



DATA541: Scripting and Reporting

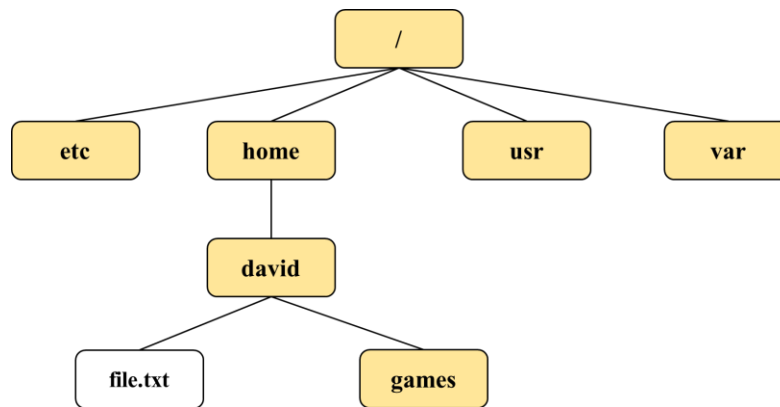
Name: _____

Student number: _____

1. In this practice exam, we have 15 questions. In the quiz 1, we will have 25-30 questions. You can expect more questions from lecture 2-3 (scripting and reporting)
2. This practice exam is designed for 30-35 minutes. You will have 60 minutes to complete the quiz

Lecture 1: CommandLine (4 marks)

1. [1 mark] The following image shows a directory structure in a Linux machine. Assume that you are currently in the **david** directory. Write a single-line command (use absolute path notation) to move the **file.txt** to the **games** directory.



Answer

```
mv /home/david/file.txt  
/home/david/games/
```

2. [1 mark] Let's assume that you have 100 image files with **.bmp** extension inside a directory. Write a single-line command with wildcard expressions to remove all the image files.

Answer

```
rm *.bmp
```

3. [1 mark] Write a command to append all the information written in a file called **file1.txt** to another file **file2.txt**.

Answer
<code>cat file1.txt>>file2.txt</code>

4. [1 mark] Find the correct output of the following command **echo DATA & 541**
- DATA541**
 - DATA 541**
 - DATA & 541**
 - None of the above**

Answer
d

Lecture 2-3: Shell Scripting (12 marks)

5. [1 mark] Which of the following is not a valid shell variable?
- _var**
 - var_2**
 - _ var _2**
 - 2_ var**

Answer
d

6. [1 mark] What is the output of the following while loop:

```
i=2
j=0
while (( i >= 0 ) && ( j >= 0 ))
do
    echo "$i"
    echo "$j"
done
```

Answer
This program will go to infinite loop

7. [2 marks] What will be printed in the console by the following program?

```
n=3
for (( i=1; i<=n; i=i+1 ))
do
    output=""
    for (( j=1; j<=i; j=j+1 ))
    do
        output+=$j
    done
    echo "$output"
done
```

Answer
1 12 123

8. [1 mark] Why do we use function in a shell script?

_____ Re-use common code _____

9. [2 marks] Write a single line command to show the lines between 5 and 10 from a text file called **transaction.txt**

_____ **cat transaction.txt | head -n 10 | tail -n 5** _____

10. [2 marks] What will be printed in the console by the following program?

```
myFunction1(){  
    result=`expr $1 - $2`  
    echo "$result"  
}
```

1. myFunction1 10 20
2. myFunction1 10 20 30

Answer
1. -10
2. -10

11. [2 marks] Correct the following program (you only need to correct two lines) so that it adds all the numbers between 1 and 10, in a decrement order.

```
1. number=10  
2. sum=0  
3. while [ $number -gt 1 ]; do  
4.     (( sum+=number ))  
5.     (( number-=number ))  
6. done  
7. echo $sum
```

Answer
Line 3 : gt 0 Line 5: number-= 1

12. [1 mark] Write a pipe command that will print the number of folders/files that contain the word **"COSC"** in your current directory.

ls | grep "cosc" | wc -l

Lecture 4: Remote Login and Authentication (4 marks)

13. [1 mark] What is the primary advantage of using SSH over Telnet?

Secure data transfer

14. [1 mark] SSH uses a client-server model. That means a _____ requests a connection, and the _____ accepts or rejects it.

- a. hardware, software
- b. server, client
- c. software, hardware
- d. client, server

Answer
d

15. [2 marks] How do you access a remote SSH server without the root password? Write the steps that would allow you to do that.