**CS3377.0W1 Week 6 Lab 3**

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**(Documentation with Terminal Log)**

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│ • MobaXterm 20.2 • │

│ (SSH client, X-server and networking tools) │

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│ → SSH session to dtp180003@cslinux1.utdallas.edu │

│ • SSH compression : v │

│ • SSH-browser : v │

│ • X11-forwarding : v (remote display is forwarded through SSH) │

│ • DISPLAY : v (automatically set on remote server) │

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│ → For more info, ctrl+click on help or visit our website │

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**0. Create archive directory**

{cslinux1:~/cs3377} mkdir archive

{cslinux1:~/cs3377} cd archive/

**1. zip hello and hello.c, then delete the files and unzip them**

{cslinux1:~/cs3377/archive} ls

hello hello.c

{cslinux1:~/cs3377/archive} zip hello.zip hello hello.c

adding: hello (deflated 72%)

adding: hello.c (deflated 4%)

{cslinux1:~/cs3377/archive} ls

hello hello.c hello.zip

{cslinux1:~/cs3377/archive} rm hello

rm: remove regular file ‘hello’? y

{cslinux1:~/cs3377/archive} rm hello.c

rm: remove regular file ‘hello.c’? y

{cslinux1:~/cs3377/archive} ls

hello.zip

{cslinux1:~/cs3377/archive} unzip hello.zip

Archive: hello.zip

inflating: hello

inflating: hello.c

{cslinux1:~/cs3377/archive} ls

hello hello.c hello.zip

**2. Create a tar with hello and hello.c, then delete the files and restore them**

{cslinux1:~/cs3377/archive} tar -cvf hello.tar hello hello.c

hello

hello.c

{cslinux1:~/cs3377/archive} ls

hello hello.c hello.tar hello.zip

{cslinux1:~/cs3377/archive} rm hello

rm: remove regular file ‘hello’? y

{cslinux1:~/cs3377/archive} rm hello.c

rm: remove regular file ‘hello.c’? y

{cslinux1:~/cs3377/archive} ls

hello.tar hello.zip

{cslinux1:~/cs3377/archive} tar -xvf hello.tar

hello

hello.c

{cslinux1:~/cs3377/archive} ls

hello hello.c hello.tar hello.zip

**3. Use gzip to create .gz files with hello and hello.c, then restore the files**

{cslinux1:~/cs3377/archive} gzip hello hello.c

{cslinux1:~/cs3377/archive} ls

hello.c.gz hello.gz hello.tar hello.zip

{cslinux1:~/cs3377/archive} gzip -d hello.c.gz

{cslinux1:~/cs3377/archive} gzip -d hello.gz

{cslinux1:~/cs3377/archive} ls

hello hello.c hello.tar hello.zip

**4. Compress hello.tar into hello.tar.gz using gzip**

{cslinux1:~/cs3377/archive} gzip hello.tar

{cslinux1:~/cs3377/archive} ls

hello hello.c hello.c.gz hello.gz hello.tar hello.tar.gz hello.zip

**5. Compare file sizes of different options**

{cslinux1:~/cs3377/archive} ls -l

total 408

-rw------- 1 dtp180003 sn 8512 Jul 4 18:54 hello

-rw------- 1 dtp180003 sn 100 Jul 4 18:54 hello.c

-rw------- 1 dtp180003 sn 122 Jul 4 18:54 hello.c.gz

-rw------- 1 dtp180003 sn 2379 Jul 4 18:54 hello.gz

-rw------- 1 dtp180003 sn 20480 Jul 4 19:08 hello.tar

-rw------- 1 dtp180003 sn 2626 Jul 4 18:58 hello.tar.gz

-rw------- 1 dtp180003 sn 2752 Jul 4 18:55 hello.zip

**6. Best compression observations**

Tar is the worst obviously, which is why it can be compressed using gzip. Tar.gz is slightly smaller than zip compression. Simply using gzip without first using tar results in separate files that are individually smallest, but it removes the convenience of having everything in one folder. For these reasons tar.gz is best, but zip is not much worse.