

CS 122 Practice Midterm II

True or False?

1. When no file handle is specified within the diamond operator, `<>`, Perl will use **STDIN**.
2. The **length** function takes both scalars and lists as an argument.
3. What is the output of the following code segment?

```
$str = "root:1:0:Root User:/:/bin/tcsh";  
$str =~ s/:.*/://;  
print $str;
```

4. What is the output of the following code segment?

```
$string = "Hello there??";  
$num = ($string =~ tr/?!/);  
print $num;  
print "\n";  
print $string;
```

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Hello there!

5. Write a regular expression to find all zip codes in a file. Assume the format is: **NNNNN**, or **NNNNN-NNNN**.

```
$string = "here! 99999 and now 99999-1111";  
@found = $string =~ /(\d{5})(?:-\d{4})?/g;  
print "@found\n";
```

6. Which special variable can you use to determine the operating system on your system?
7. In the Bayesian classifier, why did you need to transform posterior probabilities into log likelihoods?
8. How do you sort a hash in descending order of its values?

9. Show two ways to access fifth element of `@array` using references:
`my @array = (1 .. 100);`
`my $ar_ref = \@array;`
10. Create a “random” string of 10,000 digits. Valid digits are [1, 9]. Output occurrences of each of the digits in a tabular format.
11. Write a program that uses `CGI.pm` to output an html page with a form. The user can type a phone number in the form. If the number is in a valid format (`xxx-xxx-xxxx`), print “**Thank you**”, otherwise print “**Invalid phone number**”.
12. Write a script that asks the user for the name of a directory. It then checks all the files in the directory and renames those whose extension is capitalized. For example, `hw.PDF` should be renamed into `hw.pdf`, `Mywork.DOC` should be renamed into `Mywork.doc`