CPSC 231 Midterm Review: Fall 2006

1. What language is the one used for the program writing assignments in this class?
   a. Pascal
   b. C++
   c. Visual Basic
   d. Java
   e. What??? We're actually supposed to write programs for this class!!!

Answer: a

2. Which UNIX command could be used to move to another directory?
   a. cd
   b. mv
   c. move
   d. cp
   e. pwd

Answer: a

3. Which area of Computer Science focuses primarily on representing or showing information in a way that makes the information easier to find and use?
   a. Graphics
   b. Artificial Intelligence
   c. Data bases
   d. Information Visualization
   e. Human-Computer Interaction

Answer: d

4. Which of the following is a correct ranking from smallest to largest units of storage (for the word size use a modern desktop computer)?
   a. Byte, bit, word
   b. Bit, byte, word
   c. Word, bit, byte
   d. Word, byte, bit
   e. None of the above

Answer: b

5. Which of the following are examples of solid state storage devices?
   a. Hard drive
   b. RAM
   c. Zip disk
   d. DVD drive
   e. None of the above

Answer: e

6. What is the binary equivalent of the octal number 36?
   a. 8
   b. 30
   c. 36
   d. 11110
   e. None of the above

Answer: d

7. What is the base ten equivalent of the decimal number 27?
   a. 10
   b. 1B
   c. 27

d. 33
e. 11011

Answer: c

8. What is the decimal result of performing the subtraction (via the ones complement approach) of the decimal numbers -1-3 using a modern computer?
   a. +3
   b. -3
   c. +4
   d. -4
   e. -7

Answer: d

9. Which of the following statements is/are true?
   a. 'gpc' is the name of the compiler that you are to use for your programming assignments.
   b. The default executable file is called 'a.out'
   c. Source code files can be viewed with an editor
   d. Machine language files can be executed by the computer
   e. All of the above are true.

Answer: e

10. What will be the output of the following program? (<SP> is used to show a space)

```
program intro (output);
begin
  write('hel':3);
  writeln('@':3);
end.
```

   a. hel@
   b. 'hel':3'@':3
   c. hel<SP><SP>@
   d. <SP><SP>hel@
   e. hel@<SP><SP>

Answer: c

11.

```
program decision3 (output);
const
  FIXED = 28;
begin
  var num : integer;
  num := FIXED;
  if (num < 0) then
    write('1');
    write('2');
  if (num > 0) then
    write('3');
  if (num >= fixed) then
    write('4')
  else
    write('5');
end.
```

   a. 3
   b. 134

c. 234
d. 235
e. 1234

Answer: c

12. What is the output of the following program?

```
program decision (output);
begin
  var num1 : integer;
  var num2 : integer;

  num1 := -1;
  num2 := 1;
  if (num1 > 0) OR (num2 > 0) then
    write('1')
  else
    write('2');
  writeln('3');
end.
```

a. 1
b. 2
c. 13
d. 23
e. None of the above

Answer: c

13. What is the output of the following program?

```
program decision (output);
begin
  var num1 : integer;
  var num2 : integer;

  num1 := -1;
  num2 := 1;
  if (num1 > 0) AND (num2 > 0) then
    write('1')
  else
    write('2');
  writeln('3');
end.
```

a. 1
b. 2
c. 13
d. 23
e. None of the above

Answer: d

14. What is the output of the following program?

```
program decision (output);
begin
  var num : integer;
  if (num < 0) then
    write('1 ')
  else if (num = 0) then
    write('2 ')
  else if (num > 0) then
    write('3 ');
  writeln('4');
end.
```

a) 4
b) 14
c) 24
d) 34
e) The output of this program cannot be determined.

Answer: e

15. How many times will the loop in the following program execute?

```
program loop (output);
begin
  var i : integer;
  i := 10;
  while (i < 4) do
  begin
    write(i);
    i := i + 1;
  end;
end.
```

a. 1
b. 9
c. 10
d. The loop will never execute
e. None of the above

Answer: d

16. What is the output of the following program?

```
program loop (output);
begin
  var i : integer;
  for i := 5 to 3 do
    write(i, ' ');
  writeln('All done!');
end.
```

a. All done!
b. 3 4 5 All done!
c. 5 4 3 All done!
d. 1 2 3 4 5 All done!
e. 5 4 3 2 1 All done!

Answer: a

Part II: Short answer

Question 1: In the space provided below trace the output of the following program.

```
program practiceFun (output);

var
  var1 : integer;
  var2 : integer;

procedure proc  (      var3 : integer;
                    var var4 : integer);
var
  var2 :  integer;
begin
  var2 := 10;
  var3 := 20;
  var4 := 30;
  writeln('3:', var2);
  writeln('4:', var3);
  writeln('5:', var4);
end;

function fun (var2 : integer):integer;
begin
  fun := var2 + 1;
end;

begin
  var var2 :  integer;

  var1  := 1;
  var2  := 2;
  writeln('1:', var1);
  writeln('2:', var2);
  proc(var1, var2);
  writeln('6:', var1);
  writeln('7:', var2);

  begin
    var var2 : integer;

    var2  := 0;
    var2  := fun(var2);
    writeln('8:', var1);
    writeln('9:', var2);
  end;

  writeln('10:', var1);
  writeln('11:', var2);
end.
```

<< **Write your answer here** >>

1:1
2:2
3:10
4:20
5:30
6:1
7:30
8:1
9:1
10:1
11:30

JT: Liked the practice exam, then you'll love the real thing!