

EE 1910

Dr. Johnson

Homework 9

1 – Given the following memory map – evaluate each item

20pts

variable name	value	address
foo	0x1234	0x1000
boo	0x8000	0x2000
zoo	0x2324	0x3000
a_ptr	0x2000	0x7000
b_ptr	0x3456	0x8000

int foo;

int boo;

int zoo;

int* a_ptr;

int* b_ptr;

&boo

*b_ptr

a_ptr

&b_ptr

boo + b_ptr + *a_ptr + &boo

HEX

2 – Fill in the memory map at the end of the following code

40pts

*** note: this code will not compile – for illustrative purposes only ***

```
int foo, boo;
float zoo, soo;
int* a_ptr, b_ptr;
float*c_ptr, d_ptr;

a_ptr = &boo;
c_ptr = a_ptr + 0x2000;
*c_ptr = 3.5 * foo;
*a_ptr = 7;
zoo = soo + boo;
d_ptr = a_ptr + c_ptr;
*d_ptr = 0x1000;
*b_ptr = boo + *a_ptr;
```

variable name	value	address
foo	5	0x1000
boo		0x2000
zoo		0x3000
soo		0x4000
a_ptr		0x5000
b_ptr		0x6000
c_ptr		0x7000
d_ptr		0x8000

3 – Provide the final values after executing the following code snippet 40pts

```
#include <stdio.h>

int fun1(int* a, int* b);
float fun2(float a, float* b);

int main(void){

    int a = 3;
    int b = 2;
    float c = 3.5;
    float d = 4.5;
    float e = 12;

    a = fun1(&a,&b);
    e = fun2(c,&d);

return 0;
}

int fun1(int* foo, int* boo ){
    int zoo;
    if (*boo > 0){
        zoo = 2**foo;
    }
    else{
        zoo = 3**foo;
    }
    *boo = zoo + *foo;
    *foo = 12;
    return zoo;
}
```

