Proctor Instructions: Inform the students of the time the test will end and which problems to do. Write it on the board. Make sure all computer screens are blanked or turned off. Make sure student backpacks, papers, notes, and books remain on the floor. Collect **all** papers as students leave.

In-Class Test Rules for CS 201

This exam tests the ability to think and write programs and/or subroutines in PERL, by hand, without books or notes. The 80% emphasis in grading is on whether you seem to know what you are doing. The 20% emphasis is on whether, for instance, you remembered to put semicolons in all the right places, or whether your grammar is perfect. Hints are provided on the back of this sheet. I often deduct points (typically up to 10%, sometimes more) for failure to follow instructions.

Use only the paper that is provided. During the test only pens, pencils, erasers, and paper should be at table level. Avoid sitting directly next to another student.

For fairness and uniformity the problems are typically graded separately in random order. **Do NOT write your NAME anywhere on your answer sheets. A Test ID number will be given you to use instead.** Use one sheet of paper for each problem. If possible, write the complete answer on one side of the sheet and leave the other side blank. If necessary use both sides of one sheet. If you break a problem across two or more sheets of paper, **I will ignore all but the first sheet.** If you write two or more answers on the same sheet, **I will ignore all but the first.** Do not staple, fold, or tear any of your sheets.

Leave the edges of your paper blank, at least as much as the edges of **this sheet** are blank (one inch, or 25 mm, on all four sides). (You may lightly draw a border if it helps you, but do not fold.) Put your Test ID number, then a dash (-), then the problem number, in the upper left corner (↘) on the front of each answer sheet (but not in the part of the page that should be blank). Draw a box around it. For example, if your assigned Test ID number is 102 and the problem number is 4, write $\boxed{102\text{-}4}$ in the upper left corner, one inch down from the top of the paper, and one inch in from the

left edge of the paper. Remember, do NOT write your name on any sheet. Do NOT write you student id number on any answer sheet.

Bring your own pen or pencil. Do not use red ink (because I use it for grading). Use a good-contrast writing method, e.g., soft-lead pencil or ink. Hard-lead pencils usually make faint marks that are hard for me to read. Faint pencil on top of erasures can be almost impossible to read. It is okay to cross out things clearly instead of erasing them. If necessary, you may draw a circle or box around your answer so I do not grade the wrong things. If your answer sheet becomes too cluttered and time permits, please copy your answer to a fresh sheet of paper before turning it in.

Which Problems To Do? You will be given one or more sheets containing test problems. You may be told by number which problems to do. **Unless you are told otherwise, do every problem and assume each problem is worth the same number of points.**

Explanations: I do not allow books or notes, including dictionaries, especially electronic dictionaries. If you are unclear about the meaning of a question, or some part of the question, you can ask me about it. If I can give an answer, I will.

Confidentiality: Take **no papers** from the test room. Turn in **all** papers including the test, these rules, all answer sheets (in order), all unused sheets, and all scratch paper. Make it clear which sheets are to be graded. Except for the final exam, you will probably get back the test, rules, and answer sheets. Unless otherwise instructed, do not discuss the content of the test in *any* way with *any* person (even a non-student) until your papers are returned, unless you know they have also **completed** the test and turned it in. Do not give hints. Do not say it was hard. Do not say it was easy. Do not tell how many problems are on the test. Just say, "I can't talk about it yet." I consider any more than that to be an honor code violation.

Finding Out Your Grade: Final exams are not returned unless you make special arrangements. All other tests are returned in class soon after the test. After test grades are calculated, they are entered into my grade book and are visible through GradeBot using a status command.

Hints

The following hints are provided without explanation. Unless you are already familiar with these lines, they may not be much help. Their purpose is simply to guide you with exact wording for certain parts of your program. Simply copying will earn few points if any. They must be assembled in the correct order.

Perl Hints:

```
#!/usr/bin/perl -w
$x = int ( rand(6) ) + 1;
$x[$num] = $value; # array
$x{$key} = $value; # hash
( $a, $b, $c, $d ) = @ARGV;
( $a, $b, $c, $d ) = @_;
chomp ( $x = <STDIN> );
if ( cond ) { action }
if ( cond ) { action } else { action }
while ( cond ) { body }
do { body } while ( cond );
for ( init; cond; step ) { body }
foreach $x (@y) { body }
next; last; redo;
push @x, $y;
$y = pop @x;
$y = shift @x;
unshift @x, $y;
$x =~ /abc/;
$y =~ s/abc/def/;
```

CGI Hints:

```
<body>
<!doctype html public ...>
<form method=get action="my.cgi">
<form method=post action="my.cgi">
<form method=post action="my.cgi"
  enctype="multipart/form-data">
<h1><h2><h3><h4><h5><h6>
<head></head>
<html></html>
<input type=text name=x value="" size=20>
<input type=ttt name=xxx value="yyy">
  type=button|checkbox|file|hidden|image
  type=password|radio|reset|submit|text
<table></table>
```

```
<title></title>
<tr><td>asdf<td>qwer<tr><td>zxcv<td>uiop
Content-type: text/html
chmod 711 public_html
chmod 755 public_html/foo.cgi
s/%([\dA-F][\dA-F])/pack("c",hex($1))/eig;
$x =~ /nuts=(\d+)&bolts=(\d+)&pins=(\d+)/;
$x =~ /name=(.*)&address=(.*)&city=(.*)/;
```

DBI Hints:

```
$foo -> disconnect();
$foo -> execute();
$foo -> finish();
@foo = $handle->fetchrow_array();
$foo = $handle->fetchrow_hashref();
$foo = $handle->prepare( $bletch );
$foo = DBI -> connect(
  "DBI:mysql:$d:$h",$u,$p );
alter table foo drop cost;
create database DDD;
create table scores ( ... );
delete from inventory where ID=99;
drop table TTT;
grant all on DDD.* to UUU
  identified by "PPP";
insert scores values ( "Bob", 70 );
mysql -p -h HHH -u UUU
select * from scores order by cost;
set password = password("whatever");
show databases;
show tables;
update inv set desc="yadda" where ID=37;
use DDD;
use DBI;
```