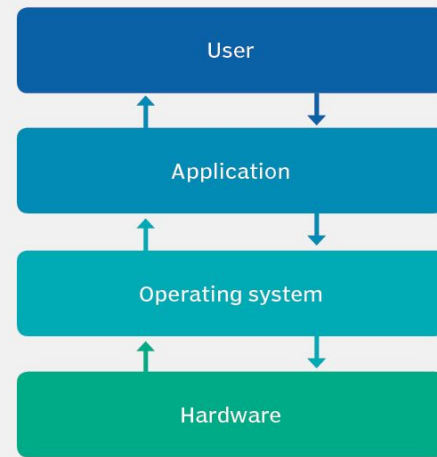


Operating system placement



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Operating Systems - Introduction

Xiaoke(Jimmy) Shen, 2020 Summer

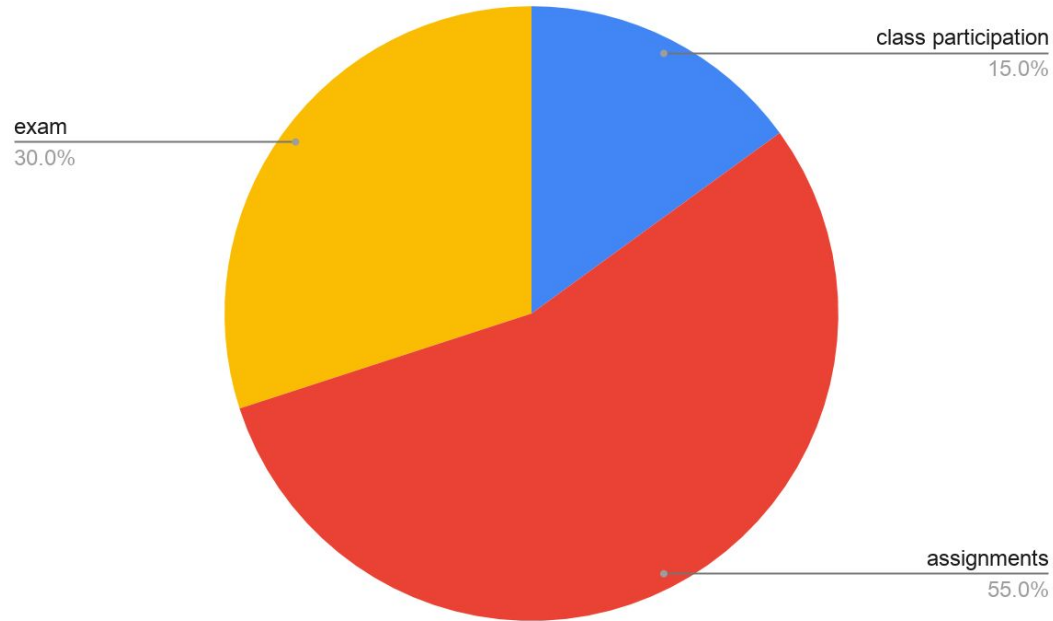


About myself

Phd. at GC CUNY

Algorithms, Data Structure, Machine Learning, Deep learning

Course Evaluation





Class participation

- Based on attendance only
- $\text{Score} = (\text{attended classes}) / (\text{total classes} - 2)$
- $\text{Score} = \max(1, \text{score}) * 15$
- A random time slot will be picked up during the class to record attendance
- If you have a solid reason cannot attend a class, DO send me email in advance. If not you WILL lose your attendance point for the missing class.



Assignments

Nongrading assignments

Grading assignments

You are expected to have some coding exercises in the assignments.



Late policy

(0 ~ 24]: -10

(24 ~ 48]: -20

(48, 72]: -30

(72, +inf): -100

It also applies to non grading assignments



Exam

Based on lectures and assignments

Openbook and you should submit it within a time period such as 2 hours.



Goal of this lecture

- **Long term goal:** help you better build your career path as a computer science professional
- **Short term goal:** Help you better understand the operating system



Survey

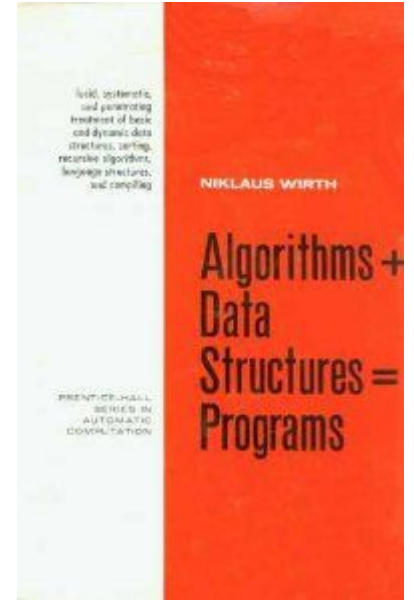
https://docs.google.com/spreadsheets/d/1a3mF3jyrWRgcUMSo9LZgPuLg5Z_uBjX8qFdM48EXDJI/edit?usp=sharing



Computer Architecture



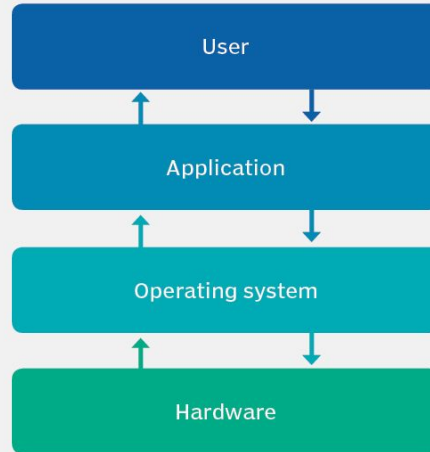
Computer Architecture



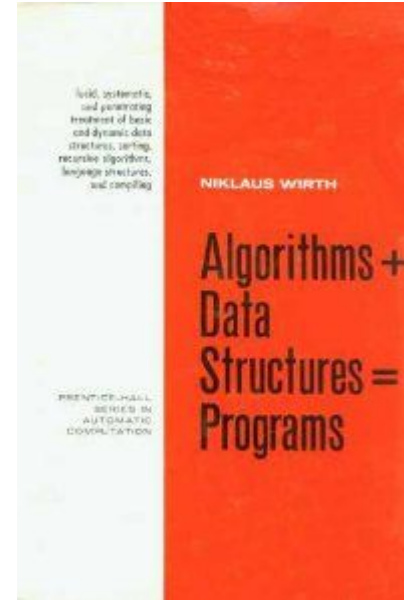


Computer Architecture

Operating system placement



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Unrelated to this lecture however it is import to
your long term goal



Bloomberg



Macs vs. Windows PCs

Mac (computer)

Personal Computers



Are Macs better than PCs?



Answer



Follow · 10



Request



1





Liang Huang, CS prof; NLP/compbio; PyTorch user; former Google scientist

Answered May 28, 2017



For laptop, yes, certainly. Macs run UNIX-based OS X, so for computer scientists that's a really big deal. The fact that you can run your programs natively on your laptop without running Cygwin or SSH-ing to a server is a game changer. Most PC laptops run Windows, which is so badly designed/engineered compared to UNIX/Linux. Some people run Linux on PC laptops, but frankly it is not as user-friendly as Mac OS X.

For desktop, either Mac or Linux-based PC is fine. I personally use Linux.

For server, Linux dominates, with some very old machines still running Unix (Solaris). Mac Server is in theory similar to Linux/Unix-based ones, but never gained popularity (too expensive and not powerful enough). Windows server is basically unheard of and unusable, unless you work for MSR.

To conclude: you should use a Mac laptop, either Mac or Linux-PC desktop, and a Linux server. Windows+PC is not an option if you care about productivity.

Is a Mac or Windows better for a CS student?



Liang Huang, former Research Scientist at Google Research (2009)

Answered Sep 5, 2014

Originally Answered: Is a Mac or Windows better for a CS undergraduate?

no brainer: Mac, because it's Unix-based.

if you have a small budget then PC with Ubuntu.

But never ever think of using Windows for Computer Science. It's simply NOT allowed.

1.5k views · View Upvoters



What computer resources do I have

- One old windows laptop with windows
- A dead MAC pro :(
- A linux (Ubuntu 18.04) laptop
- 3 servers belongs to the HC lab
- 1 cluster belongs to HC



Can I use linux lab?

Yes

Teach you how to use linux lab later



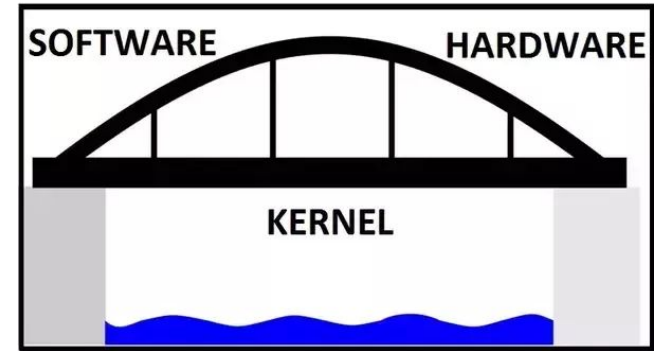
Github

<https://github.com/liketheflower/CSCI340>

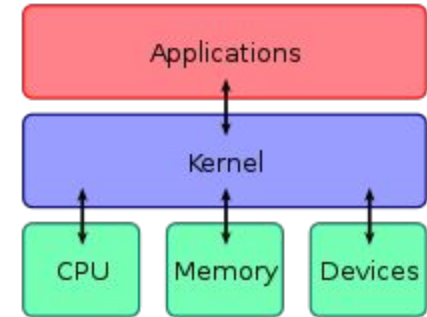


How to get our github repo from terminal?

High level overview



High level overview



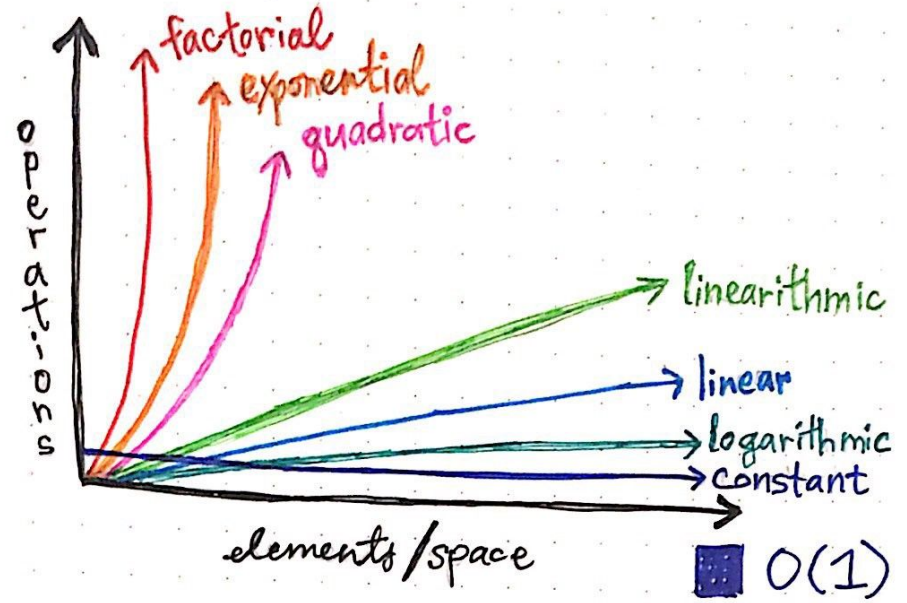
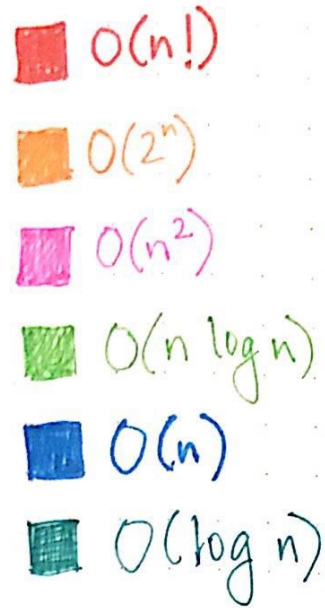


Quick test

How to evaluate the complexity of your program?

Quick test

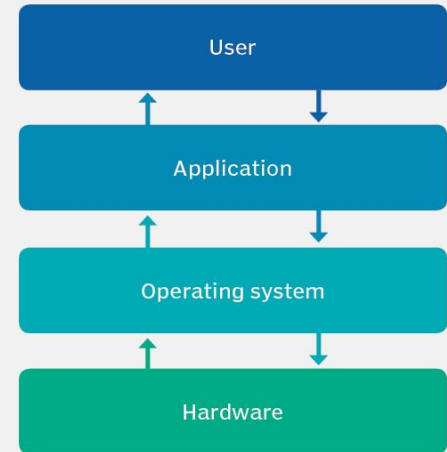
How to evaluate the
complexity of
your program?



High level overview



Operating system placement





Overview

Introduction to Operating Systems

Operating System Structures

Processes

Threads and Concurrency

CPU Scheduling

Synchronization Tools

Synchronization Examples

Deadlocks

Main Memory

Virtual Memory

I/O Systems

File Systems

Understand Programming from an OS's perspective



Thanks