ACST 890- ONLINE QUIZ 1 SOLUTIONS: 45535531-ROHAN MARCUS DEANS

GITHUB Username: 45535531

Repository Name: Quiz1 (https://github.com/45535531/Quiz1.git)

File Name: 45535531DeansRohanMarcusOLQ1.pdf

Other Attached files on GITHUB: 3a.txt, 3b.txt, 3c.txt, 3d.txt, coding.txt

1.

Download the program from https://www.staff.hs-mittweida.de/~wuenschi/data/media/compbiolbook/chapter-10-shell-programming--triplet-stop.sh .

We use the syntax curl –s https://www.staff.hs-mittweida.de/~wuenschi/data/media/compbiolbook/chapter-10-shell-programming--triplet-stop.sh to download the program from the website.

```
ubuntu@ip-172-31-18-161:~$ curl -s https://www.staff.hs-mittweida.de/~wuenschi/data/media/compbiolbook/chapter-10-shell-programming--triplet-stop.sh > triplet-stop.sh
ubuntu@ip-172-31-18-161:~$ ls
triplet-stop.sh
```

To read the character sequence ‘taa’ and at least 9 characters already, we recode triplet-stop.sh as follows:

```
#!/bin/bash
# save as triplet-stop.sh
# splits a sequence into triplets
x=0
while [ -n "${1:$x:3}" ]; do
  seq=$seq${1:$x:3}" "
  x=$(expr $x + 3)
  if [ ${1:$x:3} == 'taa'] && [ $x -gt 9 ]; then
    break
  fi
done
echo "$seq"
```

The output obtained is as follows:

```
ubuntu@ip-172-31-18-161:~$ ./triplet-stop.sh aaataaragrtetaatga
aaa taa rte rag
ubuntu@ip-172-31-18-161:~$
```

Clearly it reads a minimum of 9 characters other than ensuring ‘taa’ is also read.

2.

The notepad file is saved as tutes.txt and is uploaded using the syntax:

scp -i 45535531.pem tutes.txt ubuntu@ec2-13-239-12-50.ap-southeast2.compute.amazonaws.com:

```
HP LAPTOP@HP MINGW64 ~
$ scp -i 45535531.pem tutes.txt ubuntu@ec2-13-239-12-50.ap-southeast-2.compute.a
mazonaws.com:
tutes.txt                                     100%   16KB  33.2KB/s   00:00
```

We obtain unique items in the file by finding out the number of appearances for each file sorted in order of highest frequency as shown in the output below:

```
ubuntu@ip-172-31-18-161:~$ cat tutes.txt | tr '[:upper:]' '[:lower:]' | sort | u
niq -c
     29 [tutorial_1|fri|01:00pm|c13]
     29 [tutorial_1|fri|01:00pm|c14]
     30 [tutorial_1|fri|02:00pm|c15]
     27 [tutorial_1|fri|02:00pm|c16]
     29 [tutorial_1|fri|03:00pm|c17]
     27 [tutorial_1|fri|03:00pm|c18]
     25 [tutorial_1|fri|06:00pm|c19]
     25 [tutorial_1|fri|06:00pm|c20]
     30 [tutorial_1|mon|01:00pm|c03]
     28 [tutorial_1|mon|01:00pm|c04]
     28 [tutorial_1|mon|06:00pm|c01]
     29 [tutorial_1|mon|11:00am|c05]
     28 [tutorial_1|mon|11:00am|c06]
      2 [tutorial_1|tue|02:00pm|c01]
     29 [tutorial_1|tue|03:00pm|c07]
     29 [tutorial_1|tue|03:00pm|c08]
      1 [tutorial_1|tue|04:00pm|c06]
     30 [tutorial_1|tue|04:00pm|c09]
     29 [tutorial_1|tue|04:00pm|c10]
     28 [tutorial_1|tue|05:00pm|c11]
     27 [tutorial_1|tue|05:00pm|c12]
      1 [tutorial_1|wed|04:00pm|c13]
      1 [tutorial_1|wed|04:00pm|c14]
      1 [tutorial_1|wed|05:00pm|c15]
      1 [tutorial_1|wed|10:00am|c09]
      1 [tutorial_1|wed|10:00am|c10]
ubuntu@ip-172-31-18-161:~$
```

3.a.

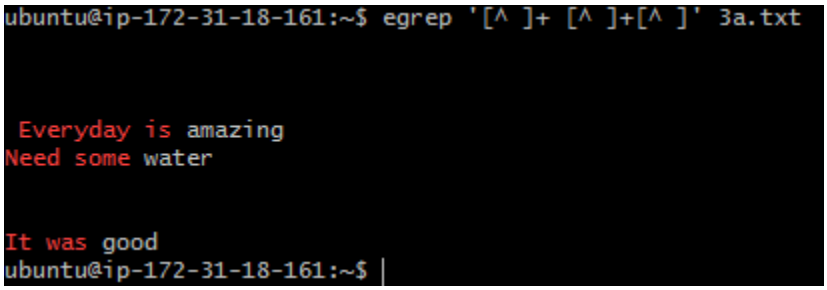
The notepad file is saved as 3a.txt and is uploaded using the syntax:

scp -i 45535531.pem 3a.txt ubuntu@ec2-13-239-12-50.ap-southeast2.compute.amazonaws.com:

After which we login to the aws account using the following syntax:

ssh -i 45535531.pem ubuntu@ec2-13-239-12-50.ap-southeast-2.compute.amazonaws.com

Using the following code as shown in the output below, the result is obtained based on the contents in the notepad file 3a.txt.



3.b.

The notepad file is saved as 3b.txt and is uploaded using the syntax:

scp -i 45535531.pem 3b.txt ubuntu@ec2-13-239-12-50.ap-southeast2.compute.amazonaws.com:

After which we login to the aws account using the following syntax:

ssh -i 45535531.pem ubuntu@ec2-13-239-12-50.ap-southeast-2.compute.amazonaws.com

Using the following code as shown in the output below, the result is obtained based on the contents in the notepad file 3b.txt.

```
ubuntu@ip-172-31-18-161:~$ egrep -e '\-[0-9]+' 3b.txt
-7
-3
ubuntu@ip-172-31-18-161:~$
```

3.c.

The notepad file is saved as 3c.txt and is uploaded using the syntax:

scp -i 45535531.pem 3c.txt ubuntu@ec2-13-239-12-50.ap-southeast2.compute.amazonaws.com:

```
HP LAPTOP@HP MINGW64 ~
$ scp -i 45535531.pem 3c.txt ubuntu@ec2-13-239-12-50.ap-southeast-2.compute.amazonaws.com:
3c.txt                                                                    100%   18     0.4KB/s   00:00
```

After which we login to the aws account using the following syntax:

ssh -i 45535531.pem ubuntu@ec2-13-239-12-50.ap-southeast-2.compute.amazonaws.com

Using the following code as shown in the output below, the result is obtained based on the contents in the notepad file 3c.txt.

```
ubuntu@ip-172-31-18-161:~$ egrep -e '\.[0-9]+' 3c.txt
4.5
-6.2
3.7
ubuntu@ip-172-31-18-161:~$
```

3.d.

The notepad file is saved as 3d.txt and is uploaded using the syntax:

scp -i 45535531.pem 3d.txt ubuntu@ec2-13-239-12-50.ap-southeast2.compute.amazonaws.com:

```
HP LAPTOP@HP MINGW64 ~
$ scp -i 45535531.pem 3d.txt ubuntu@ec2-13-239-12-50.ap-southeast-2.compute.amazonaws.com:
3d.txt                                                                    100%  135     0.2KB/s   00:00
```

After which we login to the aws account using the following syntax:

ssh -i 45535531.pem ubuntu@ec2-13-239-12-50.ap-southeast-2.compute.amazonaws.com

Using the following code as shown in the output below, the result is obtained based on the contents in the notepad file 3d.txt.

```
ubuntu@ip-172-31-18-161:~$ egrep ' hydrogenase' 3d.txt | egrep -v 'dehydrogenase'
It is possible to hydrogenase.
ubuntu@ip-172-31-18-161:~$
```