

## Quiz 0, CSCI 210, Spring 2004

Name: \_\_\_\_\_

1. [8 pts] Suppose we have a file called *words*, which contains the words of the English language, one per line. Give a Unix command that would count the number of words in the English language containing the letter *q*.

```
unix% your command here...
365
```

(Note that *wc* has a “-l” option, which tells *wc* to count the number of lines only.)

2. [8 pts] Translate the following Java class method into the closest equivalent C function.

```
public static double sumArray(double[] values) {
    double total = 0.0;
    for(int i = 0; i < values.length; i++) {
        total += values[i];
    }
    return total;
}
```

3. [8 pts] What does the following C program print when run?

```
#include <stdio.h>

int main() {
    int i; int j;
    int *p; int *q;

    p = &i;
    q = p;
    i = 1;
    j = 2;
    p = &j;
    *q = 4;
    printf("%d %d\n", i, j);
    printf("%d %d\n", *p, *q);
    return 0;
}
```

4. [6 pts]

- a. What base-10 number does 111010 represent in a six-bit two's-complement system?
- b. What bit pattern represents  $-20_{(10)}$  in a six-bit two's-complement system?