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|  | Cairo University | A picture containing diagram  Description automatically generated |
| Faculty of Computers and Artificial Intelligence |
| Software Engineering Program |
| **Software Engineering tools lab**  **Chapter 7 & Chapter 8 Task** |

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| Name: | Khalid Ibrahim Abdallah Shawki | ID: | 20206018 |

Chapter 7: Lab Task

1. Create a directory called /home/techdocs.

mkdir /home/techdocs

1. Change the group ownership of the /home/techdocs directory to the techdocs group.  
   chown :techdocs /home/techdocs
2. Verify that users in the techdocs group can create and edit files in the /home/techdocs directory.  
   su - tech1

touch /home/techdocs/techdoc1.txt

1. 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

1. Verify that the permissions are set properly.

exit

ls -ld /home/techdocs

1. 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

1. 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

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

top

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

grep "helloworld" /proc/cpuinfo | wc -l

cd /home/student/bin

helloworld &

1. 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

1. 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

1. 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 &

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

jobs

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

exit