Tools & Software: 

VICTOR TAN

Github | Personal Website

I am a student passionate for technology and application development. The tools I use at school and in my free time include Java, C, Unix, HTML, CSS, and Git. The tools I am interested in using includes Spring Boot, Microsoft Azure, AWS & more

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EDUCATION

Sept 2021 - Present
Bachelor of Science, Major in Computer Sciences
University of Western Ontario

PROJECTS

September 2022
Bingo https://github.com/vt3n03/Bingo.git
Tools & Software: Java, Github, IntelliJ..

- Developed Java classes: BingoCard and BingoSim, applying concepts like loops, arrays, conditionals, and method overloading.
- Created a Bingo Simulator program for simulating bingo games, focusing on coding efficiency and adherence to standards.
- Implemented essential public methods, such as isValid(), drawn(), reset(), isAWinner(), minToWin(), and toString().
- Conducted comprehensive testing to ensure code functionality and passed both provided and additional tests.
- Demonstrated strong problem-solving skills, adherence to coding standards, and proficiency in Java programming.

October 2022
Stations https://github.com/vt3n03/Stations.git
Tools & Software: Java, Github, IntelliJ..

- Developed three Java classes: Station, InterchangeStation, and TransitLine.
- Demonstrated proficiency in working with doubly linked lists, inheritance, overriding methods, and exception handling.
- Utilized the instanceof operator and casting within an inheritance hierarchy.
- Collaborated with teammates to ensure the project met functional and non-functional specifications.
- Successfully passed tests to validate the correctness of the implemented code.
- Maintained clean and readable code with proper documentation and indentation..

November 2022
Solitaire https://github.com/vt3n03/solitaire.git
Tools & Software: Java, Github, IntelliJ..

- Implemented a solution finder for a simplified solitaire game called DomSolitaire using Java.
- Utilized concepts such as Stacks, Lists, Interfaces, Generics, Advanced Algorithms, and Advanced Debugging.
- Developed two Java classes, Move and DomSolitaire, to represent game moves and the game itself.
- Implemented methods for finding permissible moves, checking for a winning state, and finding a solution sequence.

December 2022
Mine Sweeper https://github.com/vt3n03/Mine-Sweeper.git
Tools & Software: Java, Github, IntelliJ..

- Demonstrated proficiency in working with linked data structures, recursion, and algorithm design.
- Designed and developed a 2D grid structure for the game board using linked lists.
- Utilized recursive approaches to implement "region clearing" when clicking on 0-cells.
- Integrated multiple concepts into one project, including random bomb placement and number calculation for adjacent cells.
- Ensured the game's functionality, user interface, and visual representation using Java GUI components.

Tools & Software: 

July 2023
Multiway Tree https://github.com/vt3n03/MultiwayTree.git
Tools & Software: Java, Github, IntelliJ..

- Focused on multiway trees, specifically m-way search trees, where each node can have 'm' children and 'm-1' key fields.
- Implemented insertion into a B-tree with adherence to the B-tree principles, handling three specific cases:
  - Inserting a key into a leaf with available space.
  - Inserting a key into a full leaf.
  - Handling a full root node.
- Demonstrated problem-solving skills by addressing complex tree structure and insertion cases.
- Provided clear test cases to validate the program's functionality.

October 2023
Unit Converter https://github.com/vt3n03/Converter.git
Tools & Software: C, Github, Unix

- Implemented conversions for different C types: char, int, float, and long.
- Created a user-friendly menu with five options for Celsius to Fahrenheit, Centimeter to Inch, Kilometer to Mile, Gallon to Liter conversions, and program termination.
- Implemented each conversion as a separate function.
- Handled user input validation for conversion directions and numeric values.

November 2023
Binary Search Tree https://github.com/vt3n03/bstc.git
Tools & Software: C, Github, Unix

- Implemented binary search trees (BST) using C, incorporating concepts such as arrays, strings, structures, pointers, and recursion.
- Utilized user-defined types in C to represent key-value pairs, where keys are strings and integers, and values are integers.
- Employed dynamic memory allocation for BST data structures, managing arrays of tree nodes and indicating used/unused locations with an array of unsigned chars.
- Developed a main program to create and populate BSTs with sample data, including key-value pairs, and demonstrated the functionality of the BST operations.

December 2023
Binary Search Tree https://github.com/vt3n03/bstreec.git
Tools & Software: C, Github, Unix

- Implemented binary search trees (BST) and associative matrices.
- Utilized advanced data structures and dynamic memory allocation.
- Separated code into multiple files and created a Makefile.
- Developed key and data types with functions for initialization and manipulation.
- Implemented BST operations (insertion, search, traversal) and memory management.
- Designed a matrix structure using BSTs for efficient indexing and value retrieval.
- Created a main program for interactive input, occurrence calculation, and output with thorough testing.

Work Experiences

June 2014 - April 2021
Volunteer | Sunny Tang Martial Arts
Scarborough, ON

- Participated in performing during holidays, special events, and corporate functions (Canada Day parade, weddings, etc.)
- Ensured safety ensuring parades and martial arts demonstrations
- Demonstrated teamwork during performances
- Able to quickly adapt to ongoing situations

April 2021 - August 2021
Pharmacy Assistant | Loblaws Pharmacy
East Gwillimbury, ON

- Entered prescriptions into the system
- Handled mixtures to be dispensed
- Dispensed medications for patients