

Homework 0: Introductions

Monday, August 27, 2018

Dr. Adam Lavelly, Dr. Christopher Blanton CSE 597

Sahithi Rampalli

1 Syllabus Acknowledgement

By turning in this assignment, I, Sahithi Rampalli, acknowledge that I have received and understand the course syllabus information available on `sites.psu.edu/psucse597fall2018`.

2 Introduction

My name is Sahithi Rampalli. I am a first year master student in the Computer Science and Engineering department. My programming experience includes C, C++, Java and Python languages and a few parallelization techniques using OpenMP and MPI tools. My research is partially computational in nature.

My area of interest is Computer Architecture. Good general references in my field are (3) and (4). Good computational references in my field are (1) and (2).

2.1 Accounts

I have gotten an account on ACI using `https://ics.psu.edu/?page_id=57`. My ACI username is svr46.

I have gotten an account on XSEDE using `https://portal.xsede.org/my-xsede?p_p_id=58&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&saveLastPath=0&_58_struts_action=%2Flogin%2Fcreate_account`. My username is sahrv.

I will be making my assignments available using github. My username is sahithi-rv.

2.2 My Course Project

I am currently thinking about choosing Conjugate Gradient method as my $Ax = b$ problem for the semester project. I believe that this will be a good project because

- This method has wide range of applications like solving partial differential equations and other scientific computing applications; inexact newton methods for solving optimization problems in machine learning and more.
- Parallelization techniques for different types of matrices (sparse, dense or banded) can be explored depending on the specific type of applications.
- Concepts like domain decomposition can be applied in case of large matrices.

3 HW 0 Code and Writeup

You can get my assignment onto ACI using the command:

```
git clone svr46@aci-b.aci.ics.psu.edu:/storage/work/s/svr46/cse597_fall2018/hw0/
```

You can also find it on Github and obtain it using the command:

```
git clone https://github.com/sahithi-rv/CSE597_HW0.git
```

* Note, test this with us in class or with another person who isn't in the same group(s) as you.

3.1 Program overview

This is a serial hello world program, written in C. There is only one code file. The repository also contains the makefile for creating the executable, a readme, licensing information and the tex file for the write-up.

3.2 Instructions for running and verifying the code

Creating the executable:

```
module load gcc/7.3.1
make
```

Running the program:

```
./svr46_helloWorld.out
```

Expected output:

```
svr46 says "Hello, World!"
```

3.3 Instructions for compiling the write-up

I used ACI to compile the document. You can do this using the command:

```
./pdfmake.sh
```

4 Acknowledgements

I would like to acknowledge Dr. Adam Lavelly and Dr. Christopher Blanton for helping us understand how to access aci accounts and the assignment submission procedure.

References

- [1] BARNES. *Digital Logic Design*, vol. 2. DCW industries La Canada, CA, 1998.
- [2] FLYNN, M. *Comp Arch: Parallel and Pipelined Design*. DCW industries Flintridge, CA, 2000.
- [3] HENNESSY, P. *Computer Architecture: A systematic Approach*. Lemon, 2017.
- [4] PATERSON, D. A., AND HENNESSEY, J. *Computer Organization and Design*, vol. 206. Springer, 2015.