

TASK A

Step 1

```
william@william-VirtualBox:~$ sudo groupadd employee
[sudo] password for william:
william@william-VirtualBox:~$ sudo groupadd payroll
william@william-VirtualBox:~$ sudo groupadd admin
william@william-VirtualBox:~$ tail -4 /etc/group
william:x:1000:
employee:x:1001:
payroll:x:1002:
admin:x:1003:
```

Step 2

```
william@william-VirtualBox:~$ tail -4 /etc/passwd
william:x:1000:1000:William:/home/william:/bin/bash
Sophia:x:1001:1004::/home/Sophia:/bin/bash
Olivia:x:1002:1005::/home/Olivia:/bin/bash
Emma:x:1003:1006::/home/Emma:/bin/bash
william@william-VirtualBox:~$ sudo passwd Sophia
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
william@william-VirtualBox:~$ sudo passwd Olivia
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
william@william-VirtualBox:~$ sudo passwd Emma
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
william@william-VirtualBox:~$

william@william-VirtualBox:~$ id Sophia
uid=1001(Sophia) gid=1001(employee) groups=1001(employee)
william@william-VirtualBox:~$ id Olivia
uid=1002(Olivia) gid=1002(payroll) groups=1002(payroll)
william@william-VirtualBox:~$ id Emma
uid=1003(Emma) gid=1003(admin) groups=1003(admin)
william@william-VirtualBox:~$
```

Step 3

```
william@william-VirtualBox:~$ id Sophia
uid=1001(Sophia) gid=1001(employee) groups=1001(employee),1007(wsaxo003)
william@william-VirtualBox:~$ id Olivia
uid=1002(Olivia) gid=1002(payload) groups=1002(payload),1007(wsaxo003)
william@william-VirtualBox:~$ id Emma
uid=1003(Emma) gid=1003(admin) groups=1003(admin),1007(wsaxo003)
william@william-VirtualBox:~$
```

Step 4

```
william@william-VirtualBox:~$ sudo chgrp wsaxo003 /home/cyse_project/
william@william-VirtualBox:~$ ls -ld /home/cyse_project/
drwxr-xr-x 2 root wsaxo003 4096 Jun 20 20:38 /home/cyse_project/
william@william-VirtualBox:~$
```

Step 5

```
william@william-VirtualBox:~$ sudo chmod 770 /home/cyse_project/
william@william-VirtualBox:~$ ls -ld /home/cyse_project/
drwxrwx--- 2 root wsaxo003 4096 Jun 20 20:38 /home/cyse_project/
william@william-VirtualBox:~$
```

Step 6

```
william@william-VirtualBox:~$ su Sophia
Password:
Sophia@william-VirtualBox:/home/william$ cd
Sophia@william-VirtualBox:~$ umask 027
Sophia@william-VirtualBox:~$ touch file.txt
Sophia@william-VirtualBox:~$ ls -l file.txt
-rw-r----- 1 Sophia employee 0 Jun 20 21:03 file.txt
Sophia@william-VirtualBox:~$ umask
0027
Sophia@william-VirtualBox:~$ █
```

Step 7

```
Sophia@william-VirtualBox:~$ echo "William Saxon" > Sophia_homework
Sophia@william-VirtualBox:~$ ls -l Sophia_homework
-rw-r----- 1 Sophia employee 14 Jun 20 21:06 Sophia_homework
Sophia@william-VirtualBox:~$ cat Sophia_homework
William Saxon
Sophia@william-VirtualBox:~$
```

Step 8

```
Sophia@william-VirtualBox:~$ cp Sophia_homework /home/cyse_project/
Sophia@william-VirtualBox:~$ ls -l /home/cyse_project/Sophia_homework
-rw-r----- 1 Sophia employee 14 Jun 20 21:09 /home/cyse_project/Sophia_homework
Sophia@william-VirtualBox:~$
```

Step 9-10

```
Sophia@william-VirtualBox:~$ su Emma
Password:
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

Emma@william-VirtualBox:/home/Sophia$ cd /home/cyse_project/
Emma@william-VirtualBox:/home/cyse_project$ cat Sophia_homework
cat: Sophia_homework: Permission denied
Emma@william-VirtualBox:/home/cyse_project$ exit
exit
Sophia@william-VirtualBox:~$ exit
exit
william@william-VirtualBox:~$
```

TASK B

Step 1

```
william@william-VirtualBox:~$ sudo chmod g+s /home/cyse_project/
[sudo] password for william:
Sorry, try again.
[sudo] password for william:
william@william-VirtualBox:~$ ls -ld /home/cyse_project/
drwxrws--- 2 root wsaxo003 4096 Jun 20 21:09 /home/cyse_project/
william@william-VirtualBox:~$
```

Step 2

```
Sophia@william-VirtualBox:/home/william$ cd
Sophia@william-VirtualBox:~$ cp Sophia_homework /home/cyse_project/Sophia_homework2
Sophia@william-VirtualBox:~$
```

Step 3

```
Sophia@william-VirtualBox:~$ su Emma
Password:
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

Emma@william-VirtualBox:/home/Sophia$ cd /home/cyse_project/
Emma@william-VirtualBox:/home/cyse_project$ cat Sophia_homework2
William Saxon
Emma@william-VirtualBox:/home/cyse_project$
```

TASK C

Step 1

```
william@william-VirtualBox:~$ sudo chmod g-s /home/cyse_project/  
william@william-VirtualBox:~$ ls -ld /home/cyse_project/  
drwxrwx--- 2 root wsaxo003 4096 Jun 20 21:21 /home/cyse_project/  
william@william-VirtualBox:~$
```

Step 2

```
william@william-VirtualBox:~$ su Sophia  
Sophia@william-VirtualBox:~$ cp Sophia_homework /home/cyse_project/Sophia_homework3  
Sophia@william-VirtualBox:~$
```

Step 3

```
Sophia@william-VirtualBox:~$ su Olivia  
Password:  
Olivia@william-VirtualBox:/home/Sophia$ cd /home/cyse_project/  
Olivia@william-VirtualBox:/home/cyse_project$ cat Sophia_homework3  
cat: Sophia_homework3: Permission denied  
Olivia@william-VirtualBox:/home/cyse_project$
```

```
Olivia@william-VirtualBox:/home/cyse_project$ ls -l  
total 12  
-rw-r----- 1 Sophia employee 14 Jun 20 21:09 Sophia_homework  
-rw-r----- 1 Sophia wsaxo003 14 Jun 20 21:21 Sophia_homework2  
-rw-r----- 1 Sophia employee 14 Jun 20 21:30 Sophia_homework3  
Olivia@william-VirtualBox:/home/cyse_project$
```