

Assignment 1
Due date (on or before): Announced in class.

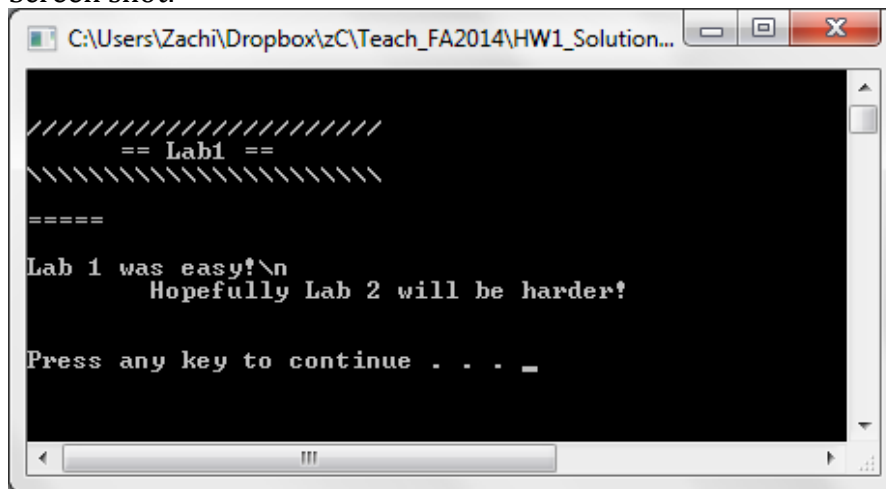
1. Write a C program that will print out the following message **highlighted** below (including the row of equal signs, and no need for highlighting in your C program...):

```
////////////////////////////////////  
== Lab1 ==  
////////////////////////////////////
```

```
=====
```

```
Lab 1 was easy!\n    Hopefully Lab 2 will be harder!
```

Screen shot:



***** Start of code + Screen shot*****

***** End of code + Screen shot*****

3. Identifiers, variables, and constants (20 points)

a. What is the difference between a variable and a constant?

b. Explain what each of the lines below does as a comment:

```
int x;      //
```

```
x = 3;     //
```

```
int y = 3; //
```

```
char c;    //
```

```
float num; //
```

4. Modify the average-program we wrote in class in the following manner:

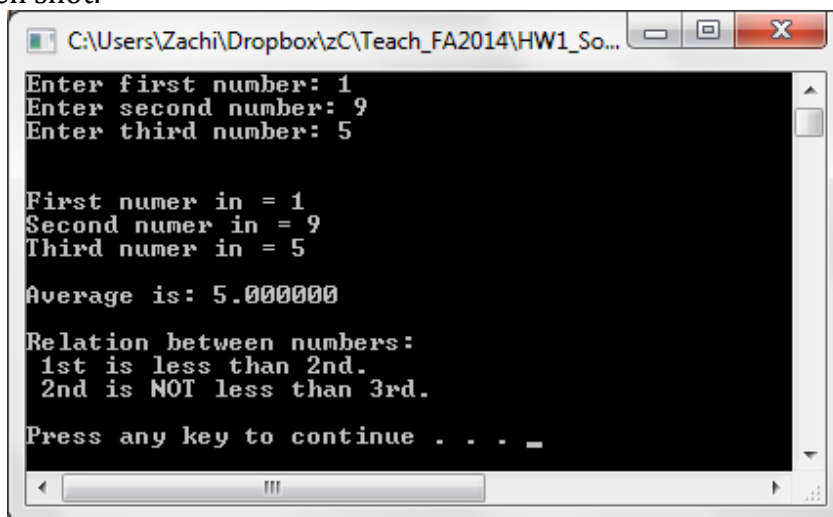
4.a Read 3rd integer from user.

4.b Calculate the average of the three numbers.

4.c Print whether the first integer is smaller than the second.

4.d Print whether the second integer is smaller than the third.

Screen shot:



```
C:\Users\Zachi\Dropbox\zC\Teach_FA2014\HW1_So...
Enter first number: 1
Enter second number: 9
Enter third number: 5

First numer in = 1
Second numer in = 9
Third numer in = 5

Average is: 5.000000

Relation between numbers:
1st is less than 2nd.
2nd is NOT less than 3rd.

Press any key to continue . . . _
```

***** Start of code + Screen shot*****

***** End of code + Screen shot*****

5. Challenge question (1/2):

Write a program that takes as an input an integer number between 0 and 999, and prints it in reverse.

See three examples of running the program below (with input 961,61, and 1).
Use ONLY what we learned so far in class.



```
zachi:~/tmp$ ./xIntReverse

***PROGRAM START***

Please enter an integer (less than 1,000): 961
Integer entered: 961
Printing it in reverse:169

***PROGRAM END***

zachi:~/tmp$ ./xIntReverse

***PROGRAM START***

Please enter an integer (less than 1,000): 61
Integer entered: 61
Printing it in reverse:16

***PROGRAM END***

zachi:~/tmp$ ./xIntReverse

***PROGRAM START***

Please enter an integer (less than 1,000): 1
Integer entered: 1
Printing it in reverse:1

***PROGRAM END***

zachi:~/tmp$
```

***** Start of code + Screen shot*****

***** End of code + Screen shot*****

6. (This one IS extra. Do if you can.) Challenge question (2/2):

Write a program that takes as an input an integer number between 0 and 15, and prints it's representation as a 4-digit binary number.

See three examples of running the program below (with input 13, 2, and 10).

Use ONLY what we learned so far in class.



```
Debug — bash — 57x37
zachi:~/tmp/Debug$ ./xInt2Bin_simple

***PROGRAM START***

Please enter an integer (0..15): 13

Integer 13 = Binary 1101

***PROGRAM END***

zachi:~/tmp/Debug$ ./xInt2Bin_simple

***PROGRAM START***

Please enter an integer (0..15): 2

Integer 2 = Binary 0010

***PROGRAM END***

zachi:~/tmp/Debug$ ./xInt2Bin_simple

***PROGRAM START***

Please enter an integer (0..15): 10

Integer 10 = Binary 1010

***PROGRAM END***

zachi:~/tmp/Debug$
```

***** Start of code + Screen shot*****

***** End of code + Screen shot*****