Assignment 4

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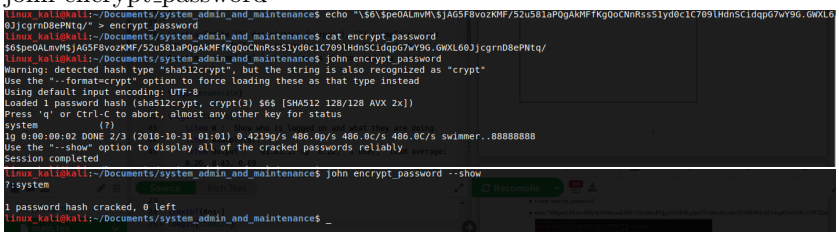
Q1.

Q2. The /etc/shadow file contains the following entry. Crack the password of the user anonymous. Write the complete procedure (list of commands with screenshots) you used to crack the password. [Hint: Dictionary Attack]
anonymous:6peOALmvM$jAG5F8vozKMF/52u581aPQgAkMFfKgQoCNnRssS1yd0c1C709lHdnSCidqpG7wY9G.GWXL6

Ans:

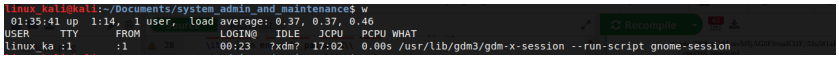
- Install john the ripper
- sudo apt-get install john
- touch encrypt_password
- echo "6peOALmvM$jAG5F8vozKMF/52u581aPQgAkMFfKgQoCNnRssS1yd0c1C709lHdnSCidqpG7wY9G.GWXL6 > encrypt_password
- john encrypt_password



Q3.

Q4. Write (1) description (purpose), (2) example(s), and (3) output of following commands or command-line switches. Sometimes example(s) is/are same as the command (as asked in question).

1. w
   - W : Show who is logged on and what they are doing.
   - example(s): w



2. id:
   - id: print real and effective user and group IDs

- example : id

```
linux_kali@kali:~/Documents/system_admin_and_maintenance$ id -n
id: cannot print only names or real IDs in default format
```

3. id -g
   - id -g : print only the effective group ID
   - example :id -g
   - output : 1001
4. id -G
   - id -G : print all group IDs
   - example : id -G
   - output : 1001 27 998
5. id -n
   - id -n : print a name instead of a number
   - example : id -n
   - output : id: cannot print only names or real IDs in default format
6. id -gn
   - id -gn :
   - example : id -gn
   - output : linux_kali
7. id -un
   - id -un :
   - example : id -un
   - output : linux_kali
8. groups
   - id groups : groups - print the groups a user is in
   - example : groups
   - output : linux_kali sudo docker
9. groups user-name
   - groups user-name : number of groups inside
   - example : groups linux_kali
   - output :

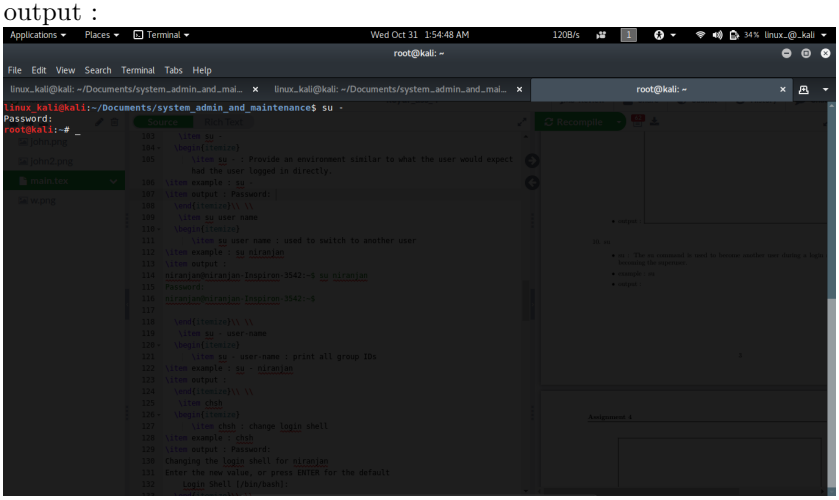
```
linux_kali@kali:~/Documents/system_admin_and_maintenance$ groups linux_kali
linux_kali : linux_kali sudo docker
```

10. su
    - su : The su command is used to become another user during a login session. su defaults to becoming the superuser.
    - example : su

- output :

```
linux_kali@kali:~/Documents/system_admin_and_maintenance$ groups linux_kali
linux_kali : linux_kali sudo docker
```

11. su -
    - su - : Provide an environment similar to what the user would expect had the user logged in directly.
    - example : su -
    - output :



12. su user name
    - su user name : used to switch to another user
    - example : su root
    - output :

```
linux_kali@kali:~/Documents/system_admin_and_maintenance$ su linux_kali
Password:
linux_kali@kali:~/Documents/system_admin_and_maintenance$ su root_
```

13. su - user-name
    - su - user-name : print all group IDs
    - example : su - linux_kali
    - output :

14. chsh
    - chsh : change login shell
    - example : chsh

- output :

```
linux_kali@kali:~$ chsh
Password:
Changing the login shell for linux_kali
Enter the new value, or press ENTER for the default
        Login Shell [/bin/bash]:
linux_kali@kali:~$ _
```

15. chsh -s shell-name/path/to/shell

- chsh -s shell-name/path/to/shell :
- example : chsh -s /bin/bash
- output :

```
linux_kali@kali:~$ chsh -s /bin/sh
Password:
linux_kali@kali:~$ chsh -s /bin/bash
Password:
linux_kali@kali:~$ _
```

16. passwd

- passwd : change user password
- example : passwd
- output :

```
linux_kali@kali:~$ passwd
Changing password for linux_kali.
(current) UNIX password:
Enter new UNIX password:
Retype new UNIX password:
Password unchanged
Enter new UNIX password:
Retype new UNIX password:
You must choose a longer password
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
linux_kali@kali:~$ _
```

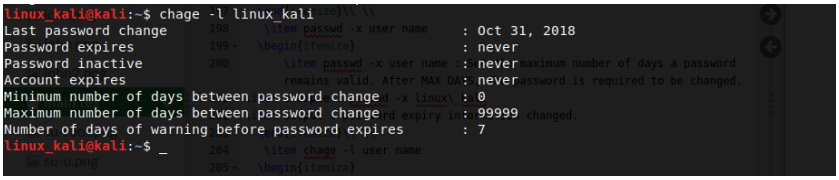
17. passwd -S

- passwd -S
- example : passwd -S
- output : Display account status information. The status information consists of 7 fields. The first field is the user's login name. The second field indicates if the user account has a locked password (L), has no password (NP), or has a usable password (P). The third field gives the date of the last password change. The next four fields are the minimum age, maximum age, warning period, and inactivity period for the password. These ages are expressed in days.

```
linux_kali@kali:~$ passwd -S
linux_kali P 10/31/2018 0 99999 7 -1
linux_kali@kali:~$ _
```

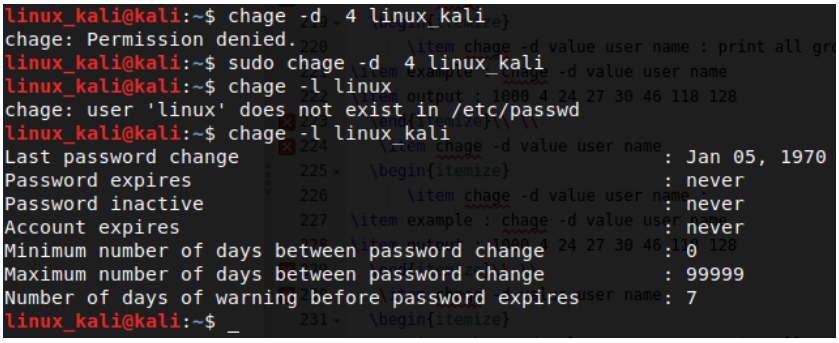
18. passwd -d user name
    - passwd -d user name : Delete a user's password (make it empty). It will set the named account passwordless.
    - example : passwd -d linux_kali
    - output : sudo passwd -d linux_kali passwd: password expiry information changed.
19. passwd -e user name
    - passwd -e user name: Immediately expire an account's password. This in effect can force a user to change his/her password at the user's next login.
    - example : passwd -e linux_kali
    - output : sudo passwd -e linux_kali passwd: password expiry information changed.
20. passwd -l user name
    - passwd -l user name : Immediately expire an account's password. This in effect can force a user to change his/her password at the user's next login.
    - example : passwd -l linux_kali
    - output : sudo passwd -l linux_kali [sudo] password for linux_kali: passwd: password expiry information changed.
21. passwd -n user name
    - passwd -n user name:
    - examanjanple : passwd -n linux_kali
    - output :
22. passwd -u user
    - passwd -u user name : Set the minimum number of days between password changes to MIN DAYS. A value of zero for this field indicates that the user may change his/her password at any time.
    - example : passwd -u linux_kali
    - output : password expiry information changed.
23. passwd -w user name
    - passwd -w user name : Set the number of days of warning before a password change is required. The WARN DAYS option is the number of days prior to the password expiring that a user will be warned that his/her password is about to expire.
    - example : passwd -w linux_kali
    - output : password expiry information changed.
24. passwd -x user name
    - passwd -x user name : Set the maximum number of days a password remains valid. After MAX DAYS, the password is required to be changed.
    - example : passwd -x linux_kali
    - output : password expiry information changed.
25. chage -l user name
    - chage -l user name: Show account aging information.
    - example : chage -l linux_kali

- output :



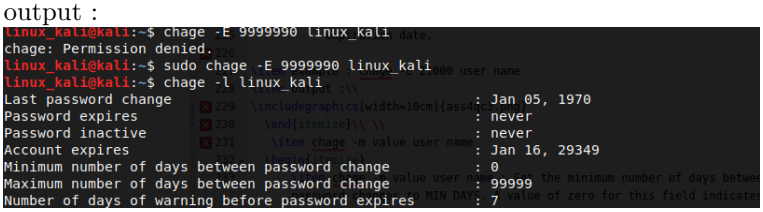
26. chage -d value user name

- chage -d value user name : Set the number of days since January 1st, 1970 when the password was last changed. The date may also be expressed in the format YYYY-MM-DD (or the format more commonly used in your area).
- example : chage -d 4 linux_kali
- output :



27. chage -E value user name

- chage -E value user name : Set the date or number of days since January 1, 1970 on which the user's account will no longer be accessible. The date may also be expressed in the format YYYY-MM-DD . A user whose account is locked must contact the system administrator before being able to use the system again.
- example : sudo chage -E 9999990 linux_kali
- output :



28. chage -m value user name

- chage -m value user name : Set the minimum number of days between password changes to MIN DAYS. A value of zero for this field indicates that the user may change his/her password at any time.
- example : sudo chage -m 1 linux_kali

- output :

```
linux_kali@kali:~$ sudo chage -m 1 linux_kali
linux_kali@kali:~$ chage -l linux_kali
Last password change                                    : Jan 05, 1970
Password expires                                        : never
Password inactive                                       : never
Account expires                                         : Jan 16, 29349
Minimum number of days between password change          : 1
Maximum number of days between password change          : 99999
Number of days of warning before password expires       : 7
linux_kali@kali:~$ _
```

29. chage -M value user name

- chage -M value user name : Set the maximum number of days during which a password is valid. When MAX DAYS plus LAST DAY is less than the current day, the user will be required to change his/her password before being able to use his/her account. This occurrence can be planned for in advance by use of the -W option, which provides the user with advance warning.
- example : sudo chage -M 9999990 linux_kali
- output :

```
linux_kali@kali:~$ sudo chage -M 9999990 linux_kali
linux_kali@kali:~$ chage -l linux_kali
Last password change                                    : Jan 05, 1970
Password expires                                        : never
Password inactive                                       : never
Account expires                                         : Jan 16, 29349
Minimum number of days between password change          : 1
Maximum number of days between password change          : 9999990
Number of days of warning before password expires       : 7
```

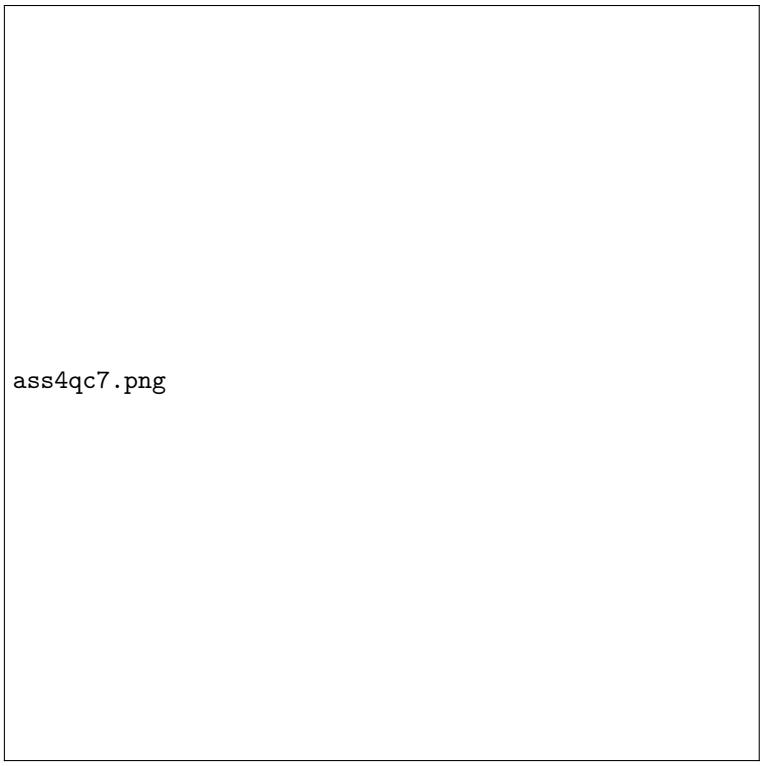
30. gpasswd user name

- gpasswd user name : The gpasswd command is used to administer /etc/group, and /etc/gshadow. Every group can have administrators, members and a password.
- example : sudo gpasswd linux_kali
- output :

```
linux_kali@kali:~$ gpasswd linux_kali
gpasswd: Permission denied.
linux_kali@kali:~$ sudo gpasswd linux_kali
Changing the password for group linux_kali
New Password:
Re-enter new password:
linux_kali@kali:~$ _
```

31. gpasswd -a user-name group-name

- gpasswd -a user-name group-name:Add the user to the named group.
- example : sudo gpasswd -a linux_kali linux_kali
- output :



32. gpasswd -d user-name group-name

    - gpasswd -d user-name group-name : Remove the user from the named group.
    - example : gpasswd -d linux_kali linux_kali
    - output :

33. gpasswd -r group name

    - gpasswd -r group name : Remove the password from the named group. The group password will be empty. Only group members will be allowed to use newgrp to join the named group.
    - example : gpasswd -r linux_kali
    - output :

34. gpasswd -M user name1 user name2 group name

    - gpasswd -M user name1 user name2 group name :Set the list of group members.
    - example : sudo gpasswd -M chetanya, chetanya_shrimali linux_kali
    - output :

35. adduser user name

    - adduser user name : add a user or group to the system
    - example : sudo adduser chetanya

- output :

```
linux_kali@kali:~$ sudo adduser chetanya
Adding user `chetanya' ...
Adding new group `chetanya' (1002) ...
Adding new user `chetanya' (1002) with group `chetanya' ...
Creating home directory `/home/chetanya' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for chetanya
Enter the new value, or press ENTER for the default
        Full Name []: chetanya
        Room Number []: 606
        Work Phone []: 8233813183
        Home Phone []:
        Other []:
Is the information correct? [Y/n] y
linux_kali@kali:~$ _
```

36. useradd user name

- useradd user name :create a new user or update default new user information
- example : sudo useradd chetanya_shrimali
- output :

```
linux_kali@kali:~$ useradd chetanya
useradd: user 'chetanya' already exists
linux_kali@kali:~$ useradd chetanya_shrimali
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
linux_kali@kali:~$ sudo useradd chetanya_shrimali
linux_kali@kali:~$ _
```

37. useradd -d home-dir user name

- useradd -d home-dir user name : The new user will be created using HOME-DIR as the value for the user's login directory. The default is to append the LOGIN name to BASE-DIR and use that as the login directory name. The directory HOME-DIR does not have to exist but will not be created if it is missing.
- example : useradd -d /home/chetanya chetanya_shrimali_1
- output :

```
linux_kali@kali:~$ useradd -d /home/chetanya chetanya_shrimali
useradd: user 'chetanya_shrimali' already exists
linux_kali@kali:~$ useradd -d /home/chetanya chetanya_shrimali_1
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
linux_kali@kali:~$ sudo useradd -d /home/chetanya chetanya_shrimali_1
linux_kali@kali:~$ _
```

38. useradd -u UID user name

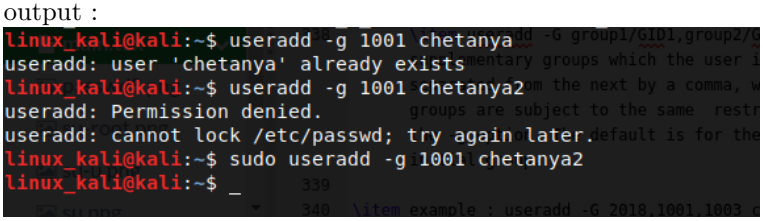
- useradd -u UID user name : The numerical value of the user's ID. This value must be unique, unless the -o option is used. The value must be non-negative. The default is to use the smallest ID value greater than or equal to UID-MIN and greater than every other user.
- example : useradd -u 9981 chetanya1
- output :

```
linux_kali@kali:~$ useradd -u 9981 chetanya1
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
linux_kali@kali:~$ sudo useradd -u 9981 chetanya1
linux_kali@kali:~$ _
```

39. useradd -g GID user name

- useradd -g GID user name : The group name or number of the user's initial login group. The group name must exist. A group number must refer to an already existing group.
- example : useradd -g 2018 chetanya

- output :

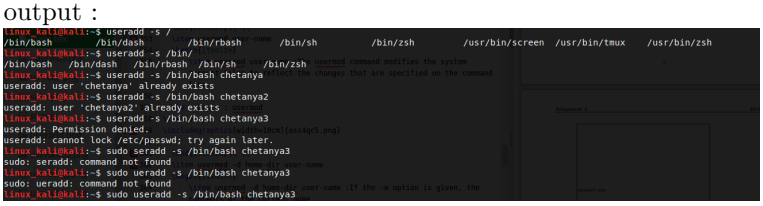


40. useradd -G group1/GID1,group2/GID2,... user-name

- useradd -G group1/GID1,group2/GID2,... user-name : A list of supplementary groups which the user is also a member of. Each group is separated from the next by a comma, with no intervening whitespace. The groups are subject to the same restrictions as the group given with the -g option. The default is for the user to belong only to the initial group.
- example : useradd -G 1001, 0 chetanya
- output :

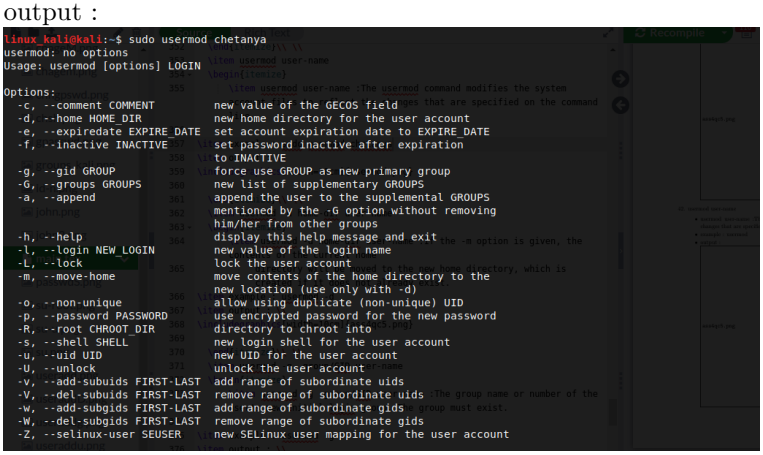
41. useradd -s login-shell user-name

- useradd -s login-shell user-name :This option sets the SHELL variable in /etc/default/useradd.
- example : sudo useradd -s /bin/bash chetanya3
- output :



42. usermod user-name

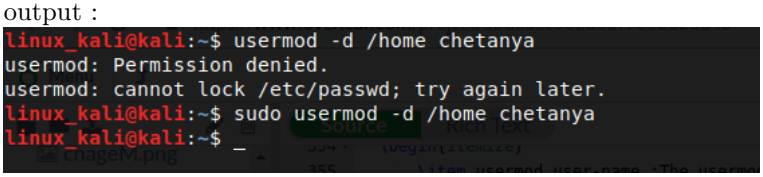
- usermod user-name :The usermod command modifies the system account files to reflect the changes that are specified on the command line.
- example : sudo usermod chetanya
- output :



43. usermod -d home-dir user-name

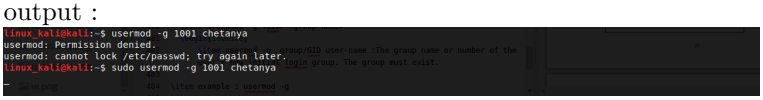
- usermod -d home-dir user-name :If the -m option is given, the contents of the current home directory will be moved to the new home directory, which is created if it does not already exist.

- example : usermod -d /home chetanya
- output :



44. usermod -g group/GID user-name

- usermod -g group/GID user-name :The group name or number of the user's new initial login group. The group must exist.
- example : usermod -g 1001 chetanya
- output :

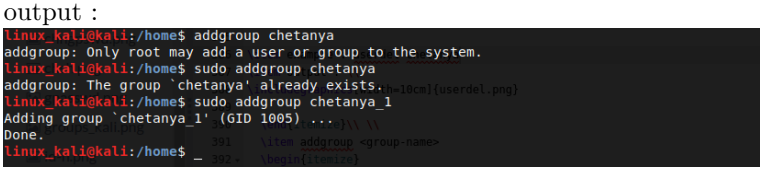


45. userdel username

- he userdel command modifies the system account files, deleting all entries that refer to the user name LOGIN. The named user must exist.
- example : userdel chetanya
- output :

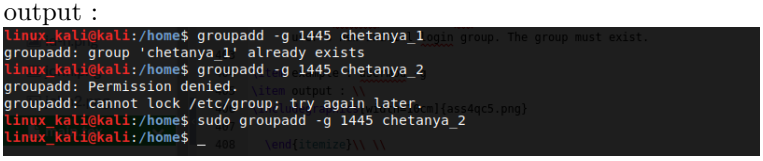
46. addgroup <group-name>

- usermod -g group/GID user-name :The group name or number of the user's new initial login group. The group must exist.
- example : sudo addgroup chetanya_1
- output :



47. groupadd -g <GID> <group-name>

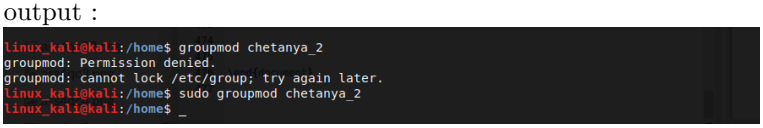
- usermod -g group/GID user-name :The group name or number of the user's new initial login group. The group must exist.
- example : groupadd -g 1445 chetanya_2
- output :



48. groupmod <group-name>

- usermod -g group/GID user-name :The group name or number of the user's new initial login group. The group must exist.
- example : groupmod chetanya_2

- output :


linux_kali@kali:/home$ groupmod chetanya_2
groupmod: Permission denied.
groupmod: cannot lock /etc/group; try again later.
linux_kali@kali:/home$ sudo groupmod chetanya_2
linux_kali@kali:/home$ _