CS322- Lab 6

Assembly language Programming-32/64bit assembly

The purpose of the lab is to get an understanding of the Assembly language Programming process (32/64 bit), Mixing C and Assembly Language.

(Various sample programs are given, first step is go through the asm files,C files, book and understand the various computation steps)

Task1: C Versus Assembly Language
Task1 folder contains the C code and assembly implementation. Compile and run the C and assembly language versions of the multiplication program on your machine

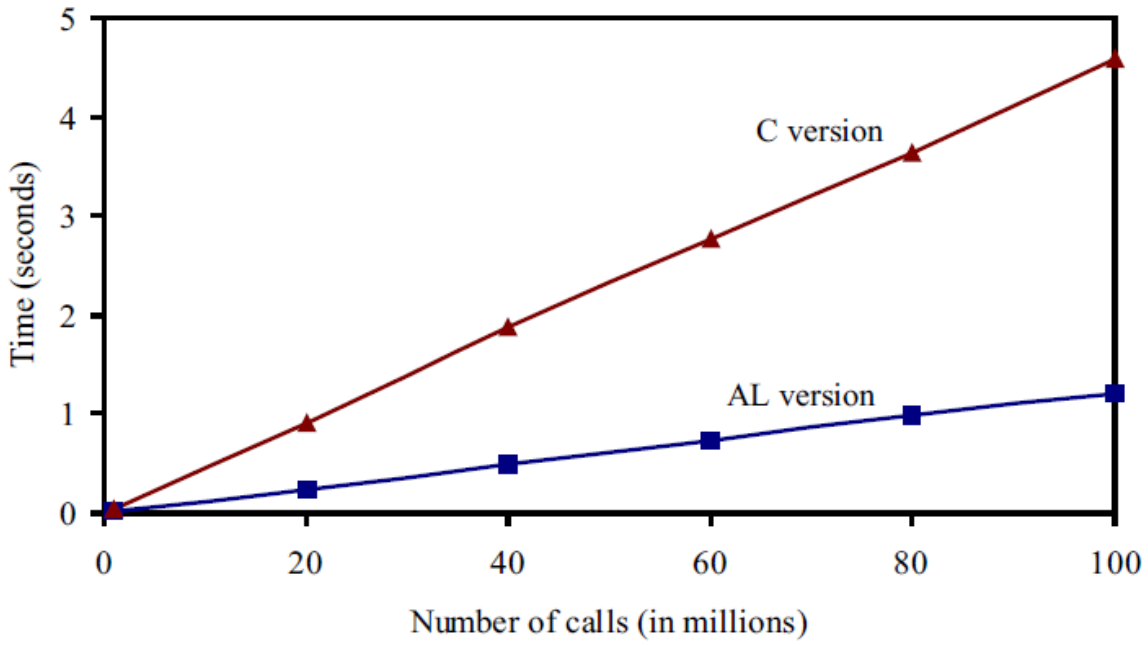
mult16m.c main program
mult16c.c multiplication procedure—C version
mult16inline.c multiplication procedure—assembly language version
Compilation is straightforward. The command
gcc -O2 -o c.out mult16m.c mult16c.c
can be used to compile the C version. This produces the executable file c.out. We can compile the assembly language version using the command
gcc -O2 -o asm.out mult16m.c mult16inline.c (This produces the asm.out executable file.)

Read Chapter 1 for the details algorithm (given text book).

Assignment 1

- **Generate the graphs shown below by compiling the code in 32 bit mode. Give no of call vs time in the form of table and Graph.**

- **Repeat the process for the given factorial Implementation(plot graph n vs. time)**



(30 Points)

Task 2:

Your task is to re-create the game that you developed in Lab4/Lab5 or similar with C language and its 64 bit assembly version. Use Netwide Assembler(nasm) and gcc

(70 Points)

Your Lab Assignment 6 (100 points)
Submission (single zip file with a short report of your task 1 and game (doc/pdf) and lab6.asm and C file(s)

https://u.pcloud.com/#page=puplink&code=2h67Z6hu5NgWlyIRSiJX2my1Hxz1BILAV

. **Due on 23rd October** 11 PM**.**