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Introduction to Programming Concepts

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| **Input** | **Process** | **Output** |
| Make a selection from the menu.  The user constantly has the choice to select [1], [2], [3], [4], [5], or [6] from the menu. | 5000 numbers between 1 to 200 are randomly generated and placed within an array.  If the user selects [1] from the menu, all the randomly generated numbers are sorted from to lowest to highest, and all numbers (if any) that were not randomly generated are then displayed.  If the user selects [2] from the menu, all the randomly generated numbers are sorted from highest to lowest, and all the unique numbers (numbers that do not contain the same digit repeated within the integer) that were randomly generated are displayed.  If the user selects [3] from the menu, the program displays how many times each number was randomly generated.  If the user selects [4] from the menu, the program calculates the lowest, highest and average of the random numbers.  If the user selects [5] from the menu, the program will display all 5000 of the randomly generated numbers.  If the user selects [6] from the menu, the program quits.  If the user enters any choice other than [1], [2], [3], or [4], then display “INVALID INPUT” and quit the program. | Display the menu until the program quits.  If the user selects [1] from the menu, the missing numbers are displayed in ascending order.  If the user selects [2] from the menu, display all the unique numbers in descending order.  If the user selects [3] from the menu, display each number and how many times it was randomly generated.  If the user selects [4] from the menu, display the lowest, highest, and average of the random numbers.  If the user selects [5] from the menu, display the all of the randomly generated numbers.  If the user selects [6] from the menu, quit the program.  If the user enters any choice other than [1], [2], [3], or [4], then the program quits. |