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|---|------------------|---|-------------------------|
| Faculty   | FET              |   |                         |
| Assessment Name<br>(Eg: End/Sup)                      | End              | Paper Code  | CLIE/A23E               |
| Module Name   | Linux Essentials | Module Code   | C6-LIE-19               |
| Semester<br>(E.g Jul-Dec-2021)                        | Jan- Jun 2023    | Submission Mode<br>(E.g Turnitin, blackboard, hardcopy) | Turnitin and Blackboard |
| Total Marks   | 100              | Duration  | 4 weeks                 |
| Assessment Type<br>(Eg: Written/Practical/Submission) | Submission       | Exam/Submission Date                                    | 29 April 2023           |

#### Instructions

1. This paper contains two Sections.
2. Attempt all questions.
3. Submit the detailed report (of how you attempted each question and insert the code and results screen shots as proofs) on Turnitin before the deadline (29<sup>th</sup> April 2023 11:59pm).
4. The original code/scripts should be submitted on Blackboard before the (29<sup>th</sup> April 2023 11:59pm).
5. Failure to submit the above requisites on or before specified time and platforms will result in the student not being marked. **NOTE: Do not submit through the lecturer's email under any circumstances.**

## SECTION1: SCRIPTING USING THE COMMANDS LEARNED

[48 marks]

The Government of Lesotho through its Social Development Ministry have been giving Elderly People grants for the past 20 years. The main challenges had always been timely capturing of the Elderly People information when they reach 70 years of age so that they start getting their grants and to delete them from their files immediately when they have passed on.

The other challenge was to confirm whether the person has received the grant for a certain month or not. Therefore, paying arrears and tracing double/overpayments had always been a nightmare for the ministry.

The Government wrote an open question to the nation seeking advice. Consequently, most people advised that the Social Development Ministry should have a **"Elderly Grants System"** which must be integrated to Ministry of Home-Affairs **"Birth/Citizen Registration"** and **"Death Registration"** Systems.

You are now hired to develop the **"Elderly Grants System"** from scratch and integrate it to the above Mentioned Ministry of Home-Affairs Systems.

The Function of the **"Birth/Citizen Registration System"** is to register all citizen of Lesotho at birth (or any other time for those who were not registered at birth). Below is some of the important citizen information included:

- National Identification Number (NID)
- LastName
- FirstName
- Date of Birth (includes day, month, and year)
- Place of Residence
- District/Province and Country

**Note: All deceased should be removed from this system.**

The Function of the **"Death Registration System"** is to capture all deaths of citizens and the cause of death. Most details of the deceased will be captured directly from the **"Birth/Citizen Registration System"** and the new details to be added are:

- Cause of Death with the following possible values (Natural, Gun-Accident, Car-Accident, Lightening)
- Date of Death (includes day, month, and year)
- Place of Death

**Note: Only deceased should be transferred to this system from the registration system. Their details will be fetched from the registration system using their National Identification Number.**

The function of the “Elderly Grants System” is to get the elderly that qualify for grants on the grants payday (25<sup>th</sup> of the Month) from the registration. It uses the current pay-date (day, month, and year) and the date of birth to check whether a citizen qualifies for the grant or not. All that qualifies are given the grant for month (there should be the column that specifies the NID of the person who collected the grant money). For all uncollected grants, the owners’ records will be transferred to the arrears file which states the full details of the grant owner and the amount that is due.

***Note: There will be two additional fields/columns in the “Elderly Grant System” to state “whether the grant is collected or not” and “the collector of the grant” if it is collected. The arrears file is updated at the end of every payday.***

The System that you create should have a menu/dashboard so that all the interaction between the systems/files is not explicitly visible to the user. The only thing that the user interact directly with should be the menu/dashboard.

The user should also be able to interact with the Dashboard/Menu and do any of below tasks: [5]

- Register the citizen details in birth/citizen registration system. [5]
- Search for Citizens using: [1+1+1+1+1]
  - NID
  - LastName
  - Place of Residence
  - District
- Register death of the citizen [5]
- Retrieve the Deceased information using: [1+1+1]
  - NID
  - Cause of Death
  - Date of Death
- Extract Elders that qualify for Grant from the Birth/Citizen Registration System (using their age). [5]
- Successful capture and saving of information of those paid/unpaid. [5]
- Successful Retrieve of paid/unpaid Elders’ full details. [2+3]

There will be [10 marks] allocated to creativity, overall look/appearance, and originality of your system.

***Assume you have just logged into your Linux (Red hat) machine and arrived at your home directory:***

1. Do the following
  - a. Create two groups with the following GIDs:
    - i. gsethobane 800
    - ii. gpabatso 900 [4]
  - b. Create user account named “matello” with the password “mat123” under the group named “gsethobane” [3+2]
  - c. Modify the sudo configuration to let the “matello” access root privileges with no password prompt. [6]
2. Matello forgot her password. You must reset it to “mat456” and force her to change it the next time she logs in. [2+2]
3. Change matello’s group to be the gpabatso, but make sure she retains her membership in the gsethobane group. [2+2]
4. 2. Matello wants her username changed to “matey” [2]
5. 3. “matey” needs her UID changed to 809. (Make sure that “matey” can still log in and access and create files after this change has been made. [2+3]
6. Unfortunately, “matey” has been engaged in suspicious activity. You must lock her account [2]

### **SECTION3:**

#### **GOOD STRUCTURED REPORT**

**[20 marks]**

All commands/scripts and results screenshots should be logically included/inserted in the report. Note that proper numbering of answers in the report improves its structure and make it easy for the allocation of marks.

- **For each functionality to get full marks on report:**
  - **Label the functionality clearly. E.g., Searching for Citizen from Birth/Citizen Registration System**
  - **Write the steps that you followed to implement it.**
  - **Have the screenshot of the code segment for that functionality.**
  - **Have the screenshot of the results that you got when running your system/script. E.g., Have the screenshot where you searched using NID, screenshot where you searched using Lastname, where you used Place of Residence and where you used District to get full marks.**

~~~~~BEST OF LUCK!!!~~~~~