Practical 2

Part 1: (2)
By default, the LEDs should increment by 1 every 0.7 seconds. (they can start from 0)

Part 2: (2)
While SW0 is held down, it should change to increment by 2 every 0.7 seconds

Part 3: (2)
While SW1 is held down, the increment timing should change to every 0.3 seconds.

Part 4: (1)
While SW2 is held down, the pattern should get reset to 0xAA. Naturally, the pattern should stay at 0xAA until SW2 is released at which point it will continue counting normally from there.

Part 5: (1)
While SW3 is held down, the pattern should freeze, and resume counting only when SW3 is released.

Bonus: (1)
When SW1 is held down, instead of being fixed at 0.3 seconds, vary the delay smoothly from 0.05 to 0.3 seconds as POT1 is rotated as the pot is rotated from fully anticlockwise to fully clockwise.

Marked out of: 8
Available marks: 9

Notes and advice:
Only one of SW2 or SW3 will be held down at one time.
SW0 and SW1 may be held at the same time.
Your timing needs to be very accurate (~2% tolerance). Verify it on an oscilloscope.
As you saw with the solution to prac1, spending a few minutes before hand planning your code path with a flow chart or some such can make your coding a lot more efficient.