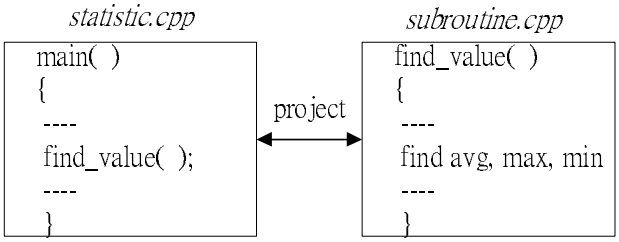
Deadline: 5/2/2007, 8:30am

Object-Oriented Programming Homework-4

1. Find the average (option *1*), maximum (option *2*), or minimum (option *3*) of three inputs *a*, *b*, and *c* via the following command-line arguments.

   DOS or UNIX prompt> *statistic number.txt result.txt option*

   where '*statistic*' is the file name, *number.txt* is a text file containing number *a*, *b*, and *c*, *result.txt* is also a text file for storing output, and '*option*' may be *1* (to find average), *2* (to find maximum), or *3* (to find minimum). You can use 'argc' to check whether the format of input is correct, or show a help message instead. Generate your *statistic.exe* by using fopen( ), fclose( ), and any other FILE processing function provided by C/C++. In addition, take your subroutine out of the *statistic.cpp* and combine them by defining both as a project.



2. Rewrite the following program by modifying structure into class, and include the subroutine as a member function.

```
#include <stdio.h>

struct personal_info{
        unsigned int age;
        unsigned int weight;
        char *name;
};

struct personal_info info_diff(struct personal_info people_a, struct personal_info people_b)
{
 struct personal_info inf_dif_sub;

 inf_dif_sub.age=people_a.age-people_b.age;
 inf_dif_sub.weight=people_a.weight-people_b.weight;

 return(inf_dif_sub);
}

int main()
{
 struct personal_info people[2]={{33, 70, "George"},{18, 45, "Mary"}};
 struct personal_info inf_dif;

 inf_dif=info_diff(people[0], people[1]);

 printf("Differences between %s and %s\n",people[0].name, people[1].name);
 printf("Age:%2d       Weight:%2d\n",inf_dif.age, inf_dif.weight);
}
```