

Lab 7 | Managing Data Question 1 | Tar Utility

```
anand@cis106vm: ~/lab7/question1
bash: cd: question1/: No such file or directory
anand@cis106vm:~$ cd lab7/
anand@cis106vm:~/lab7$ cd question1
anand@cis106vm:~/lab7/question1$ ls
89-Berries.svg  fortunes.tar  mynotes.txt  Pineapple-89.jpg  Video.mp4
allfiles.tar    Mangoes.svg  newfile.txt  sentences.txt
Banana_78.png  my-fortune.txt  Papaya.svg  something.txt
anand@cis106vm:~/lab7/question1$ ls -a
.      allfiles.tar  Mangoes.svg  newfile.txt  sentences.txt
..     Banana_78.png my-fortune.txt Papaya.svg   something.txt
89-Berries.svg  fortunes.tar  mynotes.txt  Pineapple-89.jpg  Video.mp4
anand@cis106vm:~/lab7/question1$ tar cf allfiles.tar * .txt *[0-9]*.{jpg,png,svg} Video.
mp4
tar: allfiles.tar: file is the archive; not dumped
tar: .txt: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
anand@cis106vm:~/lab7/question1$ tar cf allfiles.tar *.txt *[0-9]*.{jpg,png,svg} Video.m
p4
anand@cis106vm:~/lab7/question1$ tar -tf allfiles.tar
my-fortune.txt
mynotes.txt
newfile.txt
sentences.txt
something.txt
Pineapple-89.jpg
Banana_78.png
89-Berries.svg
Video.mp4
anand@cis106vm:~/lab7/question1$ lorem
Ducimus quia dolorem magnam esse nisi adipisci. Ullam voluptas quia atque delectus totam
qui quae. Eos molestiae incidunt commodi voluptas repellendus maiores voluptas est. Ea
sit reiciendis est quibusdam magni et assumenda.anand@cis106vaaaaaanaanaanaanaanaana
anand@cis106vm:~/lab7/question1$
```

```

anand@cis106vm: ~/lab7/question1
anand@cis106vm: ~/lab7/question1
anand@cis106vm:~/lab7/question1$ lorem > randomtext.txt
anand@cis106vm:~/lab7/question1$ cat randomtext.txt
Eum consequatur consectetur ipsum dolorum sequi tenetur est dolor. Voluptatibus minus as
sumenda id aut et ex dignissimos. Tenetur non enim facilis. Eius temporibus possimus bla
nditiis quo illo.anand@cis106vm:~/lab7/question1$ curl http://metaphorpsum.com/sentences
/5
A vagrom chronometer is a feet of the mind. Unfortunately, that is wrong; on the contrar
y, few can name a gamey caravan that isn't a squabby fur. A mosque can hardly be conside
red a desmoid woolen without also being a guatemalan. They were lost without the unfired
ornament that composed their freon. A spastic supermarket's visitor comes with it the t
hought that the unseized mall is a sphynx.anand@cis106vm:~/lab7/question1$ curl http://m
etaphorpsum.com/sentences/5 > sente.tx
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100  326      0   326    0     0   2187      0  --:--:-- --:--:-- --:--:--   2187
anand@cis106vm:~/lab7/question1$ ls
89-Berries.svg  fortunes.tar  mynotes.txt  Pineapple-89.jpg  sente.tx
allfiles.tar    Mangoes.svg  newfile.txt  randomtext.txt    something.txt
Banana_78.png   my-fortune.txt Papaya.svg   sentences.txt      Video.mp4
anand@cis106vm:~/lab7/question1$ tar -rf lab7q1.tar allfiles.tar
anand@cis106vm:~/lab7/question1$ tar -tf allfiles.tar
my-fortune.txt
mynotes.txt
newfile.txt
sentences.txt
something.txt
Pineapple-89.jpg
Banana_78.png
89-Berries.svg
Video.mp4
anand@cis106vm:~/lab7/question1$

```

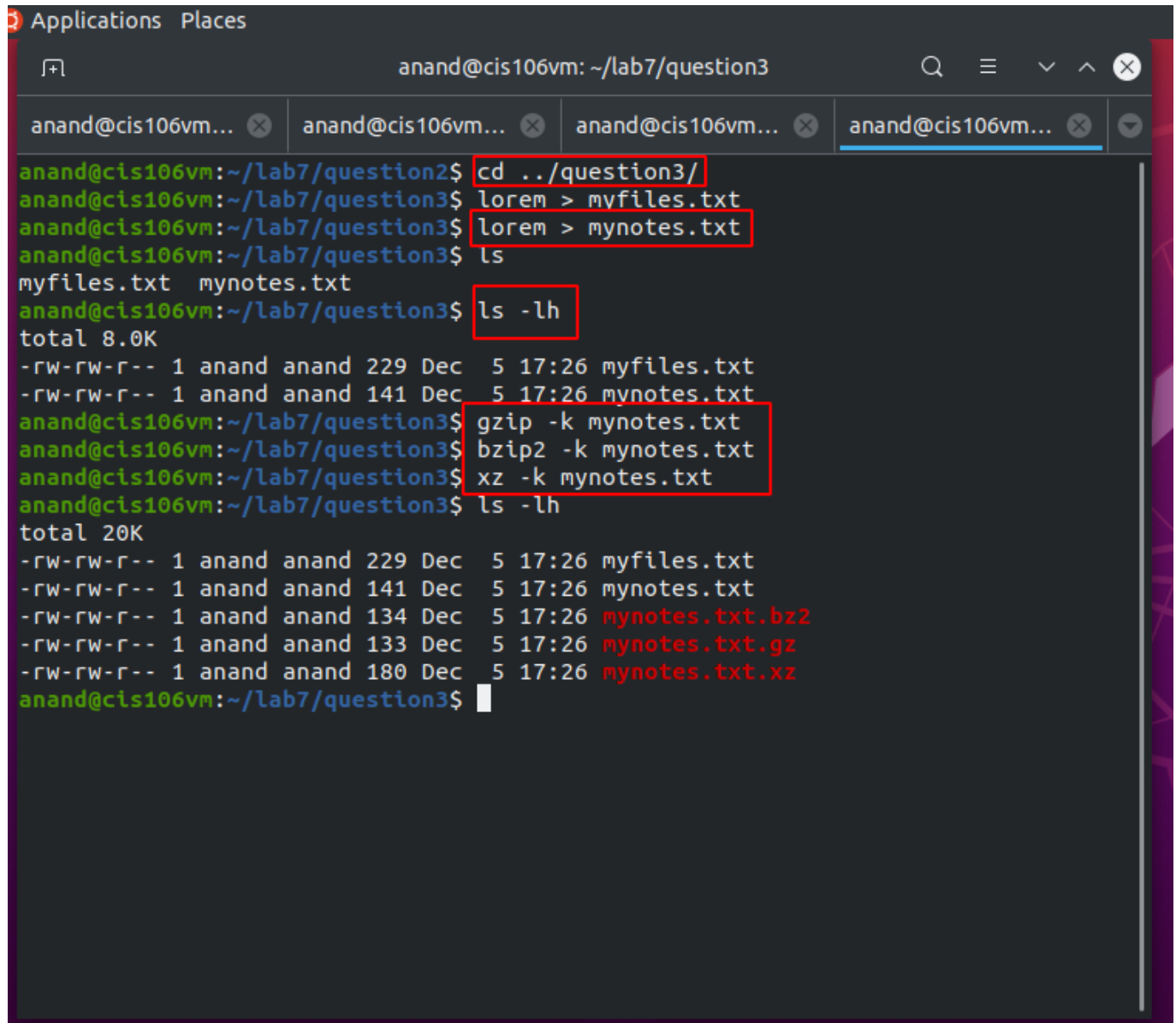
Question 2 | Cpio Utility

```
anand@cis106vm: ~/lab7/question2
anand@cis106vm: ~/lab7/question2$ ls | cpio -ovH tar -F allfiles2.tar
89-Berries.svg
allfiles2.cpio
cpio: File allfiles2.tar grew, 6813696 new bytes not copied
allfiles2.tar
Banana_78.png
my-fortune.txt
mynotes.txt
newfile.txt
Pineapple-89.jpg
sentences.txt
something.txt
Video.mp4
34933 blocks
anand@cis106vm: ~/lab7/question2$ rm .txt
rm: cannot remove '.txt': No such file or directory
anand@cis106vm: ~/lab7/question2$ rm *.txt
anand@cis106vm: ~/lab7/question2$ rm *.jpg
anand@cis106vm: ~/lab7/question2$ rm *.png
anand@cis106vm: ~/lab7/question2$ rm *.mp4
anand@cis106vm: ~/lab7/question2$ ls
89-Berries.svg  allfiles2.cpio  allfiles2.tar
anand@cis106vm: ~/lab7/question2$ rm *.svg
anand@cis106vm: ~/lab7/question2$ rm *.cpio
anand@cis106vm: ~/lab7/question2$ ls
allfiles2.tar
anand@cis106vm: ~/lab7/question2$ cpio -iv < *.txt.cpio
bash: *.txt.cpio: No such file or directory
anand@cis106vm: ~/lab7/question2$ cpio -iv < *.txt
bash: *.txt: No such file or directory
anand@cis106vm: ~/lab7/question2$ cpio -iv < .txt
```

```
anand@cis106vm: ~/lab7/question2
ls | cpio -ovH tar -F allfiles2.tar
89-Berries.svg
allfiles2.cpio
cpio: File allfiles2.tar grew, 6813696 new bytes not copied
allfiles2.tar
Banana_78.png
my-fortune.txt
mynotes.txt
newfile.txt
Pineapple-89.jpg
sentences.txt
something.txt
Video.mp4
34933 blocks
anand@cis106vm:~/lab7/question2$ rm .txt
rm: cannot remove '.txt': No such file or directory
anand@cis106vm:~/lab7/question2$ rm *.txt
anand@cis106vm:~/lab7/question2$ rm *.jpg
anand@cis106vm:~/lab7/question2$ rm *.png
anand@cis106vm:~/lab7/question2$ rm *.mp4
anand@cis106vm:~/lab7/question2$ ls
89-Berries.svg  allfiles2.cpio  allfiles2.tar
anand@cis106vm:~/lab7/question2$ rm *.svg
anand@cis106vm:~/lab7/question2$ rm *.cpio
anand@cis106vm:~/lab7/question2$ ls
allfiles2.tar
anand@cis106vm:~/lab7/question2$ cpio -iv < *.txt.cpio
bash: *.txt.cpio: No such file or directory
anand@cis106vm:~/lab7/question2$ cpio -iv < *.txt
bash: *.txt: No such file or directory
anand@cis106vm:~/lab7/question2$ cpio -iv < .txt
```

```
anand@cis106vm: ~/lab7/question2
anand@cis106vm: ~/lab7/... x anand@cis106vm: ~/lab7/... x anand@cis106vm: ~/lab7/... x
anand@cis106vm:~/lab7/question2$ rm *.svg
anand@cis106vm:~/lab7/question2$ rm *.cpio
anand@cis106vm:~/lab7/question2$ ls
allfiles2.tar
anand@cis106vm:~/lab7/question2$ cpio -iv < *.txt.cpio
bash: *.txt.cpio: No such file or directory
anand@cis106vm:~/lab7/question2$ cpio -iv < *.txt
bash: *.txt: No such file or directory
anand@cis106vm:~/lab7/question2$ cpio -iv < .txt
bash: .txt: No such file or directory
anand@cis106vm:~/lab7/question2$ cpio -iv < allfiles2.cpio
bash: allfiles2.cpio: No such file or directory
anand@cis106vm:~/lab7/question2$ cpio -iv < allfiles2.cpio
bash: allfiles2.cpio: No such file or directory
anand@cis106vm:~/lab7/question2$ cpio -iv < allfiles2.cpio
bash: allfiles2.cpio: No such file or directory
anand@cis106vm:~/lab7/question2$ cpio -iv < allfiles2.tar
89-Berries.svg
allfiles2.cpio
cpio: allfiles2.tar not created: newer or same age version exists
allfiles2.tar
Banana_78.png
my-fortune.txt
mynotes.txt
newfile.txt
Pineapple-89.jpg
sentences.txt
something.txt
Video.mp4
34932 blocks
anand@cis106vm:~/lab7/question2$
```

Question 3 | Gzip, bzip2, xz

A terminal window titled 'anand@cis106vm: ~/lab7/question3' with four tabs. The terminal shows a sequence of commands to create files and compress them. Red boxes highlight the following commands: 'cd ../question3/', 'lorem > myfiles.txt', 'lorem > mynotes.txt', 'ls -lh', 'gzip -k mynotes.txt', 'bzip2 -k mynotes.txt', and 'xz -k mynotes.txt'. The output shows the initial file sizes and the resulting compressed file sizes and names.

```
anand@cis106vm:~/lab7/question2$ cd ../question3/
anand@cis106vm:~/lab7/question3$ lorem > myfiles.txt
anand@cis106vm:~/lab7/question3$ lorem > mynotes.txt
anand@cis106vm:~/lab7/question3$ ls
myfiles.txt  mynotes.txt
anand@cis106vm:~/lab7/question3$ ls -lh
total 8.0K
-rw-rw-r-- 1 anand anand 229 Dec  5 17:26 myfiles.txt
-rw-rw-r-- 1 anand anand 141 Dec  5 17:26 mynotes.txt
anand@cis106vm:~/lab7/question3$ gzip -k mynotes.txt
anand@cis106vm:~/lab7/question3$ bzip2 -k mynotes.txt
anand@cis106vm:~/lab7/question3$ xz -k mynotes.txt
anand@cis106vm:~/lab7/question3$ ls -lh
total 20K
-rw-rw-r-- 1 anand anand 229 Dec  5 17:26 myfiles.txt
-rw-rw-r-- 1 anand anand 141 Dec  5 17:26 mynotes.txt
-rw-rw-r-- 1 anand anand 134 Dec  5 17:26 mynotes.txt.bz2
-rw-rw-r-- 1 anand anand 133 Dec  5 17:26 mynotes.txt.gz
-rw-rw-r-- 1 anand anand 180 Dec  5 17:26 mynotes.txt.xz
anand@cis106vm:~/lab7/question3$
```


Question 4 | Zip, 7zip and Rar

```
anand@cis106vm: ~/lab7/question4
anand@cis106vm:~/lab7/question4$ cd ../question3/
anand@cis106vm:~/lab7/question3$ ls
myfiles.txt  mynotes.txt  mynotes.txt.bz2  mynotes.txt.gz  mynotes.txt.xz
anand@cis106vm:~/lab7/question3$ cd ../question4/
anand@cis106vm:~/lab7/question4$ gzip -dkc < ../question3/mynotes.txt.gz > mynotes.txt
anand@cis106vm:~/lab7/question4$ ls
mynotes.txt
anand@cis106vm:~/lab7/question4$ mv mynotes.txt mynotes2.txt
anand@cis106vm:~/lab7/question4$ bzip2 -dkc < ../question3/mynotes.txt.bz2 > mynotes.txt
anand@cis106vm:~/lab7/question4$ ls
mynotes2.txt  mynotes.txt
anand@cis106vm:~/lab7/question4$ mv mynotes.txt mynotes3.txt
anand@cis106vm:~/lab7/question4$ xz -dkc < ../question3/mynotes.txt.xz > mynotes.txt
anand@cis106vm:~/lab7/question4$ ls
mynotes2.txt  mynotes3.txt  mynotes.txt
anand@cis106vm:~/lab7/question4$ zip -r mynotes.zip question4
zip warning: name not matched: question4

zip error: Nothing to do! (try: zip -r mynotes.zip . -i question4)
anand@cis106vm:~/lab7/question4$ zip -r mynotes.zip mynotes.txt
adding: mynotes.txt (deflated 27%)
anand@cis106vm:~/lab7/question4$ ls
mynotes2.txt  mynotes3.txt  mynotes.txt  mynotes.zip
anand@cis106vm:~/lab7/question4$ zip -r mynotes3.txt mynotes3.txt
zip warning: missing end signature--probably not a zip file (did you
zip warning: remember to use binary mode when you transferred it?)
zip warning: (if you are trying to read a damaged archive try -F)
```

```
anand@cis106vm: ~/lab7/question4
zip error: zip file structure invalid (mynotes3.txt)
anand@cis106vm:~/lab7/question4$ zip -r mynotes3.zip mynotes3.txt
  adding: mynotes3.txt (deflated 27%)
anand@cis106vm:~/lab7/question4$ ls
mynotes2.txt mynotes3.txt mynotes3.zip mynotes.txt mynotes.zip
anand@cis106vm:~/lab7/question4$ zip -r mynotes2.zip mynotes2.txt
  adding: mynotes2.txt (deflated 27%)
anand@cis106vm:~/lab7/question4$ ls
mynotes2.txt mynotes3.txt mynotes.txt
mynotes2.zip mynotes3.zip mynotes.zip
anand@cis106vm:~/lab7/question4$ 7z a mynotes.7z mynotes.txt

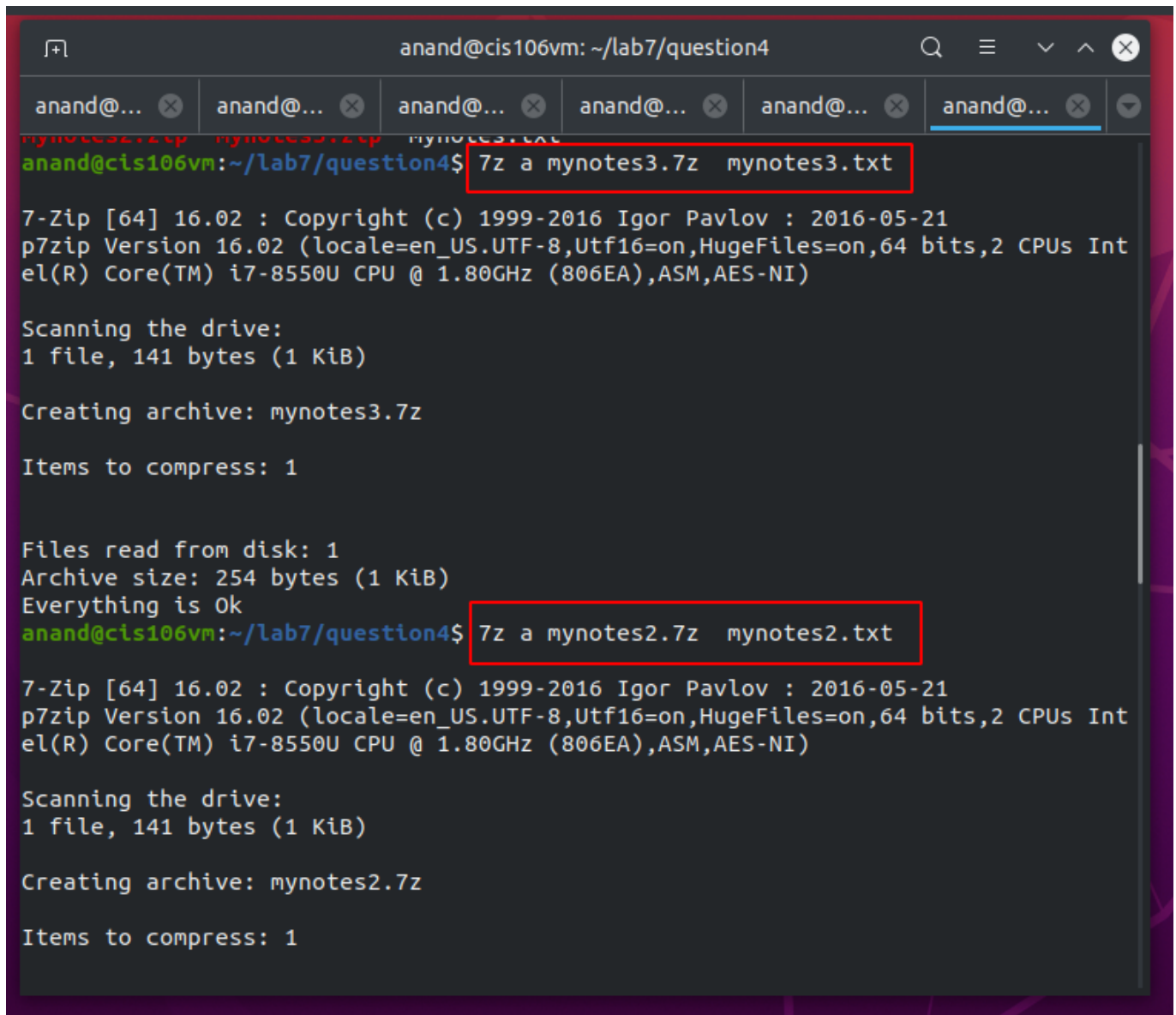
7-Zip [64] 16.02 : Copyright (c) 1999-2016 Igor Pavlov : 2016-05-21
p7zip Version 16.02 (locale=en_US.UTF-8,Utf16=on,HugeFiles=on,64 bits,2 CPUs Intel(R) Core(TM) i7-8550U CPU @ 1.80GHz (806EA),ASM,AES-NI)

Scanning the drive:
1 file, 141 bytes (1 KiB)

Creating archive: mynotes.7z

Items to compress: 1

Files read from disk: 1
Archive size: 254 bytes (1 KiB)
Everything is Ok
anand@cis106vm:~/lab7/question4$ ls
mynotes2.txt mynotes3.txt mynotes.7z mynotes.zip
mynotes2.zip mynotes3.zip mynotes.txt
anand@cis106vm:~/lab7/question4$ 7z a mynotes3.7z mynotes3.txt
```

```
anand@cis106vm: ~/lab7/question4
anand@cis106vm:~/lab7/question4$ 7z a mynotes3.7z mynotes3.txt

7-Zip [64] 16.02 : Copyright (c) 1999-2016 Igor Pavlov : 2016-05-21
p7zip Version 16.02 (locale=en_US.UTF-8,Utf16=on,HugeFiles=on,64 bits,2 CPUs Intel(R) Core(TM) i7-8550U CPU @ 1.80GHz (806EA),ASM,AES-NI)

Scanning the drive:
1 file, 141 bytes (1 KiB)

Creating archive: mynotes3.7z

Items to compress: 1

Files read from disk: 1
Archive size: 254 bytes (1 KiB)
Everything is Ok
anand@cis106vm:~/lab7/question4$ 7z a mynotes2.7z mynotes2.txt

7-Zip [64] 16.02 : Copyright (c) 1999-2016 Igor Pavlov : 2016-05-21
p7zip Version 16.02 (locale=en_US.UTF-8,Utf16=on,HugeFiles=on,64 bits,2 CPUs Intel(R) Core(TM) i7-8550U CPU @ 1.80GHz (806EA),ASM,AES-NI)

Scanning the drive:
1 file, 141 bytes (1 KiB)

Creating archive: mynotes2.7z

Items to compress: 1
```

```
anand@cis106vm: ~/lab7/question4
Processing triggers for man-db (2.9.1-1) ...
anand@cis106vm:~/lab7/question4$ rar a mynotes.rar mynotes.7z

RAR 5.50 Copyright (c) 1993-2017 Alexander Roshal 11 Aug 2017
Trial version Type 'rar -?' for help

Evaluation copy. Please register.

Creating archive mynotes.rar

Adding mynotes.7z OK
Done
anand@cis106vm:~/lab7/question4$ ls
mynotes2.7z mynotes2.zip mynotes3.txt mynotes.7z mynotes.txt
mynotes2.txt mynotes3.7z mynotes3.zip mynotes.rar mynotes.zip
anand@cis106vm:~/lab7/question4$ rar a mynotes3.rar mynotes3.7z

RAR 5.50 Copyright (c) 1993-2017 Alexander Roshal 11 Aug 2017
Trial version Type 'rar -?' for help

Evaluation copy. Please register.

Creating archive mynotes3.rar

Adding mynotes3.7z OK
Done
anand@cis106vm:~/lab7/question4$ rar a mynotes2.rar mynotes2.7z

RAR 5.50 Copyright (c) 1993-2017 Alexander Roshal 11 Aug 2017
Trial version Type 'rar -?' for help
```

```
anand@cis106vm: ~/lab7/question4

Creating archive mynotes3.rar

Adding      mynotes3.7z                      OK
Done
anand@cis106vm:~/lab7/question4$ rar a mynotes2.rar mynotes2.7z

RAR 5.50   Copyright (c) 1993-2017 Alexander Roshal   11 Aug 2017
Trial version           Type 'rar -?' for help

Evaluation copy. Please register.

Creating archive mynotes2.rar

Adding      mynotes2.7z                      OK
Done
anand@cis106vm:~/lab7/question4$ ls -lh
total 48K
-rw-rw-r-- 1 anand anand 254 Dec  5 19:01 mynotes2.7z
-rw-rw-r-- 1 anand anand 331 Dec  5 19:55 mynotes2.rar
-rw-rw-r-- 1 anand anand 141 Dec  5 18:08 mynotes2.txt
-rw-rw-r-- 1 anand anand 277 Dec  5 18:57 mynotes2.zip
-rw-rw-r-- 1 anand anand 254 Dec  5 19:00 mynotes3.7z
-rw-rw-r-- 1 anand anand 331 Dec  5 19:55 mynotes3.rar
-rw-rw-r-- 1 anand anand 141 Dec  5 18:11 mynotes3.txt
-rw-rw-r-- 1 anand anand 277 Dec  5 18:46 mynotes3.zip
-rw-rw-r-- 1 anand anand 254 Dec  5 18:58 mynotes.7z
-rw-rw-r-- 1 anand anand 330 Dec  5 19:54 mynotes.rar
-rw-rw-r-- 1 anand anand 141 Dec  5 18:12 mynotes.txt
-rw-rw-r-- 1 anand anand 275 Dec  5 18:43 mynotes.zip
anand@cis106vm:~/lab7/question4$
```