Exsercise 10: Managing Files - Part 1

I. Prepare the environment

1. Login to the CentOS server with user student and install the following packages:
   - bzip2
   - zip

II. Managing files utilities

1. Create 3 empty files on your home directory, name it file1, file2 and file3
2. Listing all the files on your home direcrtory
3. Redo the previous step but including the inode number to the result
4. List all the directory existing inside the /sys directory
5. List all the files on your home directory that their name containt “file” string
6. List all the files on your home directory that their name end with a number less than 3
7. Specify the type of ls command that you used
8. List all the file on your home directory with file type information
9. Create the directory mydir inside your home directory
10. Create the mydir/subdir1/subdir2 with one command only
11. Copy 3 file you created on step 1 to subdir2 directory
12. Move the file3 from your home directory to subdir1 directory
13. Change the name of file2 on your home directory to myfile
14. Remove the mydir directory and all it sub-directory

Compressing files

15. Create the cfile on your home directory with content is the list of all files on the /usr/bin directory
16. Create 3 copies of cfile created above with the following names:
    - cfilegz
    - cfilebz
    - cfilexz
17. Compress the 3 files above with the appropriate utilities as follows:
    - Using gzip to compress cfilegz
    - Using bzip2 to compress cfilebz
    - Using xz to compress cfilexz
    - Using zip to compress cfile

    Which utility provide the smallest result?

18. Using the appropriate tool to read the compressed files cfilegz.gz, cfilebz. without decompressing them.

Archiving files

19. Archive all files in your directory and put the output to /tmp directory, named it student.cpio
20. In the /tmp directory, create a directory named output and extract student.cpio to it.
21. Create a tarball of your student directory and compress it with gzip.
22. In the /tmp directory, create another directory named tar.out and extract the tarball created in step 21 to it.
23. Use dd to copy a file in your home directory (/home/student) to the new one.
24. Create the fourth partition on the sdb disk with 100MB in size. Using dd to clone the /dev/sdb2 to that partition.

Exsercise Instructions

I. Prepare the environment

1. Login to the CentOS server with user student and install the following packages:
   - bzip2
   - zip

   Log int to the CentOS system with the user name and password provided: **student/lpic1@123**

   # sudo yum install bzip2
   # sudo yum install zip

II. Managing files utilities

1. Create 3 empty files on your home directory, name it file1, file2 and file3
   $ touch file1 file2 file3

2. Listing all the files on your home direcrtory
   $ ls /home/student

3. Redo the previous step but including the inode number to the result
   $ ls -li /home/student

4. List all the directory existing inside the /sys directory
   $ ls -ld /sys/*

5. List all the files on your home directory that their name containt “file” string
   $ ls /home/student/*file*

6. List all the files on your home directory that their name end with a number less than 3
   $ ls /home/student/*[0-2]

7. Specify the type of ls command that you used
   $ type ls

8. List all the file on your home directory with file type information
   $ ls -F /home/student

9. Create the directory mydir inside your home directory
   $ cd
   $ mkdir mydir

10. Create the mydir/subdir1/subdir2 with one command only
    $ mkdir -p mydir/subdir1/subdir2

11. Copy 3 file you created on step 1 to subdir2 directory
    $ cp file[1-3] mydir/subdir1/subdir2

12. Move the file3 from your home directory to subdir1 directory
    $ mv file3 mydir/subdir1

13. Change the name of file2 on your home directory to myfile
    $ mv file2 myfile

14. Remove the mydir directory and all it sub-directory
    $ rm -r mydir

Compressing files

15. Create the cfile on your home directory with content is the list of all files on the /usr/bin directory
    $ ls -l /usr/bin > cfile

16. Create 3 copies of cfile created above with the following names:
    - cfilegz
    - cfilebz
    - cfilexz

    $ cp cfile cfilegz
    $ cp cfile cfilebz
    $ cp cfile cfilexz

17. Compress the 3 files above with the appropriate utilities as follows:
    - Using gzip to compress cfilegz
    - Using bzip2 to compress cfilebz
    - Using xz to compress cfilexz
    - Using zip to compress cfile to cfile.zip

    Which utility provide the smallest result?

    $ gzip cfilegz
    $ bzip2 cfilebz
    $ xz cfilexz
    $ zip cfile.zip cfile

18. Using the appropriate tool to read the compressed files cfilegz.gz, cfilebz. without decompressing them.
    $ zcat cfilegz.gz
    $ bzcat cfilebz.bz2
    $ xzcat cfilexz.xz

Archiving files

19. Archive all files in your directory and put the output to /tmp directory, named it student.cpio
    $ cd /home/student
    $ ls lcpio -ov >/tmp/student.cpio

20. In the /tmp directory, create a directory named output and extract student.cpio to it.
    $ cd /tmp
    $ mkdir output
    $ mv student.cpio output/
    $ cd output/
    $ cpio -iv <student.cpio

21. Create a tarball of your student directory and compress it with gzip.
    $ cd /home
    $ tar -cvzf /tmp/student.gz student/

22. In the /tmp directory, create another directory named tar.out and extract the tarball created in step 21 to it.
    $ cd /tmp
    $ mkdir tar.out
    $ mv student.gz tar.out/
    $ cd tar.out/
    $ tar -xvzf student.gz

23. Use dd to copy a file in your home directory (/home/student) to the new one.
    $ dd if=/home/student/<yourfile> of=/home/student/<newfile>

24. Create the fourth partition on the sdb disk with 100MB in size. Using dd to clone the /dev/sdb2 to that partition.
    Using the fdisk utility to create the fourth partition on the sdb disk
    $ dd if=/dev/sdb2 of=/dev/sdb4