

Project 1

Memory Game or Sliding block

Memory is a game where the user attempts to find identical pairs of values in a 4x4 grid. Every location should display an 'X' initially. The user can maneuver the cursor to a desired location. Upon pressing the space bar the value at that location will display.

Sliding block is a game where the user tries to arrange the values on the board, in an ascending order. The game has 15 entries and 1 blank entry (space). The objective is to maneuver the values into the blank space and sort the values. The user will directly maneuver the cursor to a value adjacent to the blank space. Upon striking the space bar the value which the cursor is under will move to the blank.

Required tasks of both games:

- The software must randomly generate values and display in random locations within the game boundaries. The process to acquire a random value is accomplished by retrieving a value from the internal clock, TCNT, the least significant byte.
- Upon retrieving the random value, the associated random location is determined by finding the modulus 16 of the random value.
- The value should also be stored in the associated memory location for verification purposes.
- The program should display the number of attempts.
- The program should determine if the user has completed the game.
- The program should prompt the user if he/she would want to play again and wait for a response.
- The program must be written in functions and in a format described in the lab syllabus.
- At the beginning of the game designers, instruction, description of the game must be displayed.

Each group will be assigned one of the games by your T.A. Good Luck! Start this in a hurry.