

SOUTH EASTERN UNIVERSITY OF SRI LANKA
SECOND EXAMINATION IN BACHELOR OF INFORMATION AND
COMMUNICATION TECHNOLOGY – 2020/2021

SEMESTER – I, AUGUST 2023

CIS 21031 - Practical for Platform Technologies

Answer all Questions.

Time allowed: 03 Hours

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- Create a folder on the Desktop with your index number (Eg. ICTxxx)
 - All answer files and related materials should be saved within the folder created
 - All answer files should be named as per the instructions given in each question.
 - Save your files frequently.
 - Submit your BASH script along with screenshots of outputs for each question organised in a word file
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Question 01:

You are tasked with creating a **BASH** script that utilizes listed functions to perform various terminal commands. Your BASH script should provide a main menu allowing the user to select any of the below function to execute. After each function's execution, the respective menu list should be displayed again for the user to continue or exit.

Your script should have the following functions:

1. **File Operations:** This function should display a sub menu to perform some specific tasks as below.

- a) List files and directories with detailed information in long format with file permissions, owner, size, and modification date *ls -l*
- b) Show hidden files as well *ls -h*
- c) Display human-readable sizes of files *ls -sh*
- d) List all **text** files and **.sh** files in the current directory
- e) Compress a specified folder excluding '**.txt**' files

2. **File Manipulation:** This function should display a sub menu to perform some specific tasks as below.

- a) Copy user specified files or directories to a specified location, if a file with the same name of the copying file exists at the destination location, then the user should be prompted before it is overwritten with the contents of the copying file
- b) Rename user specified files and directories
- c) Move all text files which has named that begin with the characters "temp" from a specified location to another user specified directory
- d) Delete a user specified file, the user should be prompted before each file is deleted
- e) Concatenate and merge multiple user specified files into '**merged.txt**'.

3. **File Content Viewing:** This function should display a sub menu to perform some specific tasks as below.

- a) View the beginning 10 lines of a specified files
- b) View the first 1 MB contents of a user specified file
- c) View last 20 lines of a user specified file
- d) Append a user-specified line of contents to a user specified file
- e) Search for a specified 'word' in a file and display line numbers with matching results

4. **System Information and file permission:** This function should display a sub menu to perform some specific tasks as below.

- a) Show the machine hardware name.
- b) Display the operating system name
- c) Display disk space usage with human-readable sizes and file system types.
- d) Set the read and write permissions for the owner of a specified file and read-only for the group and others
- e) Recursively remove read, write, and execute permissions of a file for others

Your script should adhere to the following guidelines:

- Properly comment your code to explain the purpose of each function and any key steps.
- Use appropriate error handling to handle cases where directories or files do not exist.

- [60 Marks]**

Note: ASCII value is starting from 65 for capital 'A' and 97 for simple 'a'

[40 Marks]

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