Code Excerpts referred to in Practice Exam Questions

p01.cc

// p01.cc   CISC181 Final Exam Fall 2005

#include <iostream>
using namespace std;

void funky(int x);

int main(void)
{
    int a = 2;
    funky(a);
    cout << "a=" << a << endl;
    return 0;
}

void funky(int x)
{
    x = x * 3;
    cout << "x=" << x << endl;
}
// p02.cc  CISC181 Final Exam Fall 2005

#include <iostream>
using namespace std;

void fresh(int &y);

int main(void)
{
    int b = 3;
    fresh(b);
    cout << "b=" << b << endl;
    return 0;
}

void fresh(int &y)
{
    y = y * 5;
    cout << "y=" << y << endl;
}
Questions 1 through 5 deal with code in q5.cpp, shown here:

```c++
// q5.cpp for CISC181 exam E01, Fall 2005
// P. Conrad, 10/07/2005

#include <iostream>
using std::cout;
using std::endl;

void inc1(int n, int m)
{
    n++;
    m++;
    cout << "inc1: " << m << endl;
}

int main()
{
    int a = 3;
    int b = 4;
    int c = 5;

    cout << "main1: " << a << " " << b << endl;
    inc1(a,b);
    cout << "main2: " << a << " " << b << endl;

    return 0;
}
```

1. (3 pts) Which of the following are the names of the formal parameters of function inc1()?
   (a) a and b
   (b) n and m
   (c) int and int
   (d) std::cout and std::endl
   (e) n++ and m++

2. (3 pts) Which of the following are the names of the actual parameters of function inc1()?
   (a) a and b
   (b) n and m
   (c) int and int
   (d) std::cout and std::endl
   (e) n++ and m++
3. (4 pts) Which of the following would be the first line of output from this program?

(a) inc1: 4
(b) inc1: 5
(c) main1: 3 4
(d) main2: 3 4
(e) main2: 4 5

4. (4 pts) Which of the following would be the last line of output from this program?

(a) inc1: 4
(b) inc1: 5
(c) main1: 3 4
(d) main2: 3 4
(e) main2: 4 5

5. (3 pts) Which of the following are the types of the actual parameters of function inc1()?

(a) a and b
(b) m and n
(c) int and int
(d) std::cout and std::endl
(e) n++ and m++
Here is a sample program, followed by some sample output—except, the numbers have been replaced with blanks First, trace through the program to determine what goes in each of these blanks, then select the correct answers from the choices given in the problems.

Don't panic: Each of the sections of code can be done independently of the other sections, so if you are stuck on one, don’t stop; keep working.
> . ./q10
y=___
v=___ z=___
t=___
e=___ f=___

6. (2 pts) What goes in the blank $y=___$?
   (a) $y=-1$
   (b) $y=-9$
   (c) $y=9$
   (d) $y=-8$
   (e) none of the above

7. (2 pts) What goes in the blank $v=___$ $z=___$?
   (a) $v=5.1$ $z=5.1$
   (b) $v=5.2$ $z=5.2$
   (c) $v=5.2$ $z=5.1$
   (d) $v=5.1$ $z=5.2$
   (e) none of the above

8. (2 pts) What goes in the blank $t=___$?
   (a) $t=3$
   (b) $t=5$
   (c) $t=8$
   (d) $t=15$
   (e) none of the above

9. (2 pts) What goes in the blank $e=___$ $f=___$?
   (a) $e=5$ $f=4$
   (b) $e=4$ $f=5$
   (c) $e=5$ $f=5$
   (d) $e=4$ $f=4$
   (e) none of the above

Questions 10 through 15 deal with the code for p01.cc on page 1.

10. (1 pts) Line 6 of the program p01.cc contains which of the following?
    (a) a function prototype
    (b) a function definition
    (c) a function call
    (d) a pre-processor directive
11. (1 pts) Line 11 of the program `p01.cc` contains which of the following?
   (a) a function prototype
   (b) a function definition
   (c) a function call
   (d) a pre-processor directive

12. (2 pts) The variable `x` in `p01.cc` is
   (a) a formal parameter
   (b) an actual parameter

13. (2 pts) The variable `a` in `p01.cc` is
   (a) passed by value
   (b) passed by reference

14. (2 pts) The output of `p01.cc` will be
   (a) 
   x=6
   a=6
   (b) 
   a=2
   x=6
   (c) 
   a=6
   x=6
   (d) 
   x=6
   a=2

15. (2 pts) Suppose line 11 of `p01.cc` were replaced with:

   \[
   \text{funky}(a+2);
   \]

   What would be the result if you tried to compile and run?
   (a) 
   x=12
   a=2
   (b) 
   a=2
   x=12
   (c) 
   a=4
   x=12
   (d) 
   x=12
   a=4
   (e) You’d get a syntax error, because you can’t pass \((a+2)\) to `funky`.

Questions 16 through 22 deal with the code for `p02.cc` on page 2.
16. (1 pts) Lines 16–20 of the program p02.cc contain which of the following?
   (a) a function prototype
   (b) a function definition
   (c) a function call
   (d) a pre-processor directive

17. (1 pts) Line 3 of the program p02.cc contains which of the following?
   (a) a function prototype
   (b) a function definition
   (c) a function call
   (d) a pre-processor directive

18. (2 pts) The variable b in p02.cc is
   (a) a formal parameter
   (b) an actual parameter

19. (2 pts) The variable b in p02.cc is
   (a) passed by value
   (b) passed by reference

20. (2 pts) The symbol & on line 16 of p02.cc indicates which of the following:
   (a) take the address of y
   (b) that the type of y is int *
   (c) that y is being passed by reference to fresh
   (d) that both int and y are parameters of fresh

21. (2 pts) The output of p02.cc will be
   (a) y=15
       b=15
   (b) b=15
       y=15
   (c) b=3
       y=15
   (d) y=15
       b=3
22. (2 pts) Suppose line 11 of p02.cc were replaced with:

\[ \text{fresh}(b+2); \]

What would be the result if you tried to compile and run?

(a) \[ y=25 \\
      b=3 \]

(b) \[ y=25 \\
      b=5 \]

(c) \[ y=25 \\
      b=25 \]

(d) \[ b=5 \\
      y=25 \]

(e) You’d get a syntax error, because you can’t pass \((b+2)\) to \text{fresh}. 

end of exam practice questions
1. (b)
2. (a)
3. (c)
4. (d)
5. (c)
6. (a)
7. (d)
8. (b)
9. (a)
10. (a)
11. (c)
12. (a)
13. (a)
14. (d)
15. (a)
16. (b)
17. (d)
18. (b)
19. (b)
20. (c)
21. (a)
22. (e)

end of key