CS 121

Introduction

1 Policies and Procedures

1.1 Grading

There will be numerous programming assignments. It is expected that students will do their own work on all components of the programs—unless otherwise specified.

Quizzes will normally be given approximately weekly on the material covered since the last quiz. Knowledge of material presented in this class is cumulative!

There will be two exams (tests) and a final exam. The focus of the exams will be discussed before the exam, but knowledge is cumulative.

The course will be graded on the basis of 90% and above is an A, 80%–89% a B, 70%–79% a C, etc.

1.2 Academic Dishonesty

Cheating on exams or homework will be heavily penalized. Students may receive an F on the assignment/course if it is determined they have violated the University of Idaho Academic Integrity Policy.

1.3 Computer Usage/Misuse

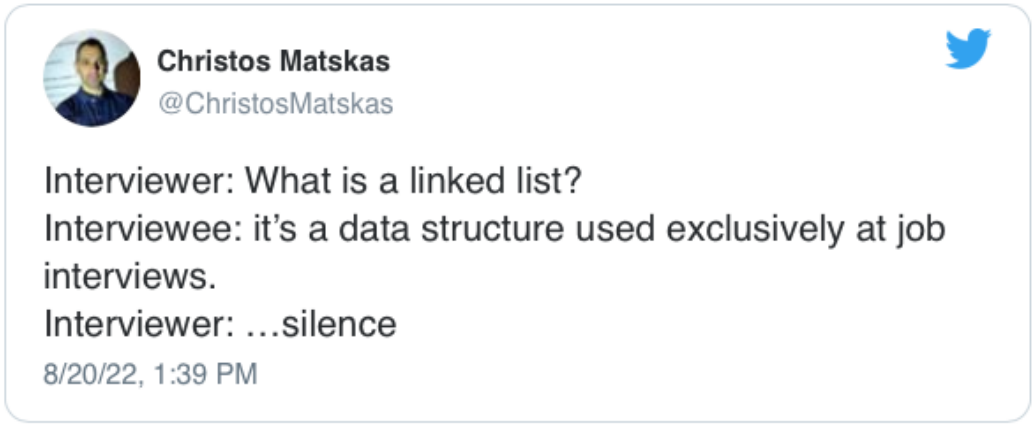
Misuse of computers and files is a felony in the state of Idaho! See the University of Idaho Computer Use Policy document available from Computer Services for details.

1.4 Knowledge

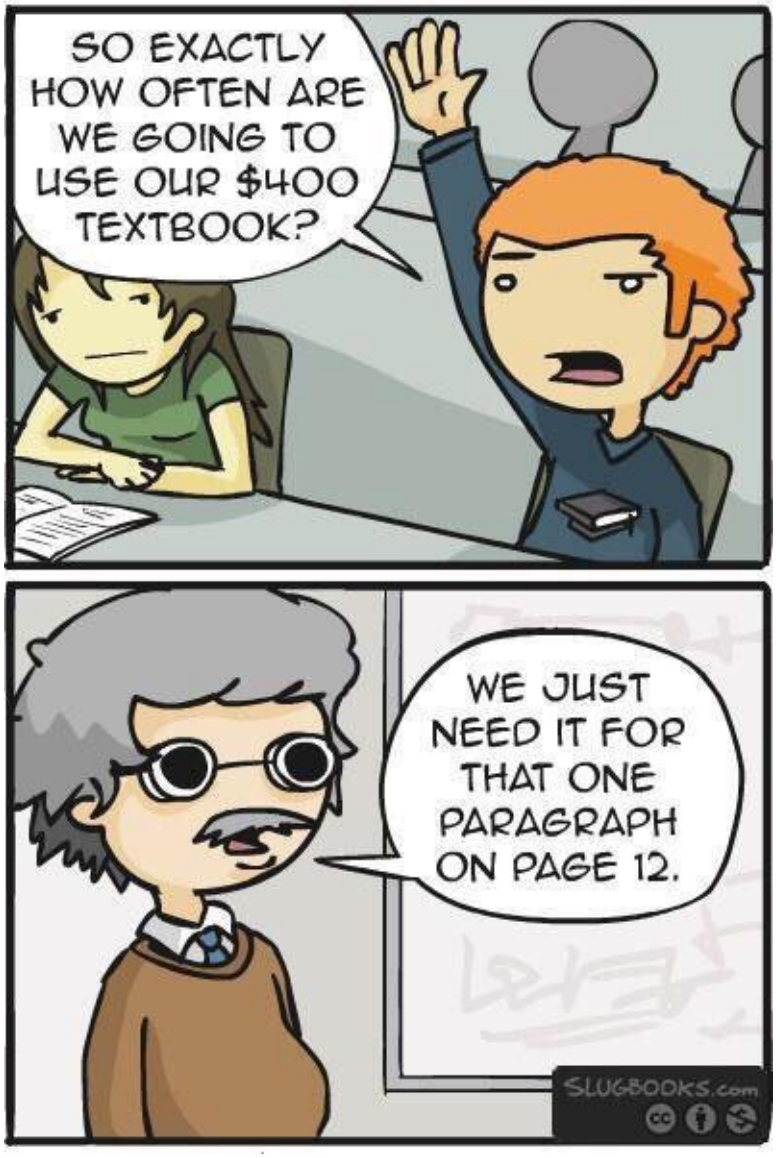
Knowledge is of two kinds. We know a subject ourselves,
or we know where we can find information upon it.

—Samuel Johnson,
Boswell's Life of Johnson

1.5 Linked Lists



1.6 Textbooks



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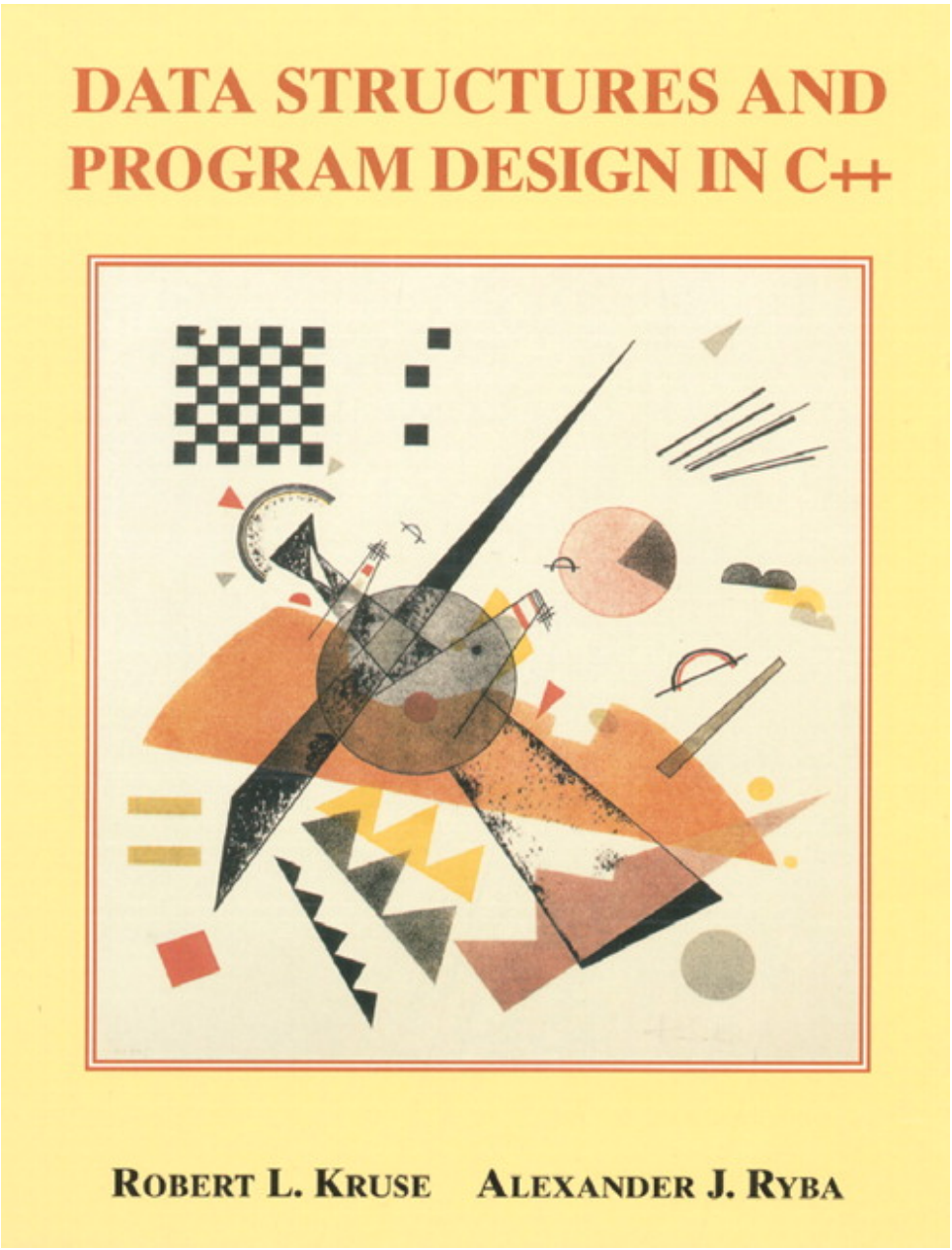
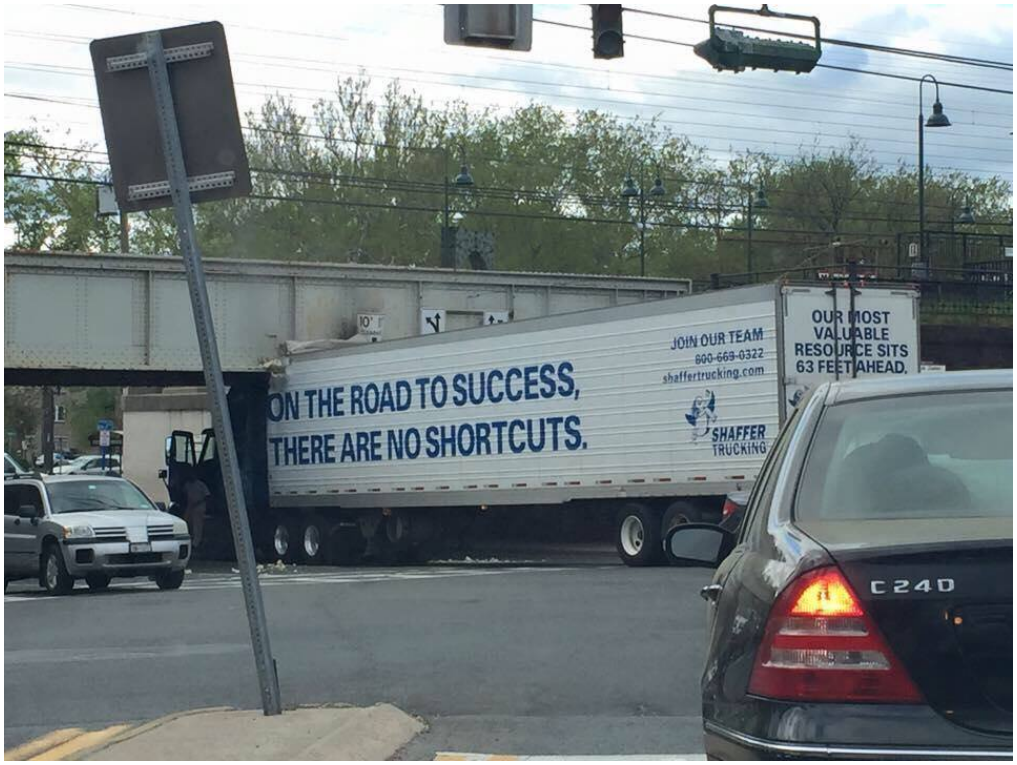
`https://twitter.com/coliegestudent/status/767459610932510720`

Recommended textbook:



1.7 Road to Success



On the road to success,
There are no shortcuts.

1.8 Effort

Motivation?

Success != Failure

What is success?

Modes for success?

Modes for failure?

Curiosity's Seven Minutes of Terror
`http://www.youtube.com/watch?v=ISmWAyQxqqs`

Sample grade report

AAAA, Astudent 9457 CS 121
Final score: 90 December 22, 2020
Test scores:
Quizzes: 13
Quiz scores: 9 13 9 13 13 18 13 13 18 19 18 18 13
Adjusted Quiz scores: 0 13 9 13 13 18 13 13 18 19 18 18 13
Programs: 6
Program scores: 18 18 18 18 18 18
Adjusted Program scores: 18 18 18 18 18 18
Totals:

Absences: 0

Test total: 0

Adjusted quiz total: 178 / 190

Adjusted program total: 108 / 120

Percentiles:

Before multiplying by weighting factors: 376 / 410 : 91.707

After multiplying by weighting factors: 85.100 / 93.000 : 91.505

Failure Modes

- Don't do the programming assignments.
- Don't come to class.
- Skip class on quiz days.
- Do something else during class.
- Personal life (can't control everything).

DFMEA (Design Failure Mode and Effect Analysis) is the application of the Failure Mode and Effects Analysis (FMEA) method specifically to product/service design.

Success Modes

- Do all the programming assignments (start early).
- Attend / Participate in class.
- Take all quizzes.
- Pay attention during class.
- Take notes during class.
- Program the examples discussed in class.

No guarantee, but you will do much better than if you do the opposite.

Expectation: You will do all required work and *whatever it takes* for you to know the material.

This is a three unit class!

Old rule of thumb: Three (3) hours outside of class for every hour in class.

Rules for Success

1. Show up.
2. Show up on time.
3. Do all the required work.

2 Books

Recommended

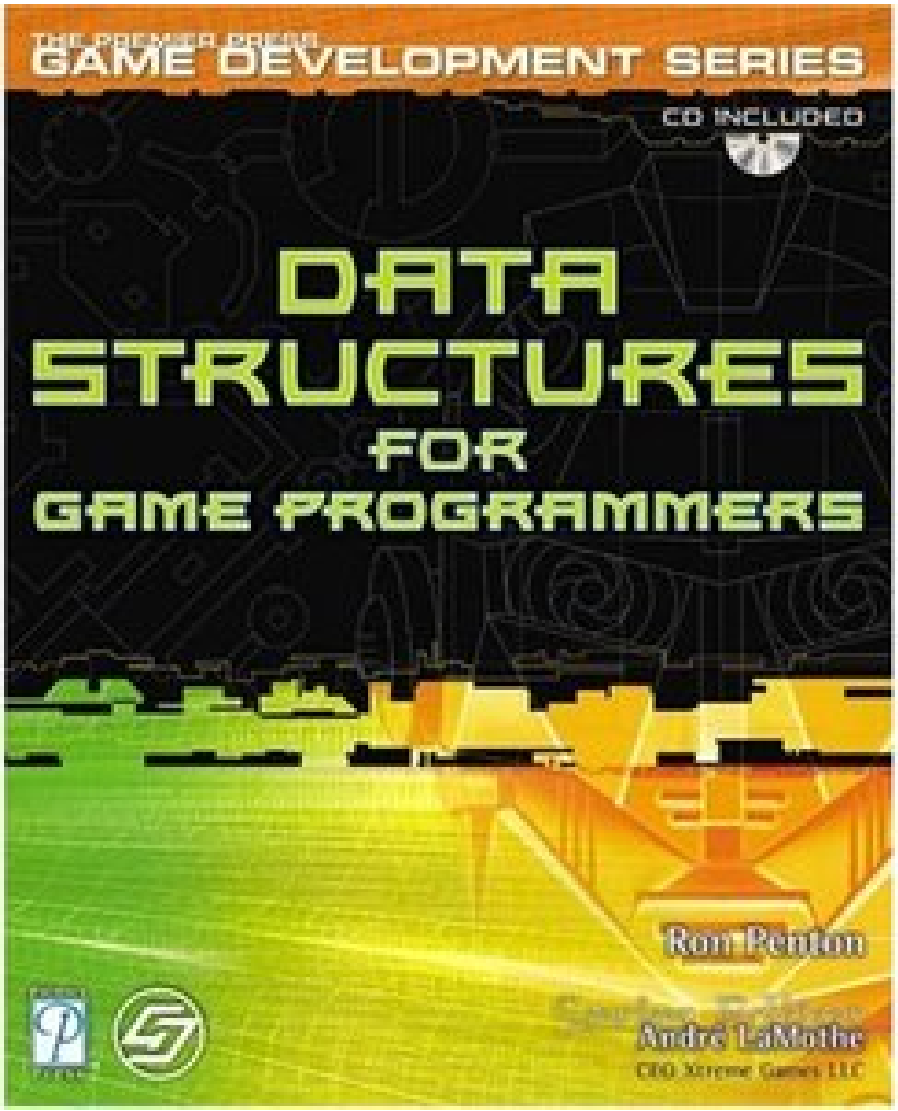
Data Structures and Program Design in C++, Kruse and Ryba, Prentice Hall, 1999.

Future

C++ Primer (5th Edition), Stanley B. Lippman

The C Programming Language, Kernighan & Ritchie

Coders at Work, Apress


THE PREMIER PRIMA
GAME DEVELOPMENT SERIES
CD INCLUDED
DATA
STRUCTURES
FOR
GAME PROGRAMMERS
Ron Penton
André LaMothe
CEO Xtreme Games LLC

Contents at a Glance

3 Introduction to Data Structures

3.1 Key concepts

What is a data type?

A data type is defined by a programming language or a programmer to specify the kind (type) of an object.

What is a data structure?

A data structure is a construct that is defined within a programming language to store a collection of data.

What is an ADT (Abstract Data Type)?

An ADT is a collection of data and a set of operations on the data.

What is the difference between an ADT and a data structure?