THOMAS CHAN

15 Caulfield Rd, Wayland, MA 01778 | (617) 838-9803 | thomas.chan@tufts.edu

COURSEWORK

COMP105: Programming Languages

Language: Scheme, Standard Meta Language (SML)

- ➔ Boolean Satisfiability Solver
    - ◆ Uses continuation-passing style to solve satisfiable complex boolean formulas
    - ◆ Takes boolean expression and returns solution as a list of variable names bound to boolean values
- ➔ Abstract Game Solver
    - ◆ Given description of rules of a game, program selects best move in a particular configuration
    - ◆ Obtained by abstracting details of particular game from details of solving procedure

COMP40: Machine Structure and Assembly Language

Language: C

- ➔ Arith
    - ◆ Reads portable pixmap files by standard input or file and compresses and decompresses image
    - ◆ Uses discrete cosine transformations between RBG and video component and packing of 32-bit binary codewords to handle compression
- ➔ Virtual Universal Machine
    - ◆ Reads file written in UMASM (language specific to machine) and executes program
    - ◆ Emulates a Turing complete, 32-bit universal machine in a 64-bit environment
    - ◆ Handles 14 instructions, for 8 general registers and segmented, word-based memory manipulation

COMP15: Data Structures

Language: C++

- ➔ Nozama
    - ◆ Reads in text file containing packaging, fetching, and shipment duration for each package
    - ◆ Simulates warehouse processing packages and prints the time stamps for each package
    - ◆ Accounts for variables such as employees and processing methods
- ➔ Gerp
    - ◆ Implemented a search function modelled after UNIX command "grep," returns file path, name and line number for matches
    - ◆ Program takes a given file tree, reads through each line of every file, and constructs a hash table for user queries
    - ◆ Included a case-sensitive and case-insensitive search option

COMP00: Advanced Placement

Language: Java

- ➔ Conway's Game of Life
    - ◆ Implemented cellular automaton devised by John Horton Conway

- ◆ Users set board and press play to watch cell proliferate and die
- ◆ Can change color of cells and use preset configurations of cells
- ➔ Space Invaders
  - ◆ Player destroys enemy ships as they continuously move across the screen
  - ◆ Player must avoid being hit by enemy ships to avoid losing lives

You may contact me at thomas.chan@gmail.com if you would like to view the source code or inquire about lab work. Given Tufts' academic integrity policy, the repositories holding my solutions are private.