Test Bank for C++ Programming - An Object-Oriented Approach 1st Forouzan

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Multiple Choice

Chapter One

1) The CPU is made of _____.

a. ALU, control unit, and registers.
b. ALU and secondary storage
c. ALU and memory
d. ALU and input/output systems

Answer: a

2) A keyboard is considered as _____ device.

a. an input
b. an output
c. both an input and output
d. neither an input nor an output

Answer: a

3) A monitor is considered as _____ device.

a. an input
b. an output
c. both an input and output
d. neither an input nor an output

Answer: b

4) Primary memory is used to store _____.

a. only operating system
b. only programs
c. only data
d. operating system, programs, and data

Answer: d

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5) When the computer is turned off, _____ in the memory.

a. the programs are erased but the data remains
b. data are erased but the programs remains
c. neither the programs nor data are erased
d. both the program and the data are erased

Answer: d

A machine language is made of _____.

a. 0s and 1s
b. symbols
c. either a or b
d. both a and b

Answer: a

6) FORTRAN is an example of a_____.

a. machine language
b. symbolic language
c. high-level language
d. none of the above

Answer: c

7) The C++ is considered as a _____.

a. machine language
b. symbolic language
c. high-level language
d. none of the above

Answer: c

8) A functional paradigm uses _____.

a. mathematical functions.

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b. classes and objects
c. logical facts and rules
d. all of the above
Answer: a

9) A logical paradigm uses _____.

a. mathematical functions.
b. classes and objects
c. logical facts and rules
d. all of the above
Answer: c

10) The C++ language is considered as a_____ paradigm.

a. logical
b. functional
c. combination of procedural and object-oriented
d. combination of logical and functional
Answer: c

11) The Java language is considered as _____ paradigm.

a. logical
b. functional
c. object-oriented
d. combination of logical and functional
Answer: c

12) The first step in program design is to _____.

a. understand the problem
b. develop the solution
c. define classes

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d. write the code

Answer: a

13) The second step in program design is to _____.

a. understand the problem
b. develop the solution
c. test the program
d. run the program

Answer: b

14) An algorithm is a set of _____.

a. specifications
b. objects
c. logical steps to solve the problem
d. instructions

Answer: c

15) The first steps in program development is to _____ the program.

a. write and edit
b. compile
c. test
d. run

Answer: d

16) A standard tool for designing, specifying, and documenting many aspects of a computing system is _____.

a. Unified Modeling Language
b. Standard System Development Language
c. System Flow Chart
d. System Compiler

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Answer: a

17) The design paradigm that views a program as a black box that maps a list of inputs to a list of outputs is the _____.

a. procedural paradigm
b. object-oriented paradigm
c. logic paradigm
d. functional paradigm

Answer: d

18) Which of the following is a step in program design?

a. select the program language
b. develop the solution
c. write the program
d. test the program

Answer: b

19) The program that translates the source file into machine language is the _____.

a. translator
b. loader
c. compiler
d. linker

Answer: c

Chapter Two

1) In C++, an identifier's name can start with _____.

a. a letter
b. a digit
c. an underscore

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d. both a and c
Answer: d

2) A preprocessor directive is a command to _____ in our program.

a. include some predefined code
b. include some comments
c. show the start of the program
d. show the end of the program
Answer: a

3) A preprocessor directive needs _____ at the end of the line.

a. a dot
b. a colon
c. a semicolon
d. nothing
Answer: d

4) Each C++ program needs to have a function named _____.

a. start
b. main
c. end
d. program
Answer: b

5) To terminate a command line in C++, we need a _____.

a. dot
b. colon
c. semicolon
d. hyphen
Answer: c

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6) In a C++ program, the body of a function needs to enclosed inside two _____.

a. parentheses
b. braces
c. exclamation marks
d. dots

Answer: b

7) In a C++ program, if the main function has terminated successfully, it returns ____ to the running environment.

a. 0
b. 1
c. –1
d. nothing

Answer: a

8) In a C++ program, to avoid mentioning the namespace (last name) of an object, we add _____.

a. include namespace
b. using namespace
c. include std
d. none of the above

Answer: b

9) In a C++ program, a line comment _____.

a. starts with //
b. ends with //
c. starts with // and ends with \\
d. starts with \\ and ends with //

Answer: a

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10) In a C++ program, a block comment _____.

a. starts with /*
b. ends with /*
c. starts with /* and ends with */
d. starts with */ and ends with /*

Answer: c

11) In a C++ program, a *variable* is a memory chunk that needs to have _____.

a. only a name
b. only a type
c. neither a name nor a type
d. both a name and a type

Answer: d

12) In a C++ program, the *cin* object is normally associated with the _____.

a. the keyboard
b. the monitor
c. a file
d. the memory

Answer: a

13) In a C++ program, the *cout* object is normally associated with the _____.

a. the keyboard
b. the monitor
c. a file
d. the memory

Answer: b

14) Which of the following is not a valid user-defined identifier?

a. z
b. x5
c. 5x

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d. _total

Answer: c

15) To create a variable named *num* of type integer, we use _____.

a. **int** num;

b. num **int**;

c. num = **int**;

d. **int** = num;

Answer: a

16) The statement *x* = 3 in C++ means to_____.

a. check to see if x equals 3

b. store 3 in variable x

c. increment value of x by 3

d. decrement the value of x by 3

Answer: b

17) Which of the following statements in C++ is valid?

a. x = 2;

b. 2 = x;

c. x + 2 = 5;

d. 2 = x + 5;

Answer: a

18) The statement *x* = y in C++ means to_____.

a. to copy value of variable x into variable y

b. to copy value of variable y into variable x

c. to check if the variable of x is the same as variable y

d. to make variable x and y to be the same memory chunk

Answer: b

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19) If *x* is 4 and *y* is 5, what is the value of *x* after the statement *y* = *x* + 2.

a. 4
b. 6
c. unknown
d. 2
Answer: b

In C++, a token can be _____.

a. a literal
b. an identifier
c. a symbol
d. any of the above
Answer: d

20) In C++, which of the following can be an identifier?

a. 3num
b. –num
c. num1
d. 2num
Answer: c

21) In C++, a keyword is an identifier that _____.

a. cannot be changed
b. cannot be used to define a variable
c. cannot be redefined
d. all of the above
Answer: d

22) In C++, a literal is _____.

a. an identifier

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True/False Questions

Chapter One

TF-1. A computer system is made of two major components: hardware and software.

TF-2. The hardware components of the computer system consist of the input system, output system, and secondary storage.

TF-3. The ALU is made of the CPU and primary memory.

TF-4. Computer software can be divided into two broad categories: system software and application software.

TF-5. System support software includes system utilities and other operating services.

TF-6. Computer languages can be divided into three categories: machine languages, symbolic languages, and high-level languages.

TF-7. In a procedural paradigm, each command changes the state of the memory.

TF-8. In a procedural paradigm, there is a direct relationship between the set of procedures and the set of data packages.

TF-9. C++ is a language based on the logic paradigm.

TF-10. C++ can be used both as a procedural and an object-oriented paradigm.

Chapter Two

TF-1. A variable is a location in memory that holds a value, and its value can be changed during the execution of a program.

TF-2. A constant is a location in memory that holds a value and its value cannot be changed during the execution of a program.

TF-3. An integer literal can be presented as fixed or scientific format.

TF-4. A character literal is enclosed between two single quotes.

TF-5. A string literal is enclosed between two single quotes.

TF-6. A floating-point type is a value with no fraction.

TF-7. The floating-point type defines three data types: *float*, *double*, and *long double*.

TF-8. A variable must have a name, but not a type.

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Review Questions

Chapter One

RQ-1. List and briefly describe the two major components of a computer system.

RQ-2. Computer hardware is made up of five parts. List and briefly describe them.

RQ-3. Explain the difference between primary memory and secondary storage.

RQ-4. Explain the reason that we need secondary storage in addition to primary memory.

RQ-5. List and explain the duties of three parts of a CPU.

RQ-6. Describe the two major categories of software.

RQ-7. Describe the purpose of an operating system.

RQ-8. Give at least two examples of system software.

RQ-9. Give at least two examples of application software.

RQ-10. List three types of computer languages described in the text.

RQ-11. Describe the primary differences between symbolic and high-level languages.

RQ-12. Describe the difference between a procedural and an object-oriented language.

RQ-13. List at least three languages that are designed to use a procedural paradigm.

RQ-14. List at least three languages that are designed to use an object-oriented language.

RQ-15. List and explain the steps that a programmer follows to develop a program.

RQ-16. Distinguish between a compiler and a linker.

Chapter Two

RQ-1. Define the two ways we can include comments in a C++ program.

RQ-2. What are the two characteristics of a variable?

RQ-3. What is the purpose of a variable definition?

RQ-4. What is wrong with the following variable definition?

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```
int return;
```

RQ-5. What is the error in each of the following lines?

```
cout >> x;
cin >> 20;
```

RQ-6. What is the difference between the following two lines?

```
char letter = 67;
char letter = 'C';
```

RQ-7. Using Appendix A, find what is stored in variable x and y?

```
char x = 101;
char y = 104;
```

RQ-8. Fill the blank. Every C++ program needs to have a function named _____.

RQ-9. What is wrong with the following lines of code?

```
cin << "Hi";
cout >> x;
```

RQ-10. Show a C++ definition that defines x and y as variables of type long integers.

RQ-11. Show a C++ definition that defines x and y as variables of type long floating-point.

RQ-12. What is wrong with the following definition?

```
void x;
```

RQ-13. Show a line in C++ that stores the value of the variable x into the variable y.

RQ-14. Show a line in C++ that stores the value of the variable y into the variable x.

RQ-15. What is the effect of the following two lines in C++ assuming *first* and *second* are variables with integer 20 and 30 stored in them.

```
first = second;
second = first;
```

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RQ-16. Are the two identifiers *salary* and *Salary* the same in C++?

RQ-17. What is wrong with the following assignment in C++?

```
120 = x;
```

RQ-18. Which of the following are *keywords* in C++?

```
integer    int    long int    return    include    iostream    string
```

RQ-19. What is the difference between the values 'A' and "A" in C++?

RQ-20. What is the difference between a C-string and a C++ string?

RQ-21. Which of the following variables are correctly defined?

```
char letter = 'A';
int first;
double average = 8.5;
```

RQ-22. Which of the following variables are correctly defined?

```
double average = 3;
int first;
double average, tax = 8.5;
```

RQ-23. Declare two variables of type *int*, two of type *float*, and three of type *double*.

RQ-24. Declare a string object that holds the string literal "Hello friends".

RQ-25. Declare a sting object that concatenates a first name and a last name.

Chapter Three

RQ-1. Define an expression.

RQ-2. What is the return value of an expression?

RQ-3. What is the side-effect of an expression?

RQ-4. Does an expression need to have a side-effect?

RQ-5. What is the number of operands in a unary expression?

RQ-6. What is the number of operands in a multiplicative expression?

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