1. Yes the calculations are right, however one of the comments is wrong (should be xor-ing not or-ing.

int main(void)

{

volatile unsigned char temp; /\* declare volatile otherwise

the optimizer will remove it. \*/

temp = 0x35 & 0x0F; /\* ANDing : 0x35 & 0x0F = 0x05 \*/

temp = 0x04 | 0x68; /\* ORing : 0x04 | 0x68 = 0x6C \*/

temp = 0x54 ^ 0x78; /\* XORing : 0x54 | 0x78 = 0x2C \*/

temp = ~0x55; /\* Inverting : ~0x55 = 0xAA \*/

temp = 0x2F & 0x27;

temp = 0x2F | 0x27;

temp = 0x2F ^ 0x27;

temp = 0x2F >> 3;

temp = 0x27 << 4;

while (1);

return 0;

}

0x35 & 0x0F = 00110101 & 00001111 = 00000101 = 0x05

0x04 | 0x68 = 00000100 | 01101000 = 01101100 = 0x6C

0x54 | 0x78 = 01010100 ^ 01111000 = 00101100 = 0x2C

~0x55 = ~(01010101) = 10101010 = 0xAA

Skipping the next 3

0x2F >> 3 = 101111 >> 3 = 101 = 0x05

0x27 << 4 = 100111 << 4 = 1001110000 = 0x270

1. Trick question. This code would not execute because var2 was not declared in the code snippet shown (+1 for Gryffindor).

#include <MKL25Z4.H>

int main (void) {

void delayMs(int n);

SIM->SCGC5 |= 0x400; /\* enable clock to Port B \*/

SIM->SCGC5 |= 0x1000; /\* enable clock to Port D \*/

PORTB->PCR[18] = 0x100; /\* make PTB18 pin as GPIO (Table 2-4)\*/

PORTB->PCR[19] = 0x100; /\* make PTB19 pin as GPIO \*/

PTB->PDDR |= 0xC0000; /\* make PTB18, 19 as output pin \*/

PORTD->PCR[1] = 0x100; /\* make PTD1 pin as GPIO \*/

PTD->PDDR |= 0x02; /\* make PTD1 as output pin \*/

while (1) {

PTB->PCOR = 0x40000; /\* turn on red LED \*/

delayMs(500);

PTB->PSOR = 0x40000; /\* turn off red LED \*/

delayMs(500);

PTB->PCOR = 0x80000; /\* turn on green LED \*/

delayMs(500);

PTB->PSOR = 0x80000; /\* turn off green LED \*/

delayMs(500);

PTD->PCOR = 0x02; /\* turn on blue LED \*/

delayMs(500);

PTD->PSOR = 0x02; /\* turn off blue LED \*/

delayMs(500);

}

}

/\* Delay n milliseconds

\* The CPU core clock is set at 20.97 MHz.

\*/

void delayMs(int n) {

int i;

int j;

for(i = 0 ; i < n; i++)

for (j = 0; j < 14000; j++) {}

}