Lab: Command Line

Test / Assignment Worksheet

Unlike traditional Geographic Information Systems (GIS) that often have Graphical User Interfaces (GUIs) with buttons, menus, and pop-up windows to click on, CyberGIS rely on servers, computing clusters, and supercomputers that may not always have GUIs. This assignment will expose you to the Linux Command-Line, which is how everyone interacted with computers before the invention of GUIs and how many professionals today continue to interact with servers, computing clusters, and supercomputers.

In this assignment you will learn the basic commands for navigating directory structures and manipulating files in the Linux Command-Line.

Answer 1

1. Create an 'assignments' directory in your home directory
2. In the assignments directory create an 'assignment1' directory
3. Change your current working directory to assignment1
4. Open a file named 'answer1.txt' in the assignment1 directory using nano
    a. Save your answer to the following question in the answer1.txt file
    b. In your current working directory (assignment1): list 3 different ways that you can change your working directory to your home directory

(one per line)

5. Using one of the three ways you listed, change your working directory to your home directory
6. Using the 'cat' command print out your answers in the answer1.txt file and copy and paste them into the Blackboard textbox for Answer 1

Possible answers:
cd ../..
cd ../../
cd ../../.
cd
cd ~
cd ~/
cd /home/<username>
cd /home/<username>/
cd /home/<username>/.

Answer 2

1. Return to the assignment1 directory

    (i.e. change your current working directory to the assignment1 directory)

2. Make a new directory named 'copy1'

3. Make a new directory named 'copy2'

4. Change your current working directory to copy2

5. Open a file named 'answer2.txt' using nano

    1. Save your answer to the following question in answer2.txt

    2. From your current working directory (copy2): list 2 different ways that you can copy the file 'answer1.txt' to the directory copy1 (one per line)

6. Using one of the two ways you listed, copy answer1.txt to the copy1 directory
7. Using the 'cat' command print out your answers in the answer2.txt file and copy and paste them into the Blackboard textbox for Answer 2

Possible answers:
cp answer1.txt ../copy1/answer1.txt

cp answer1.txt ../copy1/

cp answer1.txt ../copy1

cp answer1.txt ~/assignments/assignment1/copy1/answer1.txt

cp answer1.txt ~/assignments/assignment1/copy1/

cp answer1.txt ~/assignments/assignment1/copy1

cp answer1.txt /home/<username>/assignments/assignment1/copy1/answer1.txt

cp answer1.txt /home/<username>/assignments/assignment1/copy1/

cp answer1.txt /home/<username>/assignments/assignment1/copy1

Answer 3

1. Return to the 'assignment1' directory

2. Type the following command (Please note the R must be capital):
   a. ls -R

   2. This command lists all of the contents of the current working directory recursively (-R). This means that it will recurse into each directory and list the contents so we can see all of the folders, subfolders, and files in any subfolders within this directory.
3. Copy and paste the output from the 'ls -R' command into the Blackboard textbox for Answer 3

Answer 4

1. Return to the 'assignment1' directory

2. If 'assignment1' is your current working directory answer the following questions for Answer 4 in Blackboard:

   1. What is the absolute path of the parent directory of your current working directory?

Answer: /home/<username>/assignments

   2. What is the absolute path of the grand-parent directory?

Answer: /home/<username>

   3. What is the absolute path of your home directory?

Answer: /home/<username>

   4. List one command that would remove answer2.txt without changing your current working directory **(Do not remove answer2.txt!)**

Possible answers:
rm copy2/answer2.txt
rm ~/assignments/assignment1/copy2/answer2.txt
rm /home/<username>/assignments/assignment1/copy2/answer2.txt

Answer 5

Please write your answer to Answer 5 in Blackboard.

1. Define Cyberinfrastructure
2. Define CyberGIS