

# CS270 – Midterm 1 review

## Introduction

- Turing machine
- Universal machine

## Integer representation

- conversions to/from decimal/binary/hex
- 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