

Homework 2 Due : Midnight on Sep.16 Email to [jigsaw1079@gmail.com](mailto:jigsaw1079@gmail.com)

**Question 1 (15)**

Describe the meaning for each regular expression below.

For each expression, give 3 different examples that match the pattern.

- a.  `/^[A-Z]..$/`
- b.  `/^[A-Z][a-z]*3[0-5]/`
- c.  `/^[A-Za-z]*[^\,][A-Za-z]*$/`

**Question 2: (20) (Grep/egrep exercise)**

Given the file 'datebook' (you can download it from website <http://www.cs.gsu.edu/~cscqxcx/3320/handout/datebook>) containing the lines of the following format:

***type first-name last-name email-address***

do the following queries:

- a. Print all lines containing the string CS4520.
- b. Print all lines where the person's first name starts with J.
- c. Print all lines that contain .com
- d. Print all lines containing an uppercase letter, followed by four lowercase letters, a space and one uppercase letter.

**Question 3: (20) (sed exercise)**

Use the file 'datebook', do the following queries:

- a. Change Dumitru's name to Dima.
- b. Delete the first 3 line.
- c. Print all lines where the email address contains @student.gsu.edu
- d. Replace the line containing "CS2010" with "NULL NULL NULL NULL".

**Question 4: (15) (awk exercise)**

Use the file 'datebook1' as database

(<http://www.cs.gsu.edu/~cscqxcx/3320/handout/datebook1>). The file contains the lines of the following format:

***type first-name last-name email-address***

Do the following queries:

- a. Print all email address.
- b. Print Dumitru's name and email address.
- c. Change the type with the following rule:
  - if line number modulo 3 is 1, the type field should be changed to CS4520;
  - if line number modulo 3 is 2, the type field be changed to CS2210;
  - or else keep the original type field;

**Question 5: (10) (Exercise for transforming files)**

Write a command pipeline that archives and compresses the contents of a file, and writes the result to a new file. What is the corresponding command pipeline to take this compressed file and uncompress and extract it to produce the original file?

**Question 6: (10) (Exercise for searching files)**

Write a command pipeline to find files in a directory hierarchy (e.g. your home directory) that have the name pattern '\*.txt' and compress them.

**Question 7: (10) (Exercise for sorting files)**

Write a command pipeline to list files in a directory hierarchy (e.g. your home directory) that have the name pattern '\*.txt' and sort them by file size.