CS2211a Lab No. 8
Introduction to C
Tuesday November 11, 2014 (sections 3 and 2),
Wednesday November 12, 2014 (sections 6 & 7), and
Thursday November 13, 2014 (sections 4 and 5)

Location: *MC10* lab

The objective of this lab is to practice:

- o **Strings**

If you would like to leave, and at least 30 minutes have passed, raise your hand and wait for the TA.
Show the TA what you did. If, and only if, you did a reasonable effort during the lab, he/she will give you the lab mark.

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In this lab, you should decide on the correct responses before running the code to test the real result.

1. Type and execute the following C program.
Explain why the output of the last two `printf` statements is not the same.

```c
#include <stdio.h>

int main(void)
{
  char a[10] = {0}, b[10] = {0};

  strcpy(a,"ABCDEFGHI");
  a[4] = 0;
  strcpy(b, a);

  printf("%s\n", a);
  printf("%s\n", b);

  printf("\n");
  a[4] = 'X';
  b[4] = 'X';

  printf("%s\n", a);
  printf("%s\n", b);

  return 0;
}
```

2.
```c
char s[] = "abc def", *p;
p = s;
printf("%d\n", *p);
```
a) abc def b) abc c) the ASCII code of letter 'a' d) Random Garbage

3.
```c
char s[] = "abc def";
int * i;
i = s;
printf("%d\n", *i);
```
a) abc def b) abc c) the ASCII code of letter 'a' d) Random Garbage

4.
```c
int a = 3, *p;
p = &a;
printf("%d\n", p);
```
a) 3   b) the ASCII code of letter '3' c) Won't run d) Random Garbage

5.
```
int a;
int * p;
char b;
a = 65;
p = &a;
b = *p;
printf("%d\n", b);
```
a) 65   **b) A**   **c) Won't Run**   **d) Random Garbage**

6.
```
int a = 3;
int * p = &a;
int **q = &p;
int ***r = &q;
**q = 4;
printf("%d %d\n", *p, ***r);
```
a) 4 3   **b) 3 4**   **c) 4 4**   **d) 3 3**   **e) Won't Run**

7. Write a program that takes in an undefined number of words from the user and then merges all of the words letter by letter. For example if the program is called merge we could type on the command line:
```
merge Aaaaa Bbb Cccc
```
and the resulting output would be: `ABCabcabcaca`