

CP367 Winter 2019 EXAM REVIEW QUESTIONS

These problems are designed to summarize the course content and prepare you for the types of questions you may see on the final. Many of them have been taken from your own suggestions from the last class.

Question 1

Write a bash script named `arraytext.sh` that converts a text file into an array where each word is an entry in the array. Then, ask the user to specify some word number integer, and print the length of that word as follows:

```
bash arraytext.sh filename.txt
Pick a word to find the length of (integer): 45
The length of word number 45 is: 8 character
```

Question 2

Write a bash script named `captials.sh` that accepts a string as an argument, and outputs the string in capital letters to both the standard output and a file.

Question 3

Write a program that prints out the inode number of all regular files containing the regular expression "Contain a lowercase letter followed by a number, followed by a capital letter" in the current directory. You may choose to make a few extra files to search through. If filename does not exist in current directory, print "File doesn't exist".

Question 4

Write a bash script `beginning.sh` that reads a text file word by word into a new file with each word on a new line. Then, print out each word that begins with the letter 's' using regular expressions.

Question 5

Write a bash script named `infinite.sh` that executes an infinite loop of your choice (that WILL terminate due to lack of memory) that escapes only when you enter "potato."

```
./infinite.sh
Program is running forever
potato
Goodbye
```

Question 6

Write a C program that forks twice. The children should all ask for a color and only should complete when it receives a primary color {red, yellow, blue}. Each fork should wait for the child to finish.

Question 7

Write a bash script that reads a string (argument) and asks for an integer (standard input). If the integer is less than the length of the string, print the string from that integer place to the end `${string:d:n}`. If the integer is too big, print an error message.

Question 8

Create a file that contains the gitlog for some repository you have created (or create your own while you make this assignment. Now, Grep to see which days of the week most of the commits occur.

Question 9

Create a makefile with 2 targets:

- *append*: ask the user for a file name (read) and append that file to a file called "words_to_count"
- *wordcount*: Create a file called "wordcount" that has the word count of the file "words_to_count" (note the dependency) It should be formatted as follows:
DATE: [insert date using date command]
BEFORE:
[WC before appended file]
After:
[WC after appended file]
[n]

Your makefile should also make all and make clean.

Question 10

Make a guessing game *guess.sh*. Greet the user by name. The computer chooses a number from 1-10, and the player then guesses. If the player's guess is lower or higher, have the computer inform them accordingly.

Question 11 - Short Answer

- Explain how to determine the current date in linux. How does linux interpret this date (ie. as months, or as a different unit)?
- Explain how to see all file permissions in a directory. What are the different ways we can change these permissions (ie. binary or flags)? Provide some examples.
- Explain the difference between appending, rewriting, and redirecting. What symbols are used for each.
- Explain what a git conflict is and how to manage these conflicts.
- Explain what the shell is, and how it relates to the kernel.
- Explain the difference between a hard link and a symbolic link.

BONUS [2 Marks] (This will be on the final exam)

What was your favorite things you learned in this course? What is one topic you would want to cover in more detail?