

Name: _____
please type or print your name

EE-WBC Exam No. 3 (100pts.)

Do not use back of the pages for answers. The back side of this test will not be graded. Attach more pages if necessary. Open books, open notes but no sharing allowed. No electronic equipment allowed during the exam, including cell phones.

DL: ___ ERR: ___ PTS: ___ WTL: ___ GR: ___

Problem 1 PERL Fundamentals

Problem 1A (8pts.)

In PERL 5 are function names case-sensitive? Circle the correct answer: yes no

In PERL 5 is .pl program run as "perl -w program.pl"
is the extension ".pl" mandatory? Circle the correct answer: yes no

Problem 1B (12pts.)

PERL-specific operations: Consider the following piece of code and answer then answer what will be printed if it is run.

```
my $a= 1;
my $aa= 2;
print "$a a\n";    Answer: _____
print "$aa\n";    Answer: _____
print "${a}a\n";    Answer: _____
```

Problem 1C (10pts.)

Sorting in PERL: Consider the following piece of code and then answer what will be printed if it is run.

```
my @array = (1, 2, 10, 11, 12, 21, 22);
@array = sort { $a+$a cmp $b+$b } @array;
print "SORTED: @array \n"; # prints contents of the array one by one
```

Answer: SORTED: _____

Problem 2 – regular expressions and text data processing**Problem 2A (20pts.)**

Please complete the following fragment of code. Write the missing regular expression so that the program “sees” only the lines of data that contain the valid GPS location and in each case extracts it and stores for further processing in the loop in the provided variables with self-descriptive names. GPS location is described by latitude and longitude. It starts with latitude expressed by a capitalized N or S followed by a floating point number ranging from 0 to 180 with seven decimal digits, followed by longitude expressed by a capitalized E or W followed by a floating point number ranging from 0 to 180 with seven decimal digits. All is one or more whitespace (space or TAB) delimited. Skip any deviations from that format. Data file format is the same like in recent homework.

```
# $Creator: Network Stumbler Version 0.4.0
# $Format: wi-scan summary with extensions
# Latitude Longitude ( SSID ) Type ( BSSID ) Time (GMT) [ SNR Sig Noise ] # ...
# $DateGMT: 2004-10-15
N 41.7020000 W -87.6850000 ( Chicago ) BSS ( 00:0f:3d:06:3a:73 ) 15:12:34 (GMT) [ 21 70 49 ] #
N 40.6642014 W -89.6932578 ( Peoria ) BSS ( 00:11:20:9c:44:60 ) 15:12:34 (GMT) [ 21 70 49 ] #
N 54.3333000 E 18.6667000 ( Gdansk ) BSS ( 66:48:a2:98:2d:51 ) 15:12:34 (GMT) [ 30 1 49 ] #
S -33.9166000 E 151.2833000 ( Sidney ) BSS ( 02:e0:e6:3a:e9:20 ) 15:12:34 (GMT) [ 36 101 49 ] #
...
```

```
my $line;
while ( $line=<STDIN> ) {
    if ( $line =~ m/_____/ ) {
        $latNS=      ;
        $latNum=     ;
        $lonEW=      ;
        $lonNum=     ;
        ...
    }
}
```

Problem 2B (20pts.)

Please write PERL code that would print contents of a binary string that is already stored in a scalar variable \$var byte by byte as integer numbers between 0 and 255 separated by comas (or -10pts.). Please note, that some bytes may have zero value (or -5pts.). Make sure that the numbers are 0 to 255 and not -127 to 127 (or -5pts.).

Problem 3 – CGI Scripts**Problem 3A (10pts.)**

What environment variable holds the string corresponding to the HTML form data submitted by GET method that is passed to a CGI script by the Web server?

Answer: `$ENV{ '_____ ' };`

Problem 3B (10pts.)

A CGI script can be invoked correctly only by an HTML form submission.

It cannot be invoked by an `link` or using a program that interfaces directly to a Web server.

Circle the correct answer: true false

Problem 3C (10pts.)

Please write a CGI script in PERL that prints a valid HTML page that says “Good Morning,” “Good Afternoon,” “Good Evening” or “Good Night” depending on the time of the day. (2am-12pm, 12-6pm, 6-10pm, 10pm-2am)

EE-WBC Exam No. 3 – Thank you.

Please double check your answers before turning in.