CSCI 1312 (Introduction to Programming for Engineering), Fall 2018

Quiz 5 Solution

1. (5 points) Consider the following C program:

```
#include <stdio.h>
#include <ctype.h>

void foobar(char * s) {
    char * p = s;
    int n1 = 0;
    int n2 = 0;
    while (*p != '\0') {
        if (isupper(*p)) { n1 += 1; }
        if (islower(*p)) { n2 += 1; }
        ++p;
    }
    printf("counts for %s are %d, %d\n", s, n1, n2);
}
int main(void) {
    char * s1 = "hello world";
    char * s2 = "Hello World";
    foobar(s1);
    foobar(s2);
    return 0;
}
```

If you compile and run it, what does it print?

Solution: The following lines will be printed.

```
counts for hello world are 0, 10
counts for Hello World are 2, 8
```

2. (5 points) The C program below is meant to define and test a function to print a text string translated to upper case.

```
#include <stdio.h>
#include <ctype.h>

void shout(char * s);

int main(void) {
    shout("hello world");
    shout("Hello World");
    return 0;
}
```

So, it should print the following lines:

```
HELLO WORLD
HELLO WORLD
```

Write code for a function `shout` so that it works as desired.

Solution: Here is one solution:

```
void shout(char *s) {
    char * p = s;
    while (*p != '\0') {
        putchar(toupper(*p));
        ++p;
    }
    putchar('\n');
}
```