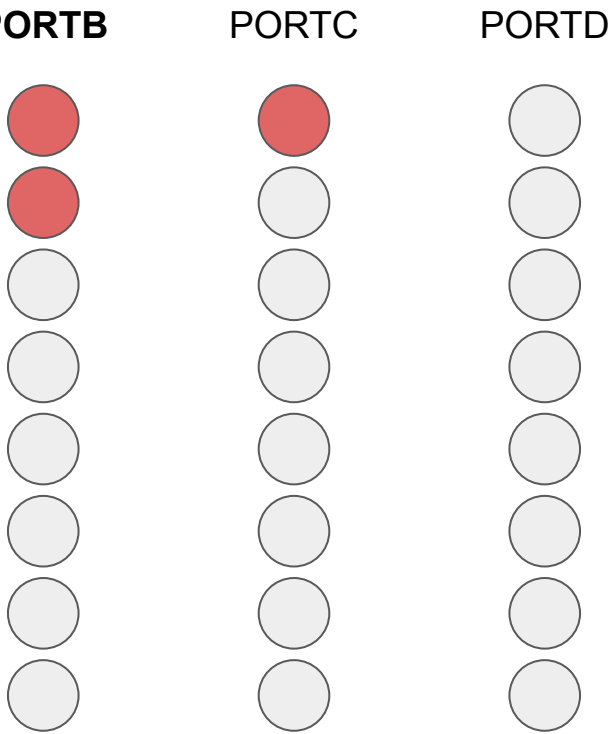
If RA4 is not pressed and released, level point will be used as its default value 1.



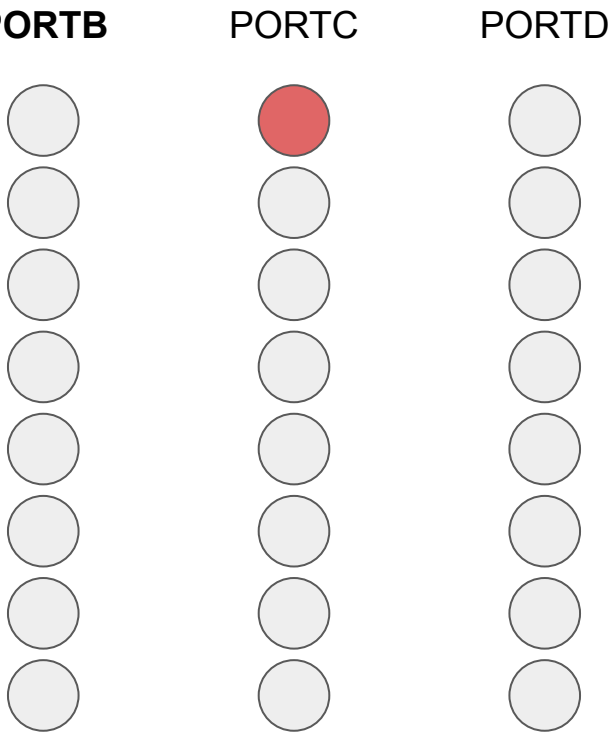
RA4 is pressed and released to configure the level point value as 2.

If RA4 is not pressed and released, level point will be used as its default value 1.

If RA4 is pressed and released for the fourth time, the level point will go back to 1.



Blinking should continue in the active port even the value of the port is updated via press and release of RA4.



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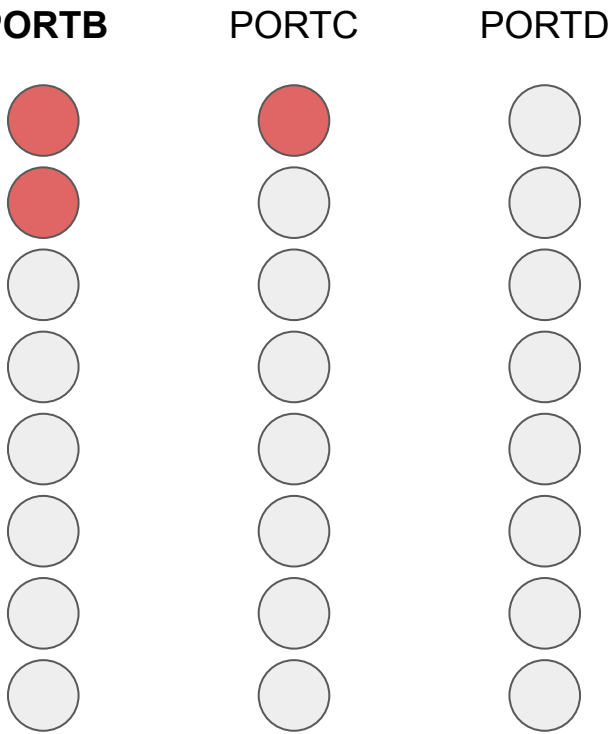
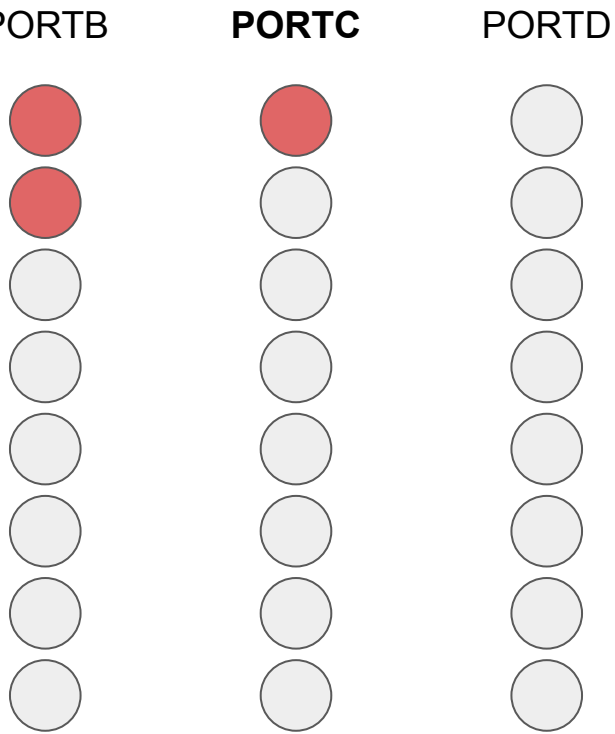
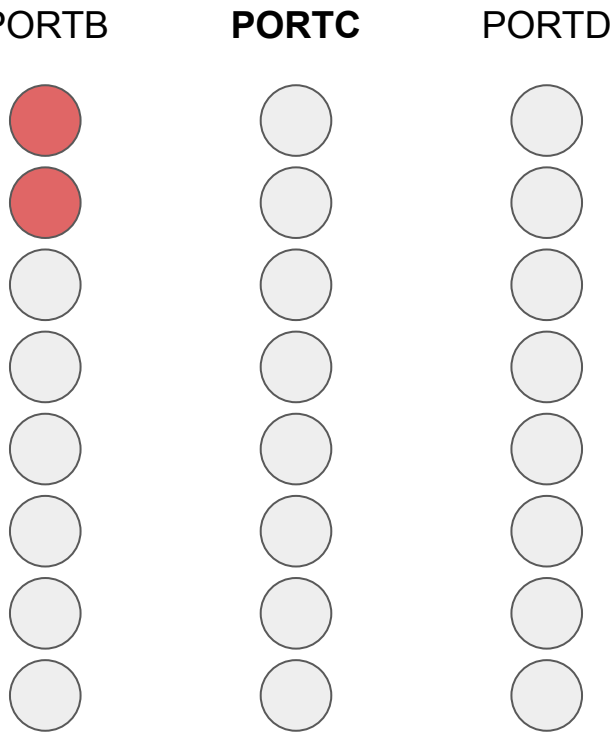


RE4 is pressed and released again to select PORTC.



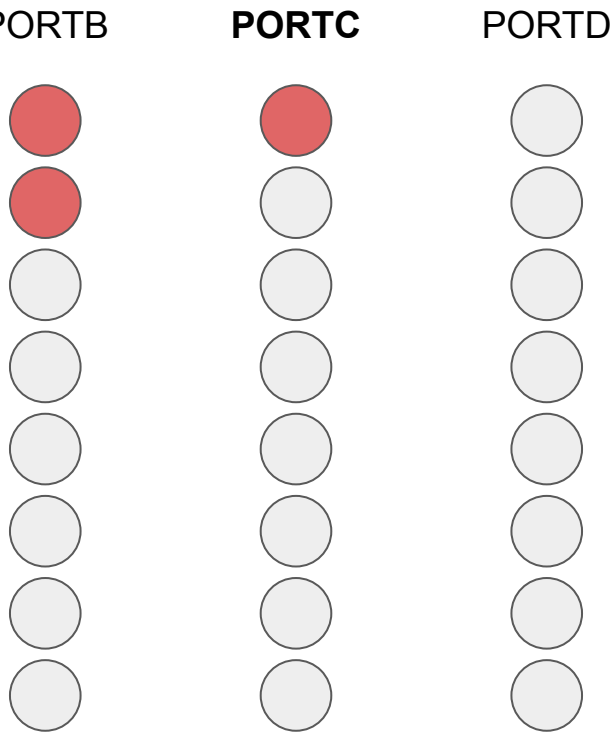
RE4 is pressed and released again to select PORTC.

Since PORTC is selected, LEDs that are turned on in PORTC should blink with 500ms intervals.

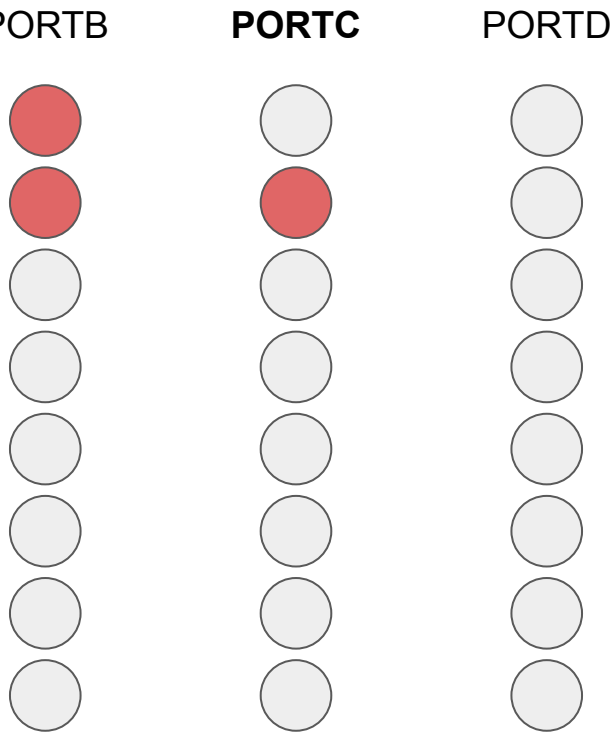


RE4 is pressed and released again to select PORTC.

Since PORTC is selected, LEDs that are turned on in PORTC should blink with 500ms intervals.

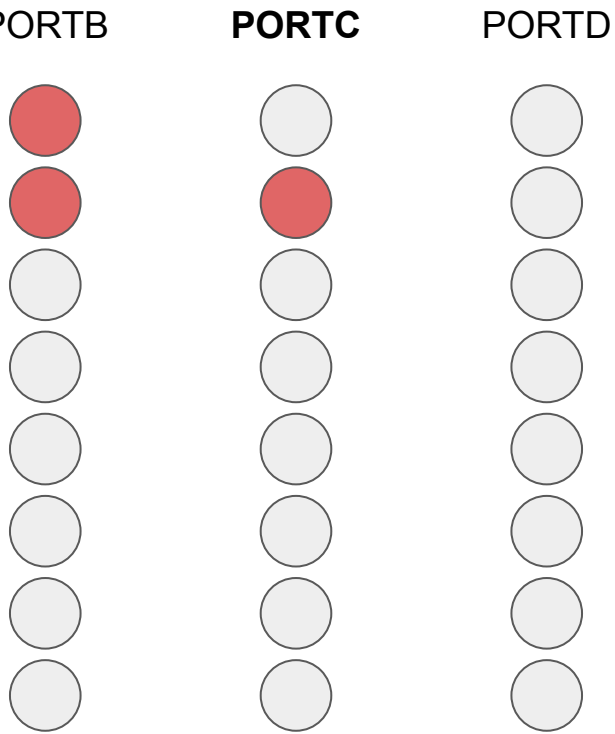


RA4 is pressed and released to change the action type from “attack” to “defend”.



RA4 is pressed and released to change the action type from “attack” to “defend”.

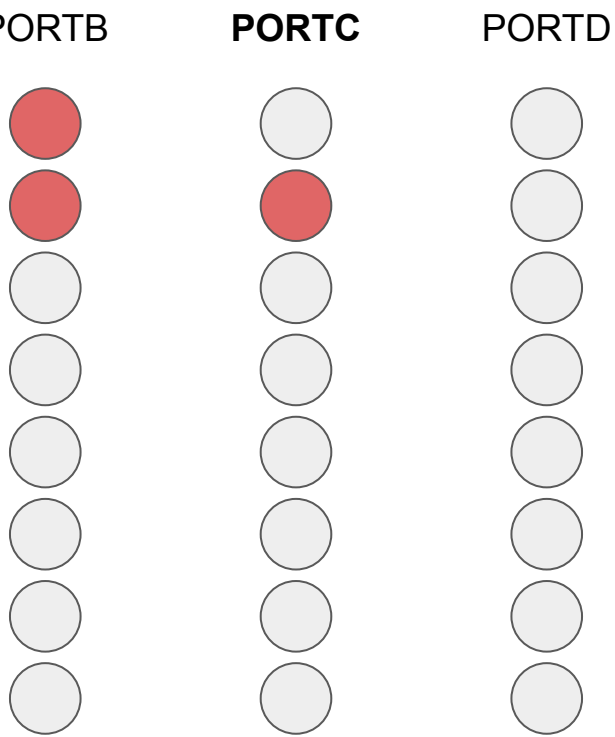
Notice that instead of lighting the LEDs incrementally, we turn off RC0 and turn on RC1. We switch between them at each press and release of RA4.



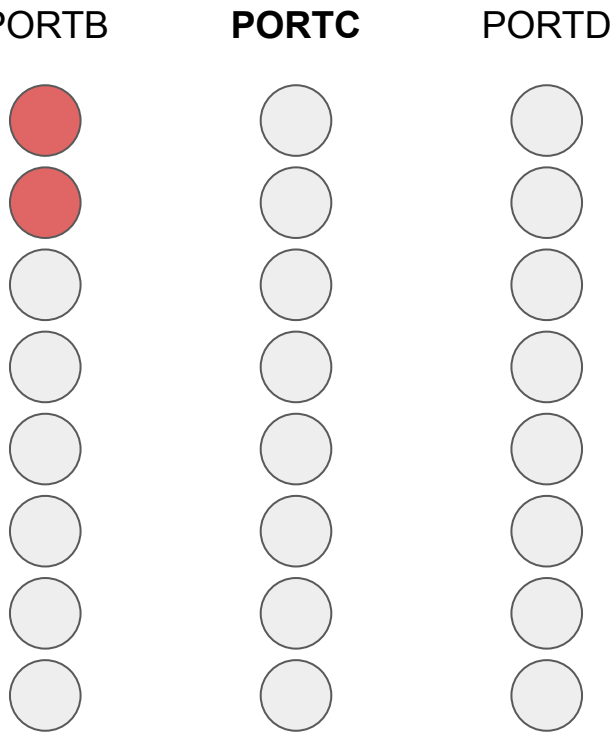
RA4 is pressed and released to change the action type from “attack” to “defend”.

Notice that instead of lighting the LEDs incrementally, we turn off RC0 and turn on RC1. We switch between them at each press and release of RA4.

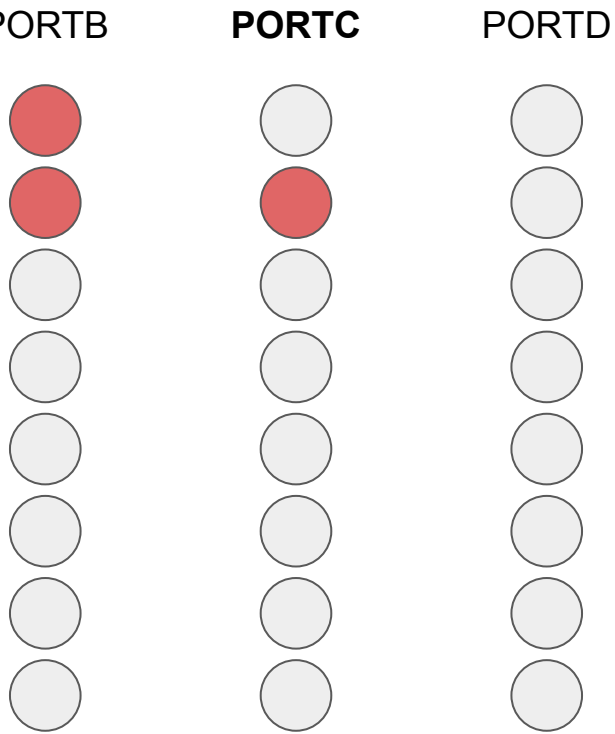
If RA4 is not pressed and released, “attack” action will be taken as default.



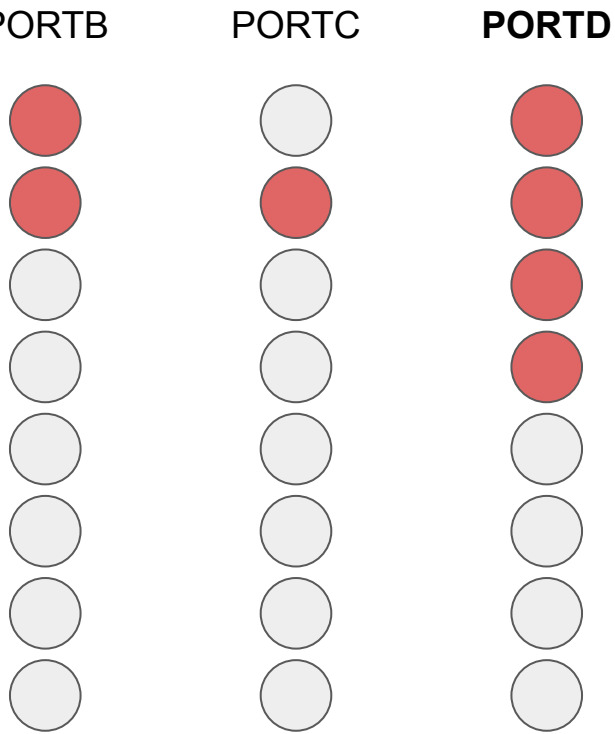
Blinking should continue in the active port even the value of the port is updated via press and release of RA4.



Blinking should continue in the active port even the value of the port is updated via press and release of RA4.

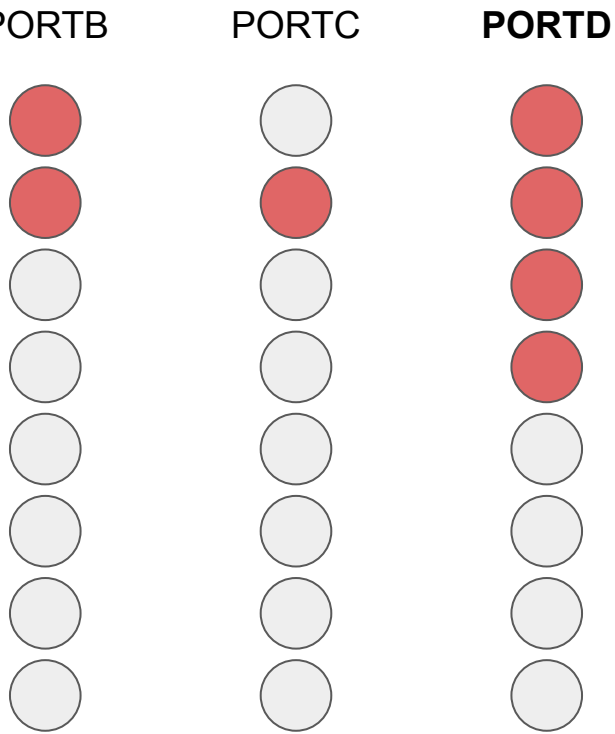


RE4 is pressed and released again to select PORTD. This triggers the playtime calculation and countdown.



RE4 is pressed and released again to select PORTD. This triggers the playtime calculation and countdown.

Since each LED represents 500ms, for level point 2 and “defend” action we use 4 LEDs.



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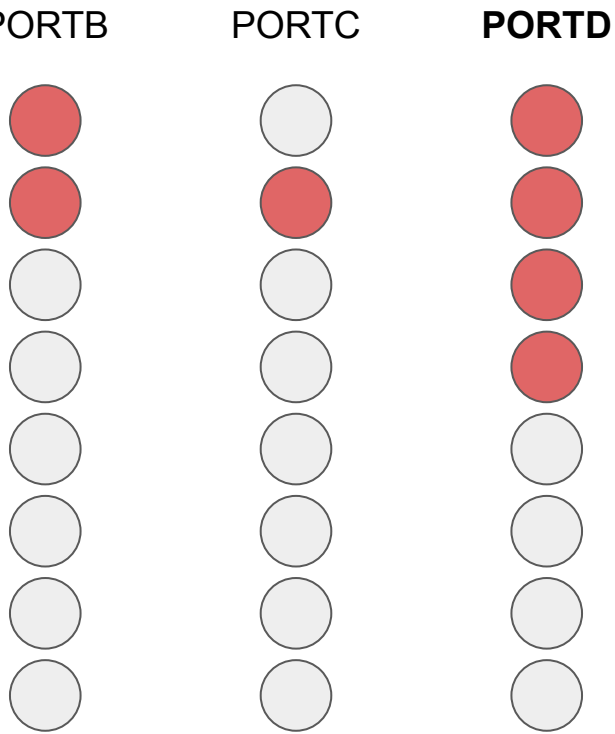
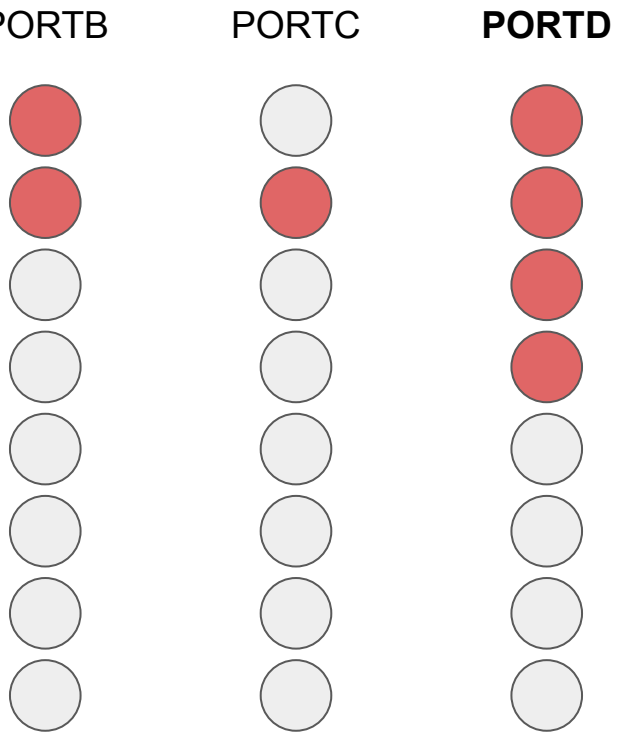


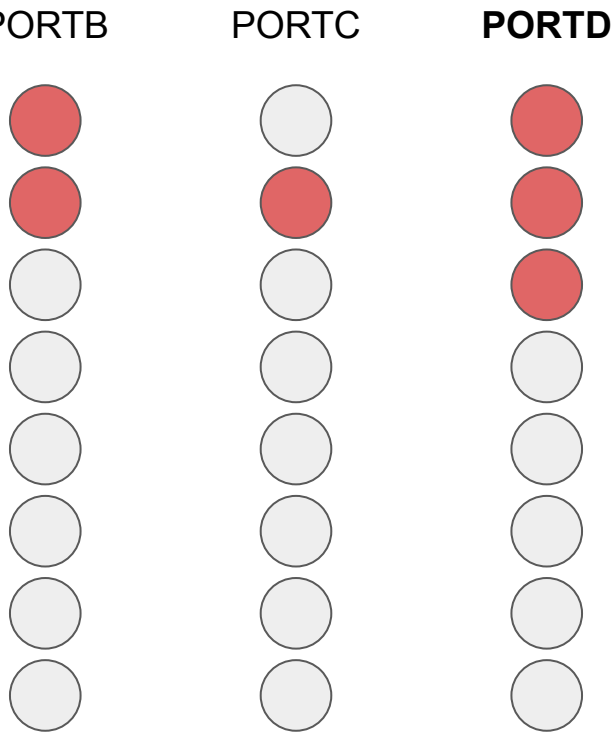
“defend” action playtime per level point

2 level points x 1 second
=
2 seconds
=
4 x 500ms

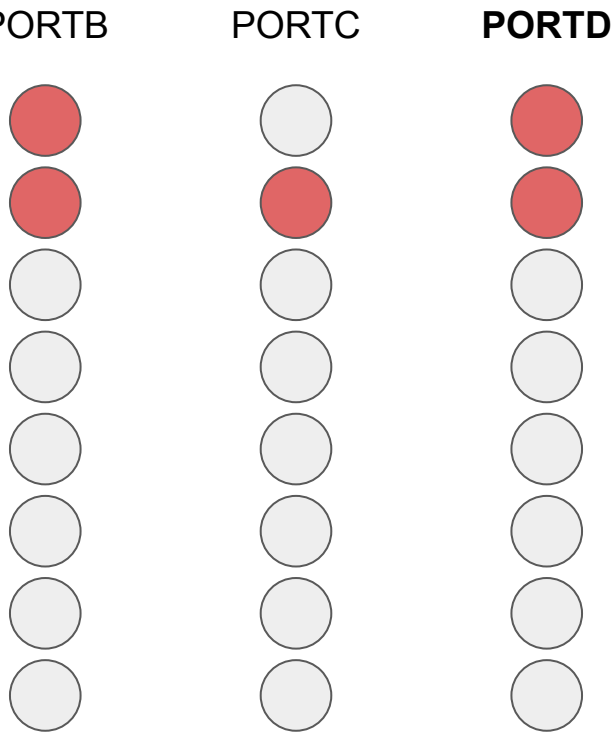
When PORTD is selected, blinking should stop, PORTB, PORTC and calculated PORTD values should be visible. Then the countdown should start.



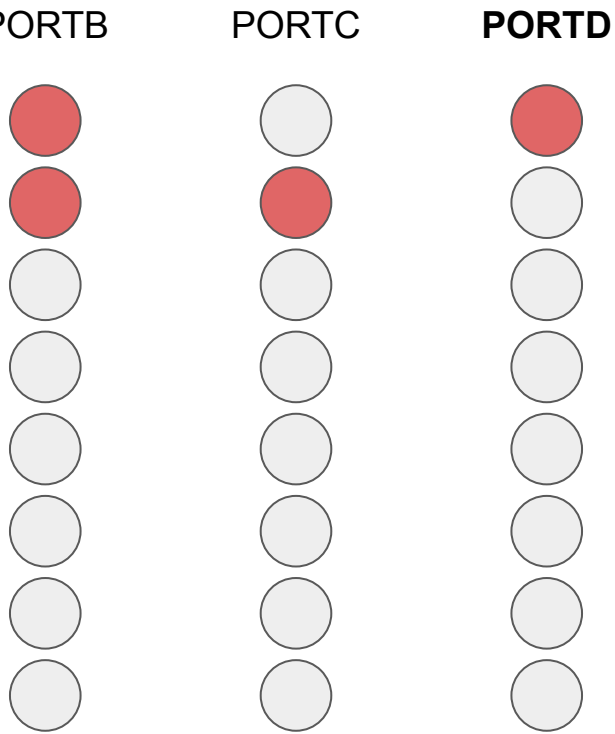
After 500 ms



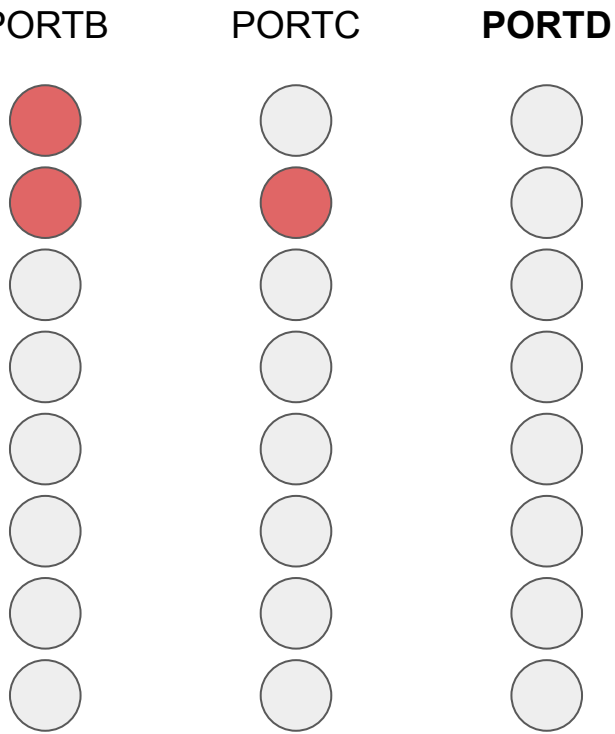
After another 500 ms



After another 500 ms



After another 500 ms, the last remaining LED in PORTD is turned off. Countdown finishes.



After showing the end of the countdown for 500ms, program returns to default configuration to wait for port selection.