



University of Central Punjab

(Incorporated by Ordinance No. XXIV of 2002 promulgated by Government of the Punjab)

Faculty of Information Technology & Computer Science

Mid-term Lab Exam, F22
Operating Systems
BS(CS)

NAME _____ REG# _____

Version V1

Instructions

- All questions are mandatory.
- Understanding the problem is part of the problem.
- The lab exam is available in two versions on the portal. You need to solve your version of the exam as per the instructions of the proctor or invigilator.

Question#1 (20 points)

Write a program that takes numbers via command line arguments. The program then sends these numbers through pipe to its child process. The child process sorts those numbers in ascending order and sends back to the parent process. The parent process displays those numbers.

Example:

```
$/a.out 5 4 3 2 1
```

```
1 2 3 4 5
```

Question#2 (20 points)

Write a program that implements the following command.

```
$ ls / | grep "b" | sort -r
```