National University of Computer and Emerging Sciences



Lab Manual 08

Programming Fundamentals

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| Section | F |
| Semester | Fall 2020 |

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## Objectives

After performing this lab, students shall be able to:

* Have an improved problem-solving ability
* Design algorithm for basic problems
* Understanding of arithmetic, logical and relational operators.
* Understanding of operator precedence

### Write a program that takes your full name as input and displays the abbreviations of the first and middle names except the last name which is displayed as it is.

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| **Sample Input:**  **First name:** Hafiz  **Middle name:** Muhammad  **Last name:** Ali  **Sample Output:**  H.M.Ali |

1. Write a program to delete all vovels from the string "Hello, have a good day", and return the modified string.

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| **Sample Output:**  Hll, hv gd dy |

1. Input a string of alphabets. Find out the number of occurrence of all alphabets in that string. Find out the alphabet with maximum occurrence.

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| Enter string: This is Sophia shahid  **Sample Output:**  Alphabet with max occurrences: i , h |

1. Write a program in C to find the largest and smallest word in a string

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| **string:**'It is a string with smallest and largest word.'  **Sample Output:**  largest word: 'smallest'  smallest word: 'a' |

5. Write user defined functions and take input in a square integer matrix then calculate and display

1. Left diagonal sum
2. Right diagonal sum

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| 1 3 4  2 3 5  3 4 5  **Left D Sum**: 9  **Right D Sum:** 10 |

1. Write a C++ program to find the second lowest and highest numbers in a given inputted 2d array

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| **Input:**  **7 88 4**  **9 9 78**  **8 10 60**  **Sample Output:**  Second lowest: 7  Second highest: 78 |

1. Write a user defined function named Upper-half() which takes a two dimensional array A, with size N rows and N columns as argument and prints the upper half of the array.

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| **Input:**  2 3 1 5 0  7 1 5 3 1  2 5 7 8 1  0 1 5 0 1  3 4 9 1 5  **Output:**  2 3 1 5 0  1 5 3 1  7 8 1  0 1  5                                           5 |