IT361 System Administration and Maintenance
2023 – 2024 (First Semester)
Project specification.

Learning Objective(s) Students will be:

- *Able to configure LINUX/UNIX environment.*
- *Able to write Shell scripts for administrative purposes.*
- *Able to execute basic/advance commands.*

Activity Appropriateness

Appropriateness for Learners and Objective: The project helps the students to have clear and specific objectives to accomplish; it will help them to learn more about Administration tasks in Unix. It helps to strength the ability to work through a plan and taking decision about the appropriate tools to be used and the best shell script to write to accomplish the requested task.

Appropriateness for the technology: The students will use the group tools in BBL to discuss, schedule and distribute the work among the group members. Submission of the final report will be via the blackboard also, and feedbacks will be sent to their email addresses.

The blackboard system provides mint features and tools that can be used to accomplish this activity. The fact that it is already available for all students will make it easy to be used by them.

Learning Activity

Part 1 (to be submitted Week 11 Thursday, 11:59 PM) (7 marks)

1. Write a script using your favorite editor. The script should do a weekly scheduled encrypted backup for your main partition (where the programs and files exists). then send the backup file to your email (you may need to install some packages) (2 marks)

2. Write a script in which you get a user name as input, then search for all activities related to this user registered in the authentication log file. The results should be saved in a file named ActivitiesLog.txt under your home directory (2 mark)

3. Write a script in which you get a user name as input, then list the top 5 running processes run by the given user and consume the most memory on your machine. (1.5 mark)

4. Write a script to check if a given port (command line argument) is open or not, based on the firewall configuration and print a message indicating the status of the port (1.5 mark)

References must be included if you use any.

Part 2 (to be submitted Thursday week 15, 11:59 PM) (8 marks)

Write a report about Installing and Configuring one of the following servers in Linux environment:
1- Web server.
2- Mail Server.

This report should include the following Sections:

1. Introduction (where you will define the server and its uses). (1 mark)
2. Famous server providers for the chosen type. (1 marks)
3. Downloading and Installing steps. (1 marks)
4. Main configuration process of the server, based on the server type. (2 marks)
5. Testing the server (you need to create users and/or pages and then run the server to test the implanted services). (2 marks)
6. Summary of the report including limitations or difficulties related to using the server. (1 mark)

References must be included. Screenshots of the installing, configuration and testing steps must be included. 1 extra mark is allocated for the good referencing and following the template.

Assessment Tool and Procedure

This is a group project (max is 4 students per group). The project worth 15% of the student's

For part1: you need to submit all your shell scripts and a readme file containing the group names and references used.

The submitted file should be zipped file should be named with your group number, ex: G1_Part1.zip

For Part2: you need to submit a compressed file containing a report (pdf file) with the group members' names and references, along with the configuration files of your server, ex: G1_Part2.zip

You may receive an extension for an assignment by consulting with me before the due date. Otherwise, in fairness to those who do submit their work on time and to reward such behavior, 5% per day, to a maximum of three days, will be deducted for assignments that are late without adequate reason (and for which documentation such as a doctor's note may be requested). After the third day, the assignment will not be accepted and its grade will be recorded as zero.

For part 1, you will be evaluated via demonstration and discussion; each member of the group will be asked and the marks will be given BASED ON THE DEMONISTRATION.

Academic Integrity

The submitted project must be your own work. No marks will be awarded for any parts, which are not created by you. **Plagiarism includes copying directly from other students, Internet or other resources without proper reference**.