

Assignment Set 1 (Uploaded on July 30, 2014)

Deadline date: August 5, before lab ends

Problem 1:

Write two C functions in the same program to do the following.

Take as input a positive integer 'n' from the user.

(a) Compute the Fibonacci number corresponding to 'n' in a iterative fashion.

(b) Compute the Fibonacci number corresponding to 'n' in a recursive fashion.

Compute the number of function calls to any 'fib(i)', where $0 \leq i \leq n$.

In both cases, check what is the largest 'n' for which you can find the Fibonacci number. For any particular 'n', compute and compare the real times taken by the iterative and recursive versions of the program.

Problem 2:

Write a program to determine the ranges of char, int, float, double both for unsigned and signed cases; also consider short and long data types, wherever possible. You can use float.h and limits.h, if needed.

Naming conventions for program files. xx is your roll number:

For Problem 1:

The name of the file for problem 1 of assignment 1 should be ``cs14xx-assign1-prog1.c''.

For Problem 2:

The name of the file for problem 2 of assignment 1 should be ``cs14xx-assign1-prog2.c''.

At the top of each of your program files, add the following.

```
/*-----  
Name:  
Roll Number:  
Date of Submission:  
Deadline date:  
Program description:  
Acknowledgements:  
-----*/
```