

# Operating Systems and System Administration

Workshop sheet 05  
Year 02 Semester 01

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1) Briefly explain the usage of the following Linux utilities.

date, mv, tar, grep, chmod, more, tail, cat

2) In UNIX environment, some of the processes are sent to background, to run the as background processes.

- What is the importance of this in UNIX operating system?
- Explain how to send the processes to background?
- What are the commands we can use to check the status of background process?
- If required, how can we bring these processes to foreground again?

Support your answer with suitable examples.

3) What does it means by “Environment variable”?

4) Observe the following command sequence.

```
$ pwd
/home/sunil/demo
$ ls -l
.
..
_rwxrw_rw_ 1 sunil academic 72 Mar 3 15.17 hello
$ hello
Hello: no such a file or directory
```

- Explain the reason for the above error message.
- By using your knowledge about environment variables, explain how to avoid the above error.

5) Explain how “grep” and “cut” commands can be used to retrieve the preferred shell of user “sunil”.  
(hint: preferred shell is 7th field of a passwd file entry)

6) Write down the output of commands given below

```
a. $ cat users
Andrew Roberts
Smith Samson
Adams smith
Paul Alert
Smith Martinet

$ grep "smith" users | sort -

b.
$ date
Thu Jan 15 11:28:47 SLST 2004

$ date | cut -f2 -d " "

c.
$ echo "Crown Bird" | tr rB 1G
```