CS270 – Midterm 1 review

Introduction

- **Turing machine**
- **Universal machine**

Integer representation

- **conversions to/from decimal/binary/hex**
- **conversions to/from decimal and arbitrary radix**
- **twos complement arithmetic**
- **bitwise logical operations**
- **range of values**

Floating point representation

- **conversions to from decimal**
- **sign, exponent/bias, fraction**
- **normalized and not-normalized**

Character representation

- **literals, encoding, conversion**

C compiler

- **Compiling vs. interpreting**
- **Responsibilities of each phase**

Functions

- **pass by value, pass by reference**
- **activation record**
- **return values**

I/O

- **scanf, printf**
- **getchar(), putchar()**
- **File operations**

Variables, operators

- **scope**
- **location**
- **precedence**
- **pointers**

Data Structures

- **structures**
- **pointers / dereferencing**
- **malloc / free**
- **casting**

Recursion

- **activation records**
- **call stack usage**
- **call tree**

Logistics

- **Exam given in recitation**
- **Must have your ID**
- **Closed Book, closed notes**
- **No calculators, phones, abacuses**