

Name: KEY

Id#

ICS 103, Term 103

Computer Programming in C

Quiz# 3

Date: Saturday, July 30, 2011

Q1. Determine the output of the following program:

```
#include <stdio.h>
int test(int i){
    if (i/10==0)
        printf ("%d\n",i%10);
    else {
        printf("%d\n", i%10);
        test(i/10);
        printf("%d\n", i%10);
    }
}
int main() {
    test(1234);
    return 0;
}
```

4
3
2
1
2
3
4

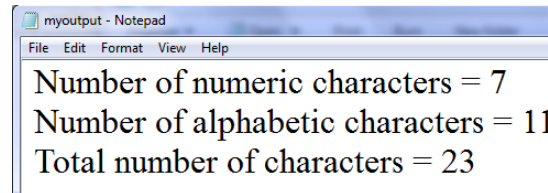
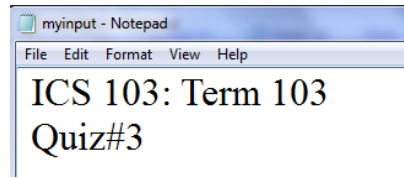
Q2. Determine the output of the following program:

```
#include <stdio.h>
int main ()
{
    int x = 8, y = 10, z;
    int *p1, *p2;
    p1 = &y;
    *p1=x+3;
    x=y;
    p2=&x;
    *p2=y+5;
    p1=p2;
    z=*p1+10;
    printf("%d\n%d\n%d\n", x, y,z);
    return 0;
}
```

16
11
26

Q3. Write a C program to open an input file named *myinput.txt* and count the number of numeric characters (i.e. '0' to '9'), the number of alphabetic characters (i.e. 'a'...'z' and 'A'...'Z') and the total number of characters. Note that newline characters should not be counted. The results should be printed in an output file named *myoutput.txt*. Your program should handle file not found error. Minimize the number of statements used in your program.

Sample input and output files:



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

int main(void)
{
    FILE *infile, *outfile;
    char c;
    int total=0, alpha=0, numeric=0;

    infile = fopen("myinput.txt","r");
    if (infile == NULL){
        printf("Cannot open myinput.txt for reading \n");
        system("pause");
        exit(1);
    }

    while ( fscanf(infile,"%c",&c) != EOF ) {
        if (c != '\n'){
            total++;
            if (c>='0' && c<='9') numeric++;
            else if ((c>='a' && c<='z') || (c>='A' && c<='Z'))
                alpha++;
        }
    }

    outfile = fopen("myoutput.txt","w");
    fprintf(outfile,"Number of numeric characters = %d
\n",numeric);
    fprintf(outfile,"Number of alphabetic characters = %d
\n",alpha);
    fprintf(outfile,"Total number of characters = %d \n",total);
    fclose(infile);
    fclose(outfile);
    return 0;
}
```