National University of Computer and Emerging Sciences

Laboratory Manual

for

Operating Systems Lab

(BSE-5C)

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Passing Command Line Arguments to a C/C++ Program

- Command line argument is a parameter supplied to the program when it is invoked. Command line argument is an important concept in C/C++ programming. It is mostly used when you need to control your program from outside. Command line arguments are passed to the main() method.
- To pass command line arguments, we typically define main() with two arguments: **first argument counts the number of arguments** on the command line and **the second is a pointer array which holds pointers of type char which points to the arguments** passed to the program. The syntax to define the main method is

  int main (int argc, cha**r***argv[]).
- Here, **argc** variable will hold the number of arguments pass to the program while the argv will contain pointers to those variables. **argv[0] holds the name of the program while argv[1] to argv[argc] hold the arguments**.
- Command-line arguments are given after the name of the program in command-line shell of Operating Systems. Each argument separated by a space. If a space is included in the argument, then it is written in “”.

In Lab Tasks

Question 1:

See the usage of the following commands online. Also, run them on the terminal.

1. pwd
2. ls
3. cd
4. cp
5. mkdir & rmdir
6. man
7. sudo
8. apt-get
9. kill
10. ping
11. grep
12. mount
13. unmount

Question 2:

a. Create a file named **main.c** and write a code to print "Welcome to BSBS Operating System Lab *Course*" on terminal.

b. main.c file contains the main function receiving **command-line arguments.**

c. You will pass the name of *Course* via these arguments.

Question 3:

- Write a program that takes multiple numbers from the user through **command line arguments.**
- Print the **sum and average** of these numbers on the terminal.

Question 4:

- Write a program to copy numbers from one file to another.
- Create a function removeNonAlphabets(char * inputFileName, char * outputFileName) in C.
- This function reads the content of input file and writes only the numbers to the output file.
- The names of input and output files are passed through command line arguments.
- You can write any alphabets and numbers in the input file.