

Name: KEY

Id#

ICS 103, Term 093

Computer Programming in C

Quiz# 3

Date: Tuesday, August 3, 2010

Q1. Determine the output of the following program:

```
#include <stdio.h>
void myfun(int x);
int main() {
    int x;

    myfun(30);
    printf("\n");
    return 0;
}
void myfun(int x){
    printf("%d\n", x);
    if (x>0)
        myfun(x/3);
    printf("%d\n", x);
}
```

```
30
10
3
1
0
0
1
3
10
30
```

Q2. Determine the output of the following program:

```
#include <stdio.h>
void myfun(int *x, int y);
int main() {
    int x=30, y=10;

    myfun(&x, y);
    printf("%d %d\n", x, y);
    return 0;
}
void myfun(int *x, int y){
    y = 2 * *x;
    *x = 2 * y;
}
```

```
120 10
```

Q3. Assume that the IDs of students and their scores are stored in the file scores.txt. Write a program to read the IDs and scores from a file and print the **average**, the **highest** and **lowest** in an output file, results.txt. Your program should handle input file not found error.

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

int main (void) {
    FILE *infile, *outfile;
    double ID, MAXID, MINID, score, maxscore=0, minscore=100,
sum=0, average;
    int count=0, status;

    infile = fopen("scores.txt", "r");
    if (infile==NULL) {
        printf("Input file could not be opened\n");
        system("pause");
        exit(1);
    }
    outfile = fopen("results.txt", "w");
    status = fscanf(infile, "%lf%lf", &ID, &score);
    while (status != EOF)
    {
        if (score>maxscore) {
            maxscore=score; MAXID = ID;
        } else if (score<minscore) {
            minscore=score; MINID = ID;
        }
        sum += score;
        count++;
        status = fscanf(infile, "%lf%lf", &ID, &score);
    }
    average = sum / count;
    fprintf(outfile, "The Average is %.2f\n", average);
    fprintf(outfile, "The highest is %.0f with a score of %.2f
\n", MAXID, maxscore);
    fprintf(outfile, "The lowest is %.0f with a score of %.2f \n",
MINID, minscore);
    fclose(infile);
    fclose(outfile);
    system("pause");
    return 0;
}
```