Design Assignment 1

ELC 411

Jacob Levine

1. Learn about PSoC registers
   1. 0xe000ed00 is the address of the nvic\_cpuid\_base register
   2. Sub-field name [startbit:endbit] of subfields of nvic\_cpuid\_base
      1. IMPLEMENTER [31:24]
      2. VARIANT [23:20]
      3. Constant [19:16]
      4. PARTNO [15:4]
      5. REVISION [3:0]
   3. 0x40005086 is the address of PRT6\_DR
2. Write C code to do two things

#include "project.h"

#include <stdio.h>

#include <string.h>

#include <ctype.h>

#include <stdint.h>

int main(void)

{

<note – use spaces, not TAB characters>

<extend margins, and reduce font size, to avoid unnecessary line wrapping>

// 4.1 ACCESS REGISTER VIA ITS ADDRESS

//reading value of nvic cpuid base addrs

#define NVIC\_CPUID\_BASE\_ADDR 0xE000ED00

//declaring variables

uint32\_t implementer;

uint32\_t variant;

uint32\_t partno;

uint32\_t revision;

uint32\_t reg\_val;

/\*declaring pointer to volatile unsigned int and setting it to point to nvic cpuid base addrs\*/

uint32\_t volatile \* my\_reg\_ptr = (unsigned int \*) NVIC\_CPUID\_BASE\_ADDR;

//getting value in register

reg\_val = \*my\_reg\_ptr;

//bitmasking variables

implementer = (reg\_val >> 24) & 0xFF;

variant = (reg\_val >> 20) & 0xF;

partno = (reg\_val >> 4) & 0xFFF;

revision = (reg\_val) & 0xF;

// 4.2 MANIPULATE A CHARACTER STRING

//declaring string

char myname[]= jacob alan levine;

//sorting

int string\_length = strlen(myname);

char temp;

if(a=0; a<string\_length;)

{

for(a = i; i<string\_length;)

{

myname[i] = temp;

myname[i] = myname[i+1];

mynamep[i+1] = temp;

i=i+1;

}

a = a+1;

}

// Loop forever (do nothing, for this assignment)

for(;;)

{

}

}