Practical 1

Your pracs will be marked by an automated system. The system requires some knowledge of your code structure to carry out its tests.
Hence, a template is provided on the following page. Your code should fit into this template. It's critical that the label names are not modified.

Part 1: (2 marks)
In the initialisations block, the LEDs should be set up to display the number 10.

Part 2: (2 marks)
With every iteration of main_loop, the value on the LEDs should be incremented by 1.

Part 3: (2 mark)
After showing the number 20, the LEDs should wrap back around to 10.
In other words, the pattern should be:
10, 11, 12, …, 19, 20, 10, 11 ….

Bonus: (1 mark):
While push button 3 is held down, the LEDs should count down. Similarly, they should wrap from 10 to 20. When SW3 is released, the LEDs should count forwards as before.

Marked out of: 6
Available marks: 7

```
@ STDNUM001 STDNUM002

        .syntax unified
        .global _start

vectors:
        .word 0x20002000
        .word _start + 1
_start:
        @ Initialisations go here.
        @ At the end of this block, LEDs should show 0x0A

main_loop:
        @ All logic to increment LEDs and to
        @ wrap from 20 back to 10 should be contained in here

        B main_loop
```