COMP09024
Unix System Administration
Demo Assessment (20%)

Please prepare to demonstrate execution of the tasks described on the following page during a 10-minute timeslot allocated to you in Week 13. You may bring prepared notes to your demo, and may refer to to them, but please note that this is a strictly timed assessment, and too much time spent referring to notes will eat into this. There are 20 marks available for this assessment, which is worth 20% of the marks for the module.

All tasks must be carried out on the "debian" VM in the lab in the time allocated. Exceptionally, for Task 6, you may, if you wish, prepare a separate file in advance with with the shell commands required. Creation of the file itself, however (including shebang line and correct permissions) must be demonstrated in the lab.

Most of the knowledge required for the tasks is already covered in the module, but some of the tasks may require additional research. Each task mostly relates to a particular topic as covered in the slides/labs, and has two main parts, each worth 1 mark (half marks may be awarded). The assessor cannot offer help during the demo slot, and will not use your time to read out the questions. Therefore, if you choose to skip a question, please let the assessor know.

If your time runs out, your assessor will inform you of this, and you will receive all the marks accumulated to that point.

Demonstration slots will be available for booking from week 11. Adjustments will be made for any students who have been identified as having additional requirements - please highlight these if you are not sure if the lecturer is aware of them, but note that these should have been approved after an assessment by an appropriate member of staff.

Student:			
Task	**Description**	**Max**	**Mark**
1	Login to the first virtual terminal as the `student` user, and to the second as `root`, and then show who is logged in Use commands to show the hostname and the current version of Linux running	2	
2	As `root`, create a new directory `/home/shared`, and as `student` create a symbolic link to this from `student`'s home directory Change the permissions on this `/home/shared` directory to allow its group owner to create files	2	
3	Create a new user `demouser`, and (separately) a new group `demogroup` Add both `student` and `demouser` to the `demogroup` group, and make `demogroup` the group owner of `/home/shared`	2	
4	List all the processes on the system and filter the output to **not** show any processes where the line ends with a `]` Create a `cron` job for the `student` user to write the system time and date to `/home/student/time.txt` at midday every day	2	
5	Filter a list of the previous login times for `student` to show only those which happened on the same day of the week as today Use filters to print a list of usernames (only) of all users who use `bash` as their shell	2	
6	Create a shell script called `dirempty`, which takes a filename as a parameter and returns an exit status of 0 if it is an empty directory, 1 if it is a non-empty directory, and 2 if it is not a directory.* Demonstrate that it works	2	
7	Use APT tools to ensure that your system's software is up to date Install the `toilet` package, and open the `man` page for the `toilet` command which is installed	2	
8	Show the default `systemd` target for your system, and print a list of "target" units Show the current overall kernel setting for "logging martians"	2	
9	Show the IPv4 and MAC addresses of your main Internet-facing Ethernet interface, and the currently used default route Send 5 ICMP echo requests to this address and check that you receive replies	2	
10	After deleting cached public keys, use `ssh` to connect to your machine, checking that the fingerprint is correct first Use the **`vi`** editor (not `nano`) to create file called `demo.txt` with the text "Demo Done"	2	
Total		20	