National University of Computer and Emerging Sciences

Laboratory Manual

for

Operating Systems Lab

(BCS-4F1)

Course Instructor Ms. Rubab Anam Lab Instructor

Muhammad Faheem

Section BCS-4F1

Semester Spring 2025

Department of Computer Science

FAST-NU, Lahore, Pakistan

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 passed 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 the command-line shell of Operating Systems. Each argument is 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. umount

Question 2:
  a. Create a file named **main.c** and write a code to print "Welcome to _CourseCode_ 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 code via these arguments.

Question 3:

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

Question 4:

- Write a program to remove capital alphabets(A-Z) from one file to another.
- Create a function removeCapitalAlphabets(char * inputFileName, char * outputFileName) in C.
- This function copies the content of the input file to the output file except capital letters.
- The names of input and output files are passed through command line arguments.
- You can write any alphabets and numbers in the input file.