CSC112 Fall 2010
Fundamentals of Computer Science
Lab 6 – Structures

In this lab we will introduce structures.

Create a directory named Lab6. Keep all of your source and compiled programs in the directory Lab6.

Program Specifications

Write a C++ program that does the following:

1. Your program reads a text file named "workers" and stores the information into a list of employees. For this project, assume there can be at most 100 employees.
   - The text file consists of a sequence of employee records.
   - Each employee record consists of 4 lines of text:
     - Name, given in the form: **Lastname, Firstname** Assume that each name is 39 characters in length or less. Use C-style null terminated arrays of characters.
     - Company ID number. This is an integer.
     - Hourly pay rate. This is a floating point number.
     - Number of hours worked. This is a floating point number.
   - Each subsequent employee record is separated from the previous by a blank line.
2. Your program should then prompt the user for an ID number.
3. Your program should then search the employee list for an employee with that number. All employee numbers are unique; there are no duplicates. If you find the record, print the name, and the pay for that period (rate times hours). If you do not find a record with that ID number, then print an error message and exit.

Structure Definitions

Use the following structure declarations to implement your program.

```
const int max_name_length=40 ;
const int max_num_employees=100 ;

struct employee {
   char  lastname[max_name_length] ;
   char  firstname[max_name_length] ;
   int   id ;
   float pay_rate ;
   float hours    ;
} ;
```

```
struct emp_list {
   int n ;   // How many employees in the array.
   struct employee workers[max_num_employees] ;
} ;
```

In the main program, declare a variable of type **emp_list** as follows:

```
struct emp_list personnel ;
```

Turn in: Change to the directory containing the sub-directory "Lab6" Create a file named "lab6.tar" using the command:

```
tar cf lab6.tar Lab6
```

Upload the file "lab6.tar" to your account on telesto.