Please edit this file by adding the solution commands on the line below the prompt.

Save and submit the completed file for your homework submission.

Step 1: Ensure/Double Check Permissions on Sensitive Files

1. Permissions on /etc/shadow should allow only root read and write access.
    - Command to inspect permissions: **ls -l /etc/shadow**
    - Command to set permissions (if needed): **sudo chmod 600 /etc/shadow**
2. Permissions on /etc/gshadow should allow only root read and write access.
    - Command to inspect permissions: **ls -l /etc/gshadow**
    - Command to set permissions (if needed): **sudo chmod 600 /etc/gshadow**
3. Permissions on /etc/group should allow root read and write access, and allow everyone else read access only.
    - Command to inspect permissions: **ls -l /etc/group**
    - Command to set permissions (if needed): **sudo chmod 644 /etc/group**
4. Permissions on /etc/passwd should allow root read and write access, and allow everyone else read access only.
    - Command to inspect permissions: **ls -l /etc/passwd**
    - Command to set permissions (if needed): **sudo chmod 644 /etc/passwd**

Step 2: Create User Accounts

1. Add user accounts for sam, joe, amy, sara, and admin.
    - Command to add each user account (include all five users):
        - **sudo useradd sam**
        - **sudo useradd joe**
        - **sudo useradd amy**
        - **sudo useradd sara**
        - **sudo useradd admin**

2. Ensure that only the admin has general sudo access.

    - Command to add admin to the sudo group:
        - **sudo usermod -G sudo admin**

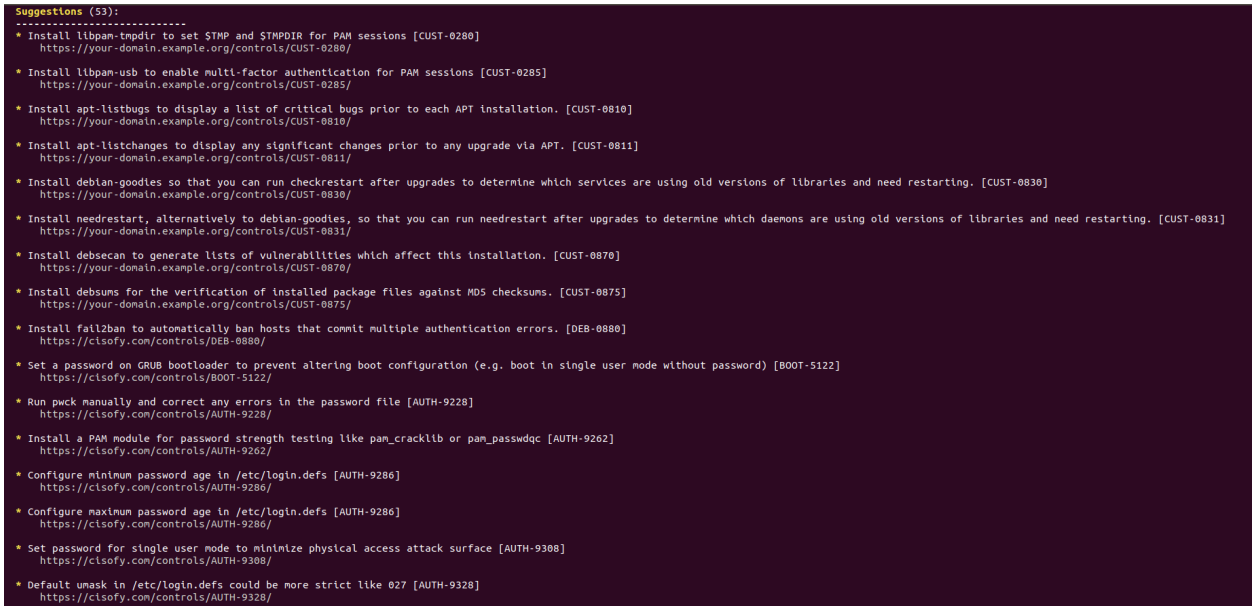
Step 3: Create User Group and Collaborative Folder

1. Add an engineers group to the system.
    - Command to add group:
        - **sudo addgroup engineers**
2. Add users sam, joe, amy, and sara to the managed group.
    - Command to add users to engineers group (include all four users):
        - **sudo usermod -G engineers sam**
        - **sudo usermod -G engineers joe**
        - **sudo usermod -G engineers amy**
        - **sudo usermod -G engineers sara**
3. Create a shared folder for this group at /home/engineers.
    - Command to create the shared folder:
        - **sudo mkdir /home/engineers**
4. Change ownership on the new engineers' shared folder to the engineers group.
    - Command to change ownership of engineer's shared folder to engineer group:
        - **sudo chown :engineers /home/engineers**

Step 4: Lynis Auditing

1. Command to install Lynis:
    - **sudo apt install lynis**
2. Command to see documentation and instructions:
    - **sudo lynis –help**
3. Command to run an audit:
    - **sudo lynis audit system**
4. Provide a report from the Lynis output on what can be done to harden the system.

    - Screenshot of report output:



Bonus

1. Command to install chkrootkit:
    - **sudo apt install chkrootkit**

2. Command to see documentation and instructions:
    - **sudo chkrootkit --help**
3. Command to run expert mode:
    - **sudo chkrootkit -x**
4. Provide a report from the chrootkit output on what can be done to harden the system.

    - Screenshot of end of sample output: