COMPUTER PROGRAMMING CONCEPTS (59)

Regional – 2013

TOTAL POINTS **_____ (500)**

1. Which of the following is true of naming variables?
   a. Variable names can have spaces
   b. Variable names can begin with numbers
   c. Variable names may contain an underscore
   d. Variable names may also be language keywords

2. Another name for exponential notation is:
   a. Long notation
   b. Unsigned notation
   c. Scientific notation
   d. Floating point notation

3. Operators that have two operands are called ____.
   a. unary operands
   b. binary operands
   c. operators
   d. expressions

4. The value of the expression 26 – 14 % 3 + 1 is ____.
   a. 0
   b. 1
   c. 24
   d. 25

5. Suppose x = 2 and y = 3. If the statement

   x *= y;

   is executed once, what is the value of x?
   a. 2
   b. 3
   c. 5
   d. 6

6. ____ is the process where the compiler temporarily changes a variable's data type to perform a calculation
   a. Typecasting
   b. Advancement
   c. Adaptation
   d. Promotion

7. Some programming languages do not allow you to divide
   a. Floating-point numbers
   b. By 1
   c. An integer by a floating-point number
   d. By zero

8. An overflow condition occurs when
   a. A value is too large for its data type
   b. A decimal value is stored into an integer field
   c. Too many variables are defined in one program
   d. An integer is divided by a floating-point number

9. Infinite loops are examples of _____ errors.
   a. logic
   b. run-time
   c. syntax
   d. None of the above

10. Which type of build message occurs when you declare a variable but don't use it in your program?
    a. syntax error message
    b. compiler error message
    c. warning message
    d. logic error message

11. Which is not true about stub functions?
    a. Typically, they return a hard-coded value that represents the result of the actual function.
    b. They allow you to check for errors in your program from the ground up.
    c. They allow you to correct bugs that occur as a result of how an individual function operates within your program as a whole.
    d. None of the above

12. _____ is the term that refers to the way an object hides the details of how its data is stored.
    a. Concealment
    b. Containment
    c. Hiding
    d. Confinement

13. After the execution of the following pseudo code, what will be the value of num if the input values are 4?

    integer num = get a value
    if (num > 0)
       num = num + 10
    else
       if (num >= 5)
             num = num + 15

    a. 4
    b. 5
    c. 14
    d. 15

14. The _____ is the input/output symbol in flowcharts.
    a. oval
    b. rectangle
    c. parallelogram
    d. diamond

15. Which of the following statements shows the correct order of logical operations?
    a. The *not* operator is first, the *and* operator is next, then the *or* operator.
    b. The *and* operator is first, the *not* operator is next, then the *or* operator.
    c. The *not* operator is first, then the *or* operator, then the *and* operator.
    d. The *not* operator is first, the *and* and the *or* operators are of equal order.

16. In _____ structures, the computer repeats particular statements a certain number of times depending on some condition(s).
    a. looping
    b. branching
    c. selection
    d. sequence

17. What is the output of the following pseudo code?
    integer num = 10
    while (num > 10)
          num = num - 2
    output num

    a. 0
    b. 8
    c. 10
    d. None of these

18. The following pseudo code is an example of a(n) _____ loop.
    boolean found = true

    while (found)
    Begin
           entry = get input
           triple = entry * 3
           if (entry > 33)
              found = false
    End

    a. flag-controlled
    b. counter-controlled
    c. EOF-controlled
    d. sentinel-controlled

19. Which of the following is *not* a repetition structure in most languages?
    a. for
    b. switch
    c. while
    d. None of these

20. Which executes first in a post test loop?
    a. statement
    b. logical expression
    c. initial statement
    d. update expression

21. Desk-checking is also called _____.
    a. prototyping
    b. hand-tracing
    c. alpha checking
    d. beta checking

22. A post-test loop will always
    a. execute the code block at least twice
    b. execute the code block at least once
    c. run until its counter reaches zero
    d. run until its counter becomes a negative value

23. In the pseudo code below, what message will be printed to the screen the most times, "Red" or "Blue"?

```
loop for j = 1, j <= 3, add 1 to  j
   begin
      output  "Red"
      loop for k = 1, k <= 3, add 1 to k
         begin
               output  "Blue"
         end
   end
```

    a. Red
    b. Blue
    c. Both will be printed an equal number of times
    d. Neither will be printed to the screen

24. The symbol used to represent a loop condition on a flowchart is the _____ symbol.
    a. diamond
    b. rectangle
    c. hexagon
    d. parallelogram

25. The for loop creates a _____ loop.
    a. posttest
    b. pretest
    c. selection
    d. sequential

26. What are the three steps to entering a program into a computer and running it?
    a. Edit, Compile, Debug
    b. Compile, Interpret, Execute
    c. Edit, Debug, Execute
    d. Edit, Compile, Execute

27. Which of the following returns a value after the code is executed?
    a. Subroutine
    b. Function
    c. Procedure
    d. None of these

28. Which of the following can be passed to a Subroutine?
    a. Literal Constant
    b. Named Constant
    c. Variable
    d. All of the above

29. The assignment operator in most programming languages is the _____ symbol.
    a. ^
    b. <
    c. >
    d. =

30. The _____ of a variable determines where in the application's code a variable can be used.
    a. dim
    b. type
    c. scope
    d. extent

31. In a _____ control structure, the computer executes particular statements depending on some condition(s).
    a. looping
    b. repetition
    c. selection
    d. sequence

32. What does <= mean?
    a. less than
    b. greater than
    c. less than or equal to
    d. greater than or equal to

33. Suppose x is 5 and y is 7. What is the value of the following pseudo code expression?

    (x not equal 7) AND (x less than or equal to y)
    a. false
    b. true
    c. This is an invalid expression in Java.
    d. None of these

34. Two-way selection in programming is implemented using _____.
    a. if statements
    b. for loops
    c. if...else statements
    d. sequential statements

35. What is the output of the pseudo code below?

    if (6 greater than 8)
    begin
       output(" ** ")
       output("****")
    end
    else if (9 equals 4)
       output("***")
    else
       output("*")

    a. *
    b. **
    c. ***
    d. ****

36. Use the _____ flowchart symbol to represent the condition in both the selection and repetition structures.
    a. oval
    b. rectangle
    c. parallelogram
    d. diamond

37. Comparison operators are also referred to as _____ operators.
    a. relational
    b. arithmetic
    c. logical
    d. Boolean

38. What is the value of the following expression: 9 * 2 - 8 > 5 + 2 / 2?
    a. 10
    b. 6
    c. False
    d. True

39. The _____ operator is evaluated last in the following expression: 9 * 2 - 8 > 5 + 2 / 2.
    a. -
    b. +
    c. >
    d. *

40. In a for loop, which of the following is executed first?
    a. initial expression
    b. logical expression
    c. update expression
    d. for loop statement

41. When either a selection structure's true path or its false path contains another selection structure, the inner selection structure is referred to as a _____ selection structure.
    a. complex
    b. primary
    c. nested
    d. combined

42. A selection structure that can choose from several alternatives is called a(n) _____ selection structure.
    a. dynamic
    b. complex
    c. secondary
    d. extended

43. A _____ structure is also referred to as a loop.
    a. selection
    b. sequence
    c. repetition
    d. recursion

44. _____ means assigning a beginning value to a counter or accumulator.
    a. Introducing
    b. Initializing
    c. Incrementing
    d. Updating

45. A(n) _____ is a numeric variable used for adding together something.
    a. counter
    b. updater
    c. incrementer
    d. accumulator

46. Adding increments of a negative number is referred to as ____.
    a. decrementing
    b. initializing
    c. deprocessing
    d. negating

47. A unique number called a(n) ____ identifies each item in a collection.
    a. counter
    b. index
    c. accumulator
    d. tracker

48. ____ store the information passed to the procedure when the procedure is invoked.
    a. Events
    b. Variables
    c. Constraints
    d. Parameters

49. Using ____, you capitalize the first letter in the procedure name and the first letter of each subsequent word in the name.
    a. Alto case
    b. Camel case
    c. Object case
    d. Pascal case

50. Which of the following standard flowchart symbols is used for calculations?
    a. Oval
    b. Rectangle
    c. Parallelogram
    d. Diamond