Cairo University
Faculty of Computers and Artificial Intelligence
Software Engineering Program

Software Engineering tools lab
Chapter 7 & Chapter 8 Task

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Chapter 7: Lab Task

1. Create a directory called /home/techdocs.
   mkdir /home/techdocs
2. Change the group ownership of the /home/techdocs directory to the techdocs group.
   chown :techdocs /home/techdocs
3. Verify that users in the techdocs group can create and edit files in the /home/techdocs directory.
   su - tech1
   touch /home/techdocs/techdoc1.txt
4. Set permissions on the /home/techdocs directory. On the /home/techdocs directory, configure setgid (2), read/write/execute permissions (7) for the owner/user and group, and no permissions (0) for other users.
   chmod 2770 /home/techdocs
5. Verify that the permissions are set properly.
   exit
   ls -ld /home/techdocs
6. 7. Confirm that users in the techdocs group can now create and edit files in the /home/techdocs directory. Users not in the techdocs group cannot edit or create files in the/home/techdocs directory. Users tech1 and tech2 are in the techdocs group. User database1 is not in that group.
   su - tech1
   touch /home/techdocs/techdoc1.txt
   ls -l /home/techdocs/techdoc1.txt
   exit
   su - tech2
   cd /home/techdocs
   echo "This is the first tech doc." > techdoc1.txt
   exit
   su - database1
   echo "This is the first tech doc." \ >> /home/techdocs/techdoc1.txt
   ls -l /home/techdocs/techdoc1.txt
   exit
7. Modify the global login scripts. Normal users should have a umask setting that prevents others from viewing or modifying new files and directories.
   su – student
   umask
   exit
   cat /etc/profile.d/local-umask.sh
   exit

```
ssh student@serverb
umask
```

Chapter 8 Task

1. Create a script called HelloWorld, which will print Hello World statement on the terminal. Create the script in the /home/student/bin directory.

```
#!/bin/bash
# My first script while true; do
echo "Hello World!“
Sleep 10 done
```

2. In the right window, run the top utility.

```
top
```

3. In the left terminal shell, run the HelloWorld script in the background.

```
grep "helloworld" /proc/cpuinfo | wc -l
cd /home/student/bin
helloworld &
```

4. In the right terminal shell, observe the top display. Toggle between load, threads and memory. Note the process ID (PID) for HelloWorld.

```
shift+m.
m
t
shift + p
```

5. Turn off the use of bold in the display. Save this configuration for reuse when top is restarted. Confirm that the changes are saved.

```
shift+b
shift+w
ls -l /home/student/.config/procps/toprc
```

6. Copy the HelloWorld script to a new file called HelloWorld2. Edit the script to create more sleep time. Start the HelloWorld2 process in the background.

```
cp HelloWorld Helloworld2
vim process102 #!/bin/bash
while true; do
        var=1
                while [[ var -lt 100000 ]]; do
                        var=$(($var+1))
          done
        sleep 1
done
HelloWorld2 &
```

7. In the right terminal shell, confirm that the process is running

```
jobs
```

8. In the left terminal shell, become root. Suspend the HelloWorld process. List the
8. remaining jobs. Observe that the process state for HelloWorld is now T.
9. Resume the HelloWorld process.
10. Terminate HelloWorld, HelloWorld2 using the command line. Confirm that the processes are no longer displayed in top.

```
exit
```