CSc 3320: Systems Programming

Spring 2021

Homework

2: Total points 100

Submission instructions:

1. Create a Google doc for each homework assignment submission.
2. Start your responses from page 2 of the document and copy these instructions on page 1.
3. Fill in your name, campus ID and panther # in the fields provided. If this information is missing in your document TWO POINTS WILL BE DEDUCTED per submission.
4. Keep this page 1 intact on all your submissions. If this *submissions instructions* page is missing in your submission TWO POINTS WILL BE DEDUCTED per submission.
5. Each homework will typically have 2-3 PARTS, where each PART focuses on specific topic(s).
6. Start your responses to each PART on a new page.
7. If you are being asked to write code copy the code into a separate txt file and submit that as well.
8. If you are being asked to test code or run specific commands or scripts, provide the evidence of your outputs through a screenshot and copy the same into the document.
9. Upon completion, download a .PDF version of the document and submit the same.

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Campus ID: hsylla2

Panther #: 02-31-2868

PART 1 (2.5 points each): 10pts

1. What are the differences among ***grep***, ***egrep*** *and* ***fgrep***? Describe using an example.
    a. Grep(global regular expression print)
        i. very fast in searching
        ii. uses basic regular expressions
        iii. uses Boyer-Moore algorithm
    b. egrep(extended grep)
        i. it treats meta characters as is, and doesn't sub them for strings like in grep, so you don't have to escape them.
        ii. uses ERE, Extended Regular Expression Set
    c. fgrep(fixed[string] grep)
        i. it is fast in searching
        ii. searches for complete string and doesn't even recognize special characters escaped or not
    d. Example:
        i. $ grep -C 0 '(f|g)ile' check_file
            1. it will check for check "(f|g)ile" in the file. But when the special character gets escaped(\), then instead of treating them as part of string, grep will treat them as meta-characters and search for “file” or “gile”

        ii. $ egrep -C 0 '(f|g)ile' check_file
            1. it will check for check "file" when the character | gets escaped, then egrep will treat them as part of the string and search for complete string “(f|g)ile”

        iii. $ fgrep -C 0 '(f|g)ile' check_file
            1. it will check for (f|g)ile

2. Which utility can be used to compress and decompress files? And how to compress multiple files into a single file? Please provide one example for it.
    a. tar
    b. Take the file names of each file you want to compress, and put them after the name of tar file.
    c. EXAMPLE: tar -cvf my_files.tar file1 file2

3. Which utility (or utilities) can break a line into multiple fields by defining a separator? What is the default separator? How to define a separator manually in the command line? Please provide one example for defining the separator for each utility.
    a. The awk utility
    b. FS is the input-*field* separator
    c. define a field separator by using the "-F" switch under the command line

4. What does the ***sort*** command do? What are the different possible fields? Explain using an example.
    a. sort will sort a file in ascending or descending order based
    b. on one or more fields
        i. Alphabetically
        ii. numerically
        iii. reverse
        iv. random
    c. $ sort -r file1.txt (sort in reverse)
        04 Shreya
        03 Tuhina

02 Tushar
01 Priya

Part IIa (5 points each): 25pts

5. What is the output of the following sequence of bash commands: **echo 'Hello World' | sed 's/$/!!!/g'**
   a. **Hello World!!!**
6. What is the output for each of these awk script commands?

   -- 1 <= NF { print $5 }
   -- NR >= 1 && NR >= 5 { print $1 }
   -- 1,5 { print $0 }
   -- {print $1 }

7. What is the output of following command line:
   echo good | sed '/Good/d'
   a. **good**

8. Which **awk** script outputs all the lines where a plus sign + appears at the end of line?
   a. /^\ + /{print $0}

9. What is the command to delete only the first 5 lines in a file "foo"? Which command deletes only the last 5 lines?
   a. sed '1,5d;$d' foo
   b. sed -e :a -e '$d;N;2,5ba' -e 'P;D'

Part IIb (10pts each): 50pts

Describe the function (5pts) and output (5pts) of the following commands.

9. $ cat float

Wish I was floating in blue across the sky, my imagination is strong, And I often visit the days
When everything seemed so clear.
Now I wonder what I'm doing here at all…

$ cat h1.awk
NR>2 && NR<4{print NR ":" $0

$ awk '/.*ing/ {print NR ":" $1}' float

10. As the next command following question 9,
$ awk -f h1.awk float

invalid character and syntax error in the second line

11.

$ **cat h2.awk**
BEGIN { print "Start to scan file" }
{print $1 "," $NF}
END {print "END-" , FILENAME }
$ awk -f h2.awk float

```
Start to scan file
Wish,days
,
When,clear.
,
Now,all…
,
END- float
```

12. sed 's/\s/\t/g' float

```
Wish    I          was   floating    in   blue across
the     sky,       my    imagination is   strong, And
I  often visit   the  days

When    everything   seemed  so   clear.

Now     I          wonder  what  I'm doing   here at
all…
```

13.

$ ls *.awk| awk '{print "grep --color 'BEGIN' " $1 }' |sh *(Notes: **sh file** runs file as a shell script . $1 should be the output of* ‘ ls *.awk ‘ in this case, not the 1st field)*

```
BEGIN{print "Start to scan file"}
```

14.

$ mkdir test test/test1 test/test2

$cat>test/testt.txt

This is a test file ^D

$ cd test

$ ls -l . | grep '^d' | awk '{print "cp -r " $NF " " $NF ".bak"}' | sh

```
sh: 1: cp-rtest1test1.bak: not found
sh: 2: cp-rtest2test2.bak: not found
```

Part III Programming: 15pts

15. Sort all the files in your class working directory (or your home directory) as per the following requirements:

a. A copy of each file in that folder must be made. Append the string "_copy" to the name of the file
b. The duplicate (copied) files must be in separate directories with each directory specifying the type of the file (e.g. txt files in directory named txtfiles, pdf files in directory named pdffiles etc).
c. The files in each directory must be sorted in chronological order of months.
d. An archive file (.tar) of each directory must be made. The .tar files must be sorted by name in ascending order.
e. An archive file of all the .tar archive files must be made and be available in your home directory.

As an output, show your screen shots for each step or a single screenshot that will cover the outputs from all the steps.

```
Last login: Fri Feb 12 20:40:45 on console
Hawa@hawas-mbp ~ % ssh hsylla2@snowball.cs.gsu.edu
hsylla2@snowball.cs.gsu.edu's password:
Permission denied, please try again.
hsylla2@snowball.cs.gsu.edu's password:
Last failed login: Sun Feb 14 21:24:43 EST 2021 from 45-30-42-232.lightspeed.tukrga.sbcglobal.net on ssh:notty
There was 1 failed login attempt since the last successful login.
Last login: Thu Feb 11 22:24:15 2021 from 45-30-42-232.lightspeed.tukrga.sbcglobal.net
   +
   |   GSU Computer Science
   |   Instructional Server
   |   SNOWBALL.cs.gsu.edu
   +
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320  homeworks  lab2  lab3  lab4  mountainList.txt  newList.txt  public  RealEstate.csv  simple.sh
[hsylla2@gsuad.gsu.edu@snowball ~]$ echo $PATH
/usr/local/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/home/hsylla2/.local/bin:/home/hsylla2/bin
[hsylla2@gsuad.gsu.edu@snowball ~]$ for f in /usr/local/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/home/hsylla2/.local/bin:/home/hsylla2/bin ; do cp -v -- "$f" "$f_copy"; done
cp: cannot stat '/usr/local/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/home/hsylla2/.local/bin:/home/hsylla2/bin': No such file or directory
[hsylla2@gsuad.gsu.edu@snowball ~]$ for f in /home/hsylla2/bin ; do cp -v -- "$f" "$f_copy"; done
cp: cannot stat '/home/hsylla2/bin': No such file or directory
[hsylla2@gsuad.gsu.edu@snowball ~]$ for f in /home/hsylla2/ ; do cp -v -- "$f" "$f_copy"; done
cp: omitting directory '/home/hsylla2/'
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320  homeworks  lab2  lab3  lab4  mountainList.txt  newList.txt  public  RealEstate.csv  simple.sh
[hsylla2@gsuad.gsu.edu@snowball ~]$ cp mountainList.txt mountainList_copy.txt
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320  homeworks  lab2  lab3  lab4  mountainList_copy.txt  mountainList.txt  newList.txt  public  RealEstate.csv  simple.sh
[hsylla2@gsuad.gsu.edu@snowball ~]$ cp newList.txt newList_copy.txt
[hsylla2@gsuad.gsu.edu@snowball ~]$ cp RealEstate.csv RealEstate_copy.csv
[hsylla2@gsuad.gsu.edu@snowball ~]$ cp simple.sh simple_copy.sh
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320    lab2  lab4                mountainList.txt  newList.txt  RealEstate_copy.csv  simple_copy.sh
homeworks  lab3  mountainList_copy.txt  newList_copy.txt  public       RealEstate.csv       simple.sh
[hsylla2@gsuad.gsu.edu@snowball ~]$ mkdir txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ mkdir csvfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ mkdir shfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320   homeworks  lab3  mountainList_copy.txt  newList_copy.txt  public              RealEstate.csv  simple_copy.sh  txtfiles
csvfiles  lab2       lab4  mountainList.txt       newList.txt       RealEstate_copy.csv  shfiles         simple.sh
[hsylla2@gsuad.gsu.edu@snowball ~]$ mv simple_copy.sh ~/shfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320   homeworks  lab3  mountainList_copy.txt  newList_copy.txt  public              RealEstate.csv  simple.sh
csvfiles  lab2       lab4  mountainList.txt       newList.txt       RealEstate_copy.csv  shfiles         txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ mv newList_copy.txt txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320  csvfiles  homeworks  lab2  lab3  lab4  mountainList_copy.txt  mountainList.txt  newList.txt  public  RealEstate_copy.csv  RealEstate.csv  shfiles  simple.sh  txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ mv mountainList_copy.txt txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320  csvfiles  homeworks  lab2  lab3  lab4  mountainList.txt  newList.txt  public  RealEstate_copy.csv  RealEstate.csv  shfiles  simple.sh  txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ mv RealEstate_copy.csv csvfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320  csvfiles  homeworks  lab2  lab3  lab4  mountainList.txt  newList.txt  public  RealEstate.csv  shfiles  simple.sh  txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ cd csvfiles
[hsylla2@gsuad.gsu.edu@snowball csvfiles]$ sort -M
ls
ls
[hsylla2@gsuad.gsu.edu@snowball csvfiles]$ ls
RealEstate_copy.csv
[hsylla2@gsuad.gsu.edu@snowball csvfiles]$ cd ~
[hsylla2@gsuad.gsu.edu@snowball ~]$ sort -M shfiles
sort: read failed: shfiles: Is a directory
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls -lt
total 124
drwxrwxr-x. 2 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu  4096 Feb 14 21:35 csvfiles
drwxrwxr-x. 2 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu  4096 Feb 14 21:35 txtfiles
drwxrwxr-x. 2 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu  4096 Feb 14 21:34 shfiles
-rwxrwxr-x. 1 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu   127 Feb 11 21:46 simple.sh
-rw-rw-r--. 1 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu   633 Feb 11 20:25 mountainList.txt
-rw-rw-r--. 1 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu   566 Feb 11 19:44 newList.txt
drwxrwxr-x. 2 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu  4096 Feb  4 18:08 lab4
d--x------. 2 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu  4096 Feb  1 10:27 lab3
drwxrwxr-x. 2 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu  4096 Jan 29 20:25 homeworks
drwxrwxr-x. 4 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu  4096 Jan 25 12:55 public
-rw-r--r--. 1 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu 76133 Jan 25 12:03 RealEstate.csv
drwxrwxr-x. 3 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu  4096 Jan 21 18:20 csc3320
drwxrwxr-x. 2 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu  4096 Jan 21 18:19 lab2
[hsylla2@gsuad.gsu.edu@snowball ~]$ cd shfiles
[hsylla2@gsuad.gsu.edu@snowball shfiles]$ ls -lt
total 4
-rwxrwxr-x. 1 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu 127 Feb 14 21:32 simple_copy.sh
[hsylla2@gsuad.gsu.edu@snowball shfiles]$ cd~
-bash: cd~: command not found
[hsylla2@gsuad.gsu.edu@snowball shfiles]$ cd ~
[hsylla2@gsuad.gsu.edu@snowball ~]$ cd txtfiles
[hsylla2@gsuad.gsu.edu@snowball txtfiles]$ ls -lt
total 8
-rw-rw-r--. 1 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu 566 Feb 14 21:31 newList_copy.txt
-rw-rw-r--. 1 hsylla2@gsuad.gsu.edu hsylla2@gsuad.gsu.edu 633 Feb 14 21:31 mountainList_copy.txt
[hsylla2@gsuad.gsu.edu@snowball txtfiles]$ ls
mountainList_copy.txt  newList_copy.txt
[hsylla2@gsuad.gsu.edu@snowball txtfiles]$ ls - M
ls: cannot access -: No such file or directory
ls: cannot access M: No such file or directory
[hsylla2@gsuad.gsu.edu@snowball txtfiles]$ ls
mountainList_copy.txt  newList_copy.txt
[hsylla2@gsuad.gsu.edu@snowball txtfiles]$ cd ~
[hsylla2@gsuad.gsu.edu@snowball ~]$ tar cvf csvfiles.tar.gz
tar: Cowardly refusing to create an empty archive
Try `tar --help' or `tar --usage' for more information.
[hsylla2@gsuad.gsu.edu@snowball ~]$ har --help
-bash: har: command not found
```

```
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320  csvfiles  homeworks  lab2  lab3  lab4  mountainList.txt  newList.txt  public  RealEstate.csv  shfiles  simple.sh  txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ tar cvf csvfiles.tar.gz ~
tar: Removing leading `/' from member names
/home/hsylla2/
/home/hsylla2/csc3320/
/home/hsylla2/csc3320/lab2/
/home/hsylla2/csc3320/lab2/myLab2.txt
/home/hsylla2/shfiles/
/home/hsylla2/shfiles/simple_copy.sh
/home/hsylla2/.bash_history
/home/hsylla2/lab2/
/home/hsylla2/lab4/
/home/hsylla2/lab4/CSC_Course.txt
tar: /home/hsylla2/lab3: Cannot open: Permission denied
/home/hsylla2/newList.txt
/home/hsylla2/mountainList.txt
/home/hsylla2/homeworks/
/home/hsylla2/homeworks/homework_instructions.txt
/home/hsylla2/simple.sh
/home/hsylla2/txtfiles/
/home/hsylla2/txtfiles/mountainList_copy.txt
/home/hsylla2/txtfiles/newList_copy.txt
/home/hsylla2/RealEstate.csv
/home/hsylla2/.cache/
/home/hsylla2/.cache/abrt/
/home/hsylla2/.cache/abrt/lastnotification
/home/hsylla2/.bash_logout
/home/hsylla2/.config/
/home/hsylla2/.config/abrt/
/home/hsylla2/.bash_profile
/home/hsylla2/.bashrc
/home/hsylla2/csvfiles/
/home/hsylla2/csvfiles/RealEstate_copy.csv
/home/hsylla2/public/
/home/hsylla2/public/Submission/
/home/hsylla2/public/Submission/Lab3/
/home/hsylla2/public/Submission/Lab2/
/home/hsylla2/public/Submission/Lab2/Lab2_P2/
/home/hsylla2/public/Submission/Lab2/Lab2_P2/RealEstate.csv
/home/hsylla2/public/myRealEstate.csv
/home/hsylla2/public/Others/
tar: /home/hsylla2/csvfiles.tar.gz: file is the archive; not dumped
/home/hsylla2/.viminfo
tar: Exiting with failure status due to previous errors
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320  csvfiles  csvfiles.tar.gz  homeworks  lab2  lab3  lab4  mountainList.txt  newList.txt  public  RealEstate.csv  shfiles  simple.sh  txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ tar cvf shfiles.tar.gz ~
tar: Removing leading `/' from member names
/home/hsylla2/
/home/hsylla2/csc3320/
/home/hsylla2/csc3320/lab2/
/home/hsylla2/csc3320/lab2/myLab2.txt
/home/hsylla2/shfiles/
/home/hsylla2/shfiles/simple_copy.sh
/home/hsylla2/.bash_history
/home/hsylla2/lab2/
/home/hsylla2/lab4/
/home/hsylla2/lab4/CSC_Course.txt
tar: /home/hsylla2/lab3: Cannot open: Permission denied
/home/hsylla2/newList.txt
/home/hsylla2/mountainList.txt
/home/hsylla2/homeworks/
/home/hsylla2/homeworks/homework_instructions.txt
/home/hsylla2/simple.sh
tar: /home/hsylla2/shfiles.tar.gz: file is the archive; not dumped
/home/hsylla2/txtfiles/
/home/hsylla2/txtfiles/mountainList_copy.txt
/home/hsylla2/txtfiles/newList_copy.txt
/home/hsylla2/RealEstate.csv
/home/hsylla2/.cache/
/home/hsylla2/.cache/abrt/
/home/hsylla2/.cache/abrt/lastnotification
/home/hsylla2/.bash_logout
/home/hsylla2/.config/
/home/hsylla2/.config/abrt/
/home/hsylla2/.bash_profile
/home/hsylla2/.bashrc
/home/hsylla2/csvfiles/
/home/hsylla2/csvfiles/RealEstate_copy.csv
/home/hsylla2/public/
/home/hsylla2/public/Submission/
/home/hsylla2/public/Submission/Lab3/
/home/hsylla2/public/Submission/Lab2/
/home/hsylla2/public/Submission/Lab2/Lab2_P2/
/home/hsylla2/public/Submission/Lab2/Lab2_P2/RealEstate.csv
/home/hsylla2/public/myRealEstate.csv
/home/hsylla2/public/Others/
/home/hsylla2/csvfiles.tar.gz
/home/hsylla2/.viminfo
tar: Exiting with failure status due to previous errors
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320  csvfiles  csvfiles.tar.gz  homeworks  lab2  lab3  lab4  mountainList.txt  newList.txt  public  RealEstate.csv  shfiles  shfiles.tar.gz  simple.sh  txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ tar cvf txtfiles.tar.gz ~
tar: Removing leading `/' from member names
/home/hsylla2/
/home/hsylla2/csc3320/
/home/hsylla2/csc3320/lab2/
/home/hsylla2/csc3320/lab2/myLab2.txt
/home/hsylla2/shfiles/
/home/hsylla2/shfiles/simple_copy.sh
/home/hsylla2/.bash_history
```

```
csc3320  csvfiles  csvfiles.tar.gz  homeworks  lab2  lab3  lab4  mountainList.txt  newList.txt  public  RealEstate.csv  shfiles  shfiles.tar.gz  simple.sh  txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$ tar cvf txtfiles.tar.gz ~
tar: Removing leading `/' from member names
/home/hsylla2/
/home/hsylla2/csc3320/
/home/hsylla2/csc3320/lab2/
/home/hsylla2/csc3320/lab2/myLab2.txt
/home/hsylla2/shfiles/
/home/hsylla2/shfiles/simple_copy.sh
/home/hsylla2/.bash_history
/home/hsylla2/lab2/
/home/hsylla2/lab4/
/home/hsylla2/lab4/CSC_Course.txt
tar: /home/hsylla2/lab3: Cannot open: Permission denied
/home/hsylla2/newList.txt
/home/hsylla2/mountainList.txt
/home/hsylla2/homeworks/
/home/hsylla2/homeworks/homework_instructions.txt
/home/hsylla2/simple.sh
/home/hsylla2/shfiles.tar.gz
/home/hsylla2/txtfiles/
/home/hsylla2/txtfiles/mountainList_copy.txt
/home/hsylla2/txtfiles/newList_copy.txt
/home/hsylla2/RealEstate.csv
/home/hsylla2/.cache/
/home/hsylla2/.cache/abrt/
/home/hsylla2/.cache/abrt/lastnotification
tar: /home/hsylla2/txtfiles.tar.gz: file is the archive; not dumped
/home/hsylla2/.bash_logout
/home/hsylla2/.config/
/home/hsylla2/.config/abrt/
/home/hsylla2/.bash_profile
/home/hsylla2/.bashrc
/home/hsylla2/csvfiles/
/home/hsylla2/csvfiles/RealEstate_copy.csv
/home/hsylla2/public/
/home/hsylla2/public/Submission/
/home/hsylla2/public/Submission/Lab3/
/home/hsylla2/public/Submission/Lab2/
/home/hsylla2/public/Submission/Lab2/Lab2_P2/
/home/hsylla2/public/Submission/Lab2/Lab2_P2/RealEstate.csv
/home/hsylla2/public/myRealEstate.csv
/home/hsylla2/public/Others/
/home/hsylla2/csvfiles.tar.gz
/home/hsylla2/.viminfo
tar: Exiting with failure status due to previous errors
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320   csvfiles.tar.gz  lab2  lab4             newList.txt  RealEstate.csv  shfiles.tar.gz  txtfiles
csvfiles  homeworks        lab3  mountainList.txt  public       shfiles         simple.sh       txtfiles.tar.gz
[hsylla2@gsuad.gsu.edu@snowball ~]$ sort -r csvfiles.tar.gz
# You may edit it if you're careful!
? \<xinclude\>
Writing or production of honors thesis or project. Signature Experience course.
:wq
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
WILTON,5,3,3788,Residential,691659,Mon May 19  EDT 2008,12901 FURLONG DR
WILTON,5,3,3788,Residential,691659,Mon May 19  EDT 2008,12901 FURLONG DR
WILTON,5,3,3788,Residential,691659,Mon May 19  EDT 2008,12901 FURLONG DR
WILTON,5,3,3788,Residential,691659,Mon May 19  EDT 2008,12901 FURLONG DR
WILTON,5,2,3741,Residential,579093,Mon May 19  EDT 2008,9360 MAGOS RD
WILTON,5,2,3741,Residential,579093,Mon May 19  EDT 2008,9360 MAGOS RD
WILTON,5,2,3741,Residential,579093,Mon May 19  EDT 2008,9360 MAGOS RD
WILTON,5,2,3741,Residential,579093,Mon May 19  EDT 2008,9360 MAGOS RD
WILTON,4,3,4400,Residential,884790,Fri May 16  EDT 2008,9401 BARREL RACER CT
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WILTON,4,3,4400,Residential,884790,Fri May 16  EDT 2008,9401 BARREL RACER CT
WILTON,4,3,4400,Residential,884790,Fri May 16  EDT 2008,9401 BARREL RACER CT
WILTON,3,2,2110,Residential,372000,Wed May 21  EDT 2008,11215 SHARRMONT CT
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WILTON,0,0,0,Residential,560000,Tue May 20  EDT 2008,9741 SADDLEBRED CT
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WEST SACRAMENTO,2,1,884,Residential,147000,Thu May 15  EDT 2008,612 STONE BLVD
WEST SACRAMENTO,2,1,884,Residential,147000,Thu May 15  EDT 2008,612 STONE BLVD
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WEST SACRAMENTO,0,0,0,Residential,200100,Thu May 15  EDT 2008,1525 PENNSYLVANIA AVE
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WEST SACRAMENTO,0,0,0,Residential,165000,Thu May 15  EDT 2008,501 POPLAR AVE
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wc RealEstate.csv
WALNUT GROVE,3,1,1727,Residential,380000,Fri May 16  EDT 2008,14004 WALNUT AVE
WALNUT GROVE,3,1,1727,Residential,380000,Fri May 16  EDT 2008,14004 WALNUT AVE
WALNUT GROVE,3,1,1727,Residential,380000,Fri May 16  EDT 2008,14004 WALNUT AVE
WALNUT GROVE,3,1,1727,Residential,380000,Fri May 16  EDT 2008,14004 WALNUT AVE
:w
vi Try.c
vi Try.c
vi Try.c
$vi Try.c
vi simple.sh
vi RealEstate.csv
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:w
vi Try.c
vi Try.c
vi Try.c
$vi Try.c
vi simple.sh
vi RealEstate.csv
vi homework_instructions.txt
vi <homework_instructions.txt>
vi<homework_instructions.txt>
# Value of 'encoding' when this file was written
# User specific environment and startup programs
# User specific aliases and functions
Upon completion, download a .PDF version of the document and submit the same.
# Uncomment the following line if you don't like systemctl's auto-paging feature:
Tray Mountain, (summit), 4430,feet,Towns County
Tray Mountain, (summit), 4430,feet,Towns County
Tray Mountain, (summit), 4430,feet,Towns County
Tray Mountain, (summit), 4430,feet,Towns County
Topics include: propositional and predicate logic with applications to logic programming, database querying, and program verification; induction and its application in proving co
rrectness and termination of programs; recurrence relations, combinatorics, and graph theory with applications to analysis of algorithms; sets, relations, and functions and their
 applications in databases, functional programming, and automata.
This course provides a foundation for developing dynamic websites and web applications. The first part covers the front-end aspects of web development: creating, designing, and p
ublishing content using HTML, CSS, and JavaScript. The second covers the back-end aspects: using programming languages to generate, manipulate, and manage content (CGI, cookies,
server-side scripting), and accessing a database using SQL for common website tasks (forms, user registration). While this course covers web development concepts that are applica
ble to most popular platforms, it is significantly hands-on. A major component is a final project involving implementing a dynamic website.
This course is the second of a two-course sequence that introduces advanced computer programming, with a focus on Python programming. Topics include: Object-Oriented Programming,
 Recursion, Graphical User Interface (GUI) development, database development, and Internet and distributed computing. Heavy focus on data science applications and problems.
This course is intended for non-computer science majors. It provides an overview of selected major areas of current computing technology, organization and use. Topics surveyed in
clude the history of computing, data representation and storage, hardware and software organization, communications, networking, and Internet technologies, and ethical and social
 issues.
This course is dedicated to the study of social, ethical, and legal effects of computing on society and its users. Ethical concepts, professional codes of ethics, and the influen
ce of computing on individuals, organizations, and the global economy will be addressed. Students will utilize critical thinking and problem solving skills to analyze and debate
case studies on topics some of which include privacy; intellectual property; computer crimes; system failures and implications; and, the impact of technology on society.
This course introduces the basic concepts and algorithms of deep neural networks and its applications to computer vision and natural language processing. Depending on the course
progress, selected topics such as unsupervised learning and model compression will be covered. The class emphasizes the understanding of the state-of-the-art DL architectures as
well as practical implementations of deep neural networks with Python.
This course covers topics related to cloud computing including cloud computing infrastructure such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Softwa
re as a Service (SaaS). Popular cloud services such as AWS, Microsoft Azure and Google Cloud will be introduced. Container technologies such as Docker, Kubernetes etc. will be in
troduced.
This class introduces students to computer programming, with particular focus on Python programming. No prior programming experience is required. The class emphasizes design prin
ciples (e.g., pseudocode, stepwise refinement, object-oriented design as well as the syntax and semantics of an appropriate language. This class is for non-majors interested in o
btaining some fundamental computer programming skills.
The explosion in biological knowledge due to various genome projects and other high-throughput techniques has created entirely new fields and industries, and a need for trained c
omputational biologists who are familiar with Biology, Statistics, and Computer Science. This course will introduce principles underlying current techniques in the analysis of di
fferent kinds of biological data. Topics include: sequence alignment, database searching, microarrays, structure analysis, and phylogenetic tree algorithms.
Techniques for designing efficient algorithms; analysis of algorithms; lower bound arguments; algorithms for sorting, selection, graphs, and string matching.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course will study privacy in a few settings where rigorous definitio
ns and enforcement mechanisms are being developed. This includes statistical disclosure limitation, semantics and logical specification of privacy policies that constrain informa
tion flow and use, principled audit and accountability mechanisms for enforcing privacy policies, anonymous communication protocols, and other settings such as in social networks
, location privacy and Web privacy.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course will require students to document and present the project the
y worked on during their internship. Students are able to register for the course at most 2 times for a maximum total of 4 credit hours to count towards their degree (excluding A
rea G). This course may include a Signature Experience component.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course will introduce students to the fundamentals of malware analys
is and defense techniques. Using hands-on-experience students will attain an understanding of identifying the functionalities and behaviors of malicious software. Students will u
se a disassembler to decompose, execute, and trace each line of a program. They will also learn how to patch the executable file and modify its behavior for a more secure outcome
. Students will also have the chance to examine the effects of different types of malicious software that run either natively on a Windows or a Linux platforms. Students will lea
rn how to defend a system by tracing back the infection and identifying the vulnerability used to exploit and implant the malicious software within the system.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course will introduce students to 3D computer graphics and game prog
ramming. Students will learn how to develop 3D games and interactive computer graphics applications (such as virtual reality) using game engines. The topics include rendering, li
ghting, camera, sound, character control, animation, and physics. (Same as CMIS 3150.).
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course teaches how to obtain and analyze digital information for pos
sible use as evidence in civil, criminal or administrative cases. The course covers the recovery and analysis of digital evidence, addressing legal and technical issues. Topics i
nclude applications of hardware and software to computer forensics, computer forensics law, volume and file system analysis, computer forensics investigations, and computer foren
sics in the laboratory.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course provides students with an understanding of the Internet and d
etails regarding the protocols used in the Internet. The students will also learn key components of network programming using the most widely-used application program interface,
sockets. Topics to be covered include: Internet Protocol (IP), Transport Layer Protocol-Transmission Control Protocol (TCP), Transport Layer Protocol-User Datagram Protocol (UDP)
, and Unix/Linux Network Programming.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course provides an initial overview on the topic of Information Secu
rity. It covers the basics of encryption and decryption, program security including viruses and other malicious code, application security, security in operating systems, securit
y in networks and distributed systems, different methods of administering security, and legal and ethical issues in computer security.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course is intended to provide a general introduction to machine lear
ning. This course will cover the fundamental concepts and principles of supervised learning, unsupervised learning, semi-supervised learning and reinforcement learning. Students
will understand the basic knowledge of machine learning, be familiar with classic machine learning algorithms, and gain experience of designing and implementing methods in real s
cenario. 4.000 Credit hours.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course is designed to give science majors experience with the Matlab
 programming language. Matlab is used for scientific applications involving images, sound, and other signals. No previous programming experience is needed.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course is a study of the foundation of software security. Students w
ill learn the characteristics of secure software, the role of security in the development lifecycle, designing secure software, best security programming practices, security for
web applications, static analysis techniques, and software security testing.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course introduces the principles of computer architecture and assemb
ly and machine language. Topics include principles of computer architecture, binary and hexadecimal arithmetic, signed and unsigned arithmetic, memory organization, addressing mo
des, procedure calls, the stack frame, floating point unit and instruction encoding, as well as writing assembly language programs. The course also covers the basics of CISC vs.
RISC architecture and parallel architecture models and programming.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course focuses on techniques used in large scale scientific or techn
ical software development, including requirements analysis, specification, systems design, implementation, testing, validation, verification, and maintenance. Serves as the Criti
cal Thinking Through Writing (CTW) course, as well as the capstone experience, required of all Computer Science majors.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course covers the nature of information, signals, transforms, and ap
plications. Topics include analog to digital and digital to analog conversion, data storage (such as the audio format MP3), data transforms, and filters. Applications include noi
se reduction, signal analysis, volume control (e.g., audio signals), and compression. We will be using computer programs to handle mathematical modeling and calculations.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Theory of computing devices and the languages they recognize. Determinist
ic and non-deterministic finite automata, context-free grammars, pushdown automata, Turing machines and undecidability.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. The course introduces the student to programming techniques required to d
evelop Web applications. Topics include: HTML forms, JavaScript, Servlets and Java Server Pages, PHP and MySQL, Web access to Oracle databases, and XML.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. The course focuses on programming robots. We will use robotic kits for th
e hardware, and program them using state-of-the-art languages, such as NQC.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. The basics of three-dimensional computer animation including 3D modeling,
 lighting, texture mapping, key framing, character animation, rigid and soft body dynamics, particles, cloth, hair, fluid, etc.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Techniques and methodologies for development of user interfaces in softwa
re systems; topics include interaction styles, interaction devices, user documentation, and interface assessment.
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Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. (Same as PHYS 4110.) Four lecture hours per week. Topics taken from: revi
ew of basic logic functions; automatic systems; microprocessor- based systems and applications; embedded system software survey; microprocessor-based applications; digital commun
ications; and embedded systems programming.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. (Same as MATH 4620.) Gaussian Elimination for linear systems; least squar
es; Taylor, predictor-corrector and Runge- Kutta methods for solving ordinary differential equations; boundary value problems; partial differential equations.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. (Same as MATH 4610.) Nature of error; iteration; techniques for nonlinear
 systems; zeros of functions; interpolation; numerical differentiation; Newton-Cotes formulae for definite integrals; computer implementation of algorithms.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Readings or research preparatory to honors thesis or project. Signature E
xperience course.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. No more than six credit hours may be applied toward the major. May be rep
eated if topics are different.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Logic design, combinatorial and sequential circuits, input-output devices
, memory, processors, controllers, parallel architectures, bit-slicing, reduced instruction sets.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Introduction to various parallel and distributed computing paradigms, alg
orithms, architectures, programming environments, and tools. Hands-on programming on both shared-memory and message-passing parallel architectures.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Introduction to the methods and techniques used by computer hackers for m
alicious activity and by penetration testers for defensive measures. Understanding of the techniques used by intruders will lead to the design of countermeasures for secure compu
ter systems. Students will implement hands-on experiments to learn identification of vulnerabilities in servers, websites, wireless networks, and cryptologic systems.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Introduction to the fundamental concepts of predictive data science for t
abular data with qualitative and quantitative scales. Topics include: data exploration, pre-processing and visualization; analytics base table (ABT) generation; basic supervised
 learning algorithms (i.e. information-based learning, similarity-based learning, and error-based learning), and comparative evaluation of these algorithms.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Introduction to operating systems concepts. Topics may include multiprogr
amming, resources allocation and management, and their implementation.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Introduction to computer networks; details of layered network protocols w
ith emphasis on functionality and analysis. Principles of relevant state-of-the-art network standards.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Introduction to basic data mining techniques (such as association rules m
ining, cluster analysis, and classification methods) and their applications (such as Web data mining, biomedical data mining and security).
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Fundamental programming language concepts, including syntax versus semant
ics, binding time, scopes, and storage management.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Directed study with a faculty member.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Directed Readings designed for Bachelor of Interdisciplinary Studies stud
ents. This course may satisfy the junior and/or senior-level Critical Thinking Through Writing requirements.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Development of application software within windowed environments. Concept
s of programming including graphical user interfaces, event-driven architectures, and object- oriented language programming with an application programming interface.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Data visualization or displaying data in visual forms and is closely rela
ted to data analytics. In this class, students will study the theories of data visualization, design principles, and data visualization techniques. Students will learn the variou
s tools for creating interactive data visualizations, such as charts, maps, graphs and specialized data visualizations. (Same as CMIS 4200.).
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Crosslisted with CSC 6760. This course will cover the technologies, tools
, frameworks and languages that are most commonly used in Big Data Programming. Focus will be on algorithms for analyzing and mining massive datasets, graphs and social network d
ata. Topics include the storage, management, processing and analysis of massive datasets, as well as Big Data governance, security, and privacy issues.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Crosslisted with CSC 6360. This course will cover the technologies, tools
, frameworks and languages that are most commonly used in developing mobile applications for multiple mobile platforms. Topics include mobile application design, user interfaces,
 mobile application demographic and platform delivery, mobile networking, hosting infrastructure, and mobile security.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. Covers major aspects of game design such as challenges, gameplay, actions
, core mechanics, worlds, characters, game balancing, user interfaces, and game genres.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. An overview of techniques and methodologies in the field of artificial in
telligence. Topics may include search strategies, problem solving, natural language processing, logic and deduction, memory models, learning, expert systems, knowledge representa
tion, and robotics.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. An introduction to the fundamental concepts and principles that underlie
the relational model of data. Topics include formal query languages; SQL; query optimization; relational database design theory; physical database design, integrity, security, an
d concurrency control.
Start your responses to each PART on a new page.
Start your responses from page 2 of the document and copy these instructions on page 1.
# Source global definitions
sort -n mountainList.txt
sort mountainList.txt
SLOUGHHOUSE,3,4,5822,Residential,2000,Fri May 16  EDT 2008,14151 INDIO DR
SLOUGHHOUSE,3,4,5822,Residential,2000,Fri May 16  EDT 2008,14151 INDIO DR
SLOUGHHOUSE,3,4,5822,Residential,2000,Fri May 16  EDT 2008,14151 INDIO DR
SLOUGHHOUSE,3,4,5822,Residential,2000,Fri May 16  EDT 2008,14151 INDIO DR
Slaughter Mountain, (summit),4338,feet,Union County
Slaughter Mountain, (summit),4338,feet,Union County
Slaughter Mountain, (summit),4338,feet,Union County
Slaughter Mountain, (summit),4338,feet,Union County
simple.sh
simple.sh
simple.sh
simple.sh
simple.sh
./simple.sh
./simple.sh
> ~/simple.sh
#Simple Script
#Simple Script
SHINGLE SPRINGS,0,0,0,Unkown,275000,Fri May 16  EDT 2008,6007 MARYBELLE LN
SHINGLE SPRINGS,0,0,0,Unkown,275000,Fri May 16  EDT 2008,6007 MARYBELLE LN
SHINGLE SPRINGS,0,0,0,Unkown,275000,Fri May 16  EDT 2008,6007 MARYBELLE LN
SHINGLE SPRINGS,0,0,0,Unkown,275000,Fri May 16  EDT 2008,6007 MARYBELLE LN
:s/,/:/g
$ set | PATH
:set number
sed '/Union/d' mountainList.txt
sed's/ridge high point/r.h.p/p' mountainList.txt
sed 's/ridge high point/r.h.p/p' mountainList.txt
sed 's|^[[:blank:]]*||g' mountainList.txt > newList.txt
sed 's|^[[:blank:]]*||g' mountainList.txt
sed -r 's/,([^,]*){3},/,/g' public/mountainList.txt
sed -r 's/,([^,]*){3},/,/g' mountainList.txt
sed -n 's/ridge high point/r.h.p/p' mountainList.txt
sed -i '1 i\Table: Eleven Highest Mountains in Georgia' mountainList.txt
sed -E 's/(Union)\s(County)/\1:\2/g' mountainList.txt
sed
# Search String History (newest to oldest):
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SACRAMENTO,8,4,3612,Multi-Family,282400,Wed May 21  EDT 2008,2912 NORCADE CIR
SACRAMENTO,8,4,3612,Multi-Family,282400,Wed May 21  EDT 2008,2912 NORCADE CIR
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SACRAMENTO,6,4,2475,Multi-Family,159900,Fri May 16  EDT 2008,8198 STEVENSON AVE
SACRAMENTO,6,4,2475,Multi-Family,159900,Fri May 16  EDT 2008,8198 STEVENSON AVE
SACRAMENTO,6,4,2475,Multi-Family,159900,Fri May 16  EDT 2008,8198 STEVENSON AVE
SACRAMENTO,6,4,2475,Multi-Family,159900,Fri May 16  EDT 2008,8198 STEVENSON AVE
SACRAMENTO,5,4,3863,Residential,598695,Fri May 16  EDT 2008,9880 IZILDA CT
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SACRAMENTO,5,3,2824,Residential,445000,Fri May 16  EDT 2008,1240 FAY CIR
SACRAMENTO,5,3,2824,Residential,445000,Fri May 16  EDT 2008,1240 FAY CIR
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SACRAMENTO,5,3,2800,Residential,304037,Wed May 21  EDT 2008,4727 SAVOIE WAY
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SACRAMENTO,5,3,2258,Residential,232500,Fri May 16  EDT 2008,107 JARVIS CIR
SACRAMENTO,5,3,2258,Residential,232500,Fri May 16  EDT 2008,107 JARVIS CIR
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SACRAMENTO,5,2,2484,Residential,699000,Tue May 20  EDT 2008,1409 47TH ST
SACRAMENTO,5,2,2484,Residential,699000,Tue May 20  EDT 2008,1409 47TH ST
SACRAMENTO,5,2,2484,Residential,699000,Tue May 20  EDT 2008,1409 47TH ST
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SACRAMENTO,4,3,2030,Residential,270000,Tue May 20  EDT 2008,5342 CALABRIA WAY
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SACRAMENTO,4,3,1968,Residential,205000,Thu May 15  EDT 2008,6600 SILVERTHORNE CIR
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[[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
csc3320   csvfiles.tar.gz  lab2  lab4             newList.txt  RealEstate.csv  shfiles.tar.gz  txtfiles
csvfiles  homeworks        lab3  mountainList.txt  public       shfiles         simple.sh       txtfiles.tar.gz
[[hsylla2@gsuad.gsu.edu@snowball ~]$ sort -r shfiles.tar.gz
# You may edit it if you're careful!
# You may edit it if you're careful!
? \<xinclude\>
? \<xinclude\>
Writing or production of honors thesis or project. Signature Experience course.
Writing or production of honors thesis or project. Signature Experience course.
:wq
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Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
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Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
WILTON,5,3,3788,Residential,691659,Mon May 19  EDT 2008,12901 FURLONG DR
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WILTON,4,3,4400,Residential,884790,Fri May 16  EDT 2008,9401 BARREL RACER CT
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WEST SACRAMENTO,2,1,884,Residential,147000,Thu May 15  EDT 2008,612 STONE BLVD
WEST SACRAMENTO,0,0,0,Residential,200100,Thu May 15  EDT 2008,1525 PENNSYLVANIA AVE
WEST SACRAMENTO,0,0,0,Residential,200100,Thu May 15  EDT 2008,1525 PENNSYLVANIA AVE
WEST SACRAMENTO,0,0,0,Residential,200100,Thu May 15  EDT 2008,1525 PENNSYLVANIA AVE
WEST SACRAMENTO,0,0,0,Residential,200100,Thu May 15  EDT 2008,1525 PENNSYLVANIA AVE
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WEST SACRAMENTO,0,0,0,Residential,165000,Thu May 15  EDT 2008,501 POPLAR AVE
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wc RealEstate.csv
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WALNUT GROVE,3,1,1727,Residential,380000,Fri May 16  EDT 2008,14004 WALNUT AVE
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:w
:w
vi Try.c
vi Try.c
vi Try.c
vi Try.c
vi Try.c
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[[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
 csc3320   csvfiles.tar.gz  lab2  lab4               newList.txt  RealEstate.csv  shfiles.tar.gz  txtfiles
 csvfiles  homeworks        lab3  mountainList.txt  public       shfiles         simple.sh       txtfiles.tar.gz
[[hsylla2@gsuad.gsu.edu@snowball ~]$ sort -r txtfiles.tar.gz
 # You may edit it if you're careful!
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 # You may edit it if you're careful!
 # You may edit it if you're careful!
 ? \<xinclude\>
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 Writing or production of honors thesis or project. Signature Experience course.
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 Writing or production of honors thesis or project. Signature Experience course.
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 Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
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 WILTON,3,2,2110,Residential,372000,Wed May 21  EDT 2008,11215 SHARRMONT CT
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Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course will require students to document and present the project they worked on during their internship. Students are able to register for the course at most 2 times for a maximum total of 4 credit hours to count towards their degree (excluding Area G). This course may include a Signature Experience component.
Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course will require students to document and present the project they worked on during their internship. Students are able to register for the course at most 2 times for a maximum total of 4 credit hours to count towards their degree (excluding Area G). This course may include a Signature Experience component.
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Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course will introduce students to the fundamentals of malware analysis and defense techniques. Using hands-on-experience students will attain an understanding of identifying the functionalities and behaviors of malicious software. Students will use a disassembler to decompose, execute, and trace each line of a program. They will also learn how to patch the executable file and modify its behavior for a more secure outcome. Students will also have the chance to examine the effects of different types of malicious software that run either natively on a Windows or a Linux platforms. Students will learn how to defend a system by tracing back the infection and identifying the vulnerability used to exploit and implant the malicious software within the system.
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Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course will introduce students to 3D computer graphics and game programming. Students will learn how to develop 3D games and interactive computer graphics applications (such as virtual reality) using game engines. The topics include rendering, lighting, camera, sound, character control, animation, and physics. (Same as CMIS 3150.).
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Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course. This course is intended to provide a general introduction to machine learning. This course will cover the fundamental concepts and principles of supervised learning, unsupervised learning, semi-supervised learning and reinforcement learning. Students will understand the basic knowledge of machine learning, be familiar with classic machine learning algorithms, and gain experience of designing and implementing methods in real scenario. 4.000 Credit hours.
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csvfiles  homeworks        lab3  mountainList.txt  public       shfiles         simple.sh       txtfiles.tar.gz
[hsylla2@gsuad.gsu.edu@snowball ~]$ tar cvf alltar.tar csvfiles.tar.gz shfiles.tar.gz txtfiles.tar.gz
csvfiles.tar.gz
shfiles.tar.gz
txtfiles.tar.gz
[hsylla2@gsuad.gsu.edu@snowball ~]$ ls
alltar.tar  csvfiles         homeworks  lab3  mountainList.txt  public          shfiles         simple.sh  txtfiles.tar.gz
csc3320     csvfiles.tar.gz  lab2       lab4  newList.txt       RealEstate.csv  shfiles.tar.gz  txtfiles
[hsylla2@gsuad.gsu.edu@snowball ~]$
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