Lab RTOS

Write up:

1. R0 holds the process stack pointer. PendSV\_Handler runs during a context switch meaning that all the registers are going to get stored on the stack. Registers 4 to 11 encompass 8 registers. LP1768 are 32 bit processors so each register holds 4 bytes. These registers are stored starting at the top of the stack going down (4 to 11). STM with no options stores first then increments, going downward on the stack. The idea then is first to set the stack pointer to the top where 4 would be stored. After each register (4 bytes is stored) the SP will increment going down the stack. After these registers are stored the stack pointer should be 32 lower than it was originally (stack grows towards lower values). Hence the 0x02 is subtracted from the stack pointer so that it is now at the first free location so that when STM finishes the stack pointer is where it started.