CS153 Homework 2

September 20, 2017

1. (2 points) Examine the following code segment:

```
int      a = 12;
int  *   b = &a;
int **  c = &b;
```

   Draw the table of variable names, addresses and content, assuming that the compiler positions the first variable at address 0xFF4000. Recall that addresses identify individual bytes. Allow the integer 4 bytes. Allow all pointers 8 bytes. Store the variable data efficiently of memory space, given the above constratins. Explain why the values you entered into the table make sense.

2. (4 points): Given the use of memory you created in the previous answer, what is the effect of the following code segment:

```
* c = &a;
```

   Represent the effect by rewriting the table of variable names, addresses and content.

3. (5 points): Write C code to declare an array of 100 integers, and initialize every element in the array to -1. A for loop could be used.

4. (4 points): What is wrong with the following code? You can, if you wish, accompany your explanation with a table of variable names, addresses and content.

```
int a = 12;
&a =5; //WRONG
```

5. (2 points): What is wrong with the following code? You can, if you wish, accompany your explanation with a table of variable names, addresses and content.

```
int a = 12;
int * a_ptr;
*a_ptr = 3;
```