Programming Logic and Design Introductory 9th edition Farrell Test Bank

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TRUE/FALSE

1 : All programming languages support four broad data types.
A : true
B : false

Correct Answer : B

2 : Because one memory location can be used repeatedly with different values, you can write program instructions once and then use them for thousands of separate calculations
A : true
B : false

Correct Answer : A

3 : In many programming languages, if you declare a variable and do not initialize it, the variable contains an unknown value until it is assigned a value.
A : true
B : false

Correct Answer : A

4 : Variable names can be more than one word with blanks between the words.
A : true
B : false

Correct Answer : B

5 : The assignment operator has left-to-right-to-left associativity, which means that the value of the expression to the left of the assignment operator is evaluated first and that the result is assigned to the operand on the right.
A : true
B : false

Correct Answer : B

6 : A string variable can hold digits such as account numbers and zip codes.
A : true
B : false

Correct Answer : A

7 : Programmers generally write programs as one long series of steps.
A : true
B : false

Correct Answer : B

8 : Modularization makes it harder for multiple programmers to work on a problem.
A : true
B : false

Correct Answer : B

9 : Program comments are a type of internal documentation.
A : true
B : false

Correct Answer : A

10 : Most modern programming languages require that program statements be placed in specific columns.
A : true
B : false

Correct Answer : B

SHORT RESPONSE

11 : What does a data item’s data type describe?

Correct Answer : A data item’s data type is a classification that describes the following:1) What values can be held by the item2) How the item is stored in computer memory3) What operations can be performed on the data item

12 : List three reasons for modularizing a large program.

Correct Answer : 1) Modularization provides abstraction.2) Modularization allows multiple programmers to work on a problem.3) Modularization allows you to reuse your work more easily.

13 : What items should you include when you create a module?

Correct Answer : When you create a module, you include the following:1) A header—A module’s header includes the module identifier and possibly other necessary identifying information.2) A body—A module’s body contains all the statements in the module.3) A return statement—A module’s return statement marks the end of the module and identifies the point at which control returns to the program or module that called the module.

14 : Explain the purpose of detail loop tasks.

Correct Answer : Detail loop tasks do the core work of the program. When a program processes many records, detail loop tasks execute repeatedly for each set of input data until there are no more. For example, in a payroll program, the same set of calculations is executed repeatedly until a check has been produced for each employee.

15 : What are end-of-job tasks?

Correct Answer : End-of-job tasks are the steps you take at the end of the program to finish the application. You can call these finish-up or clean-up tasks. They might include displaying totals or other final messages and closing any open files.

16 : List three design features that you can use while creating programs to make them easier to

write and maintain.

Correct Answer : Students should list three of the following:1) You should use program comments where appropriate.2) Your identifiers should be well chosen.3) You should strive to design clear statements within your programs and modules.4) You should write clear prompts and echo input.5) You should continue to maintain good programming habits as you develop your programming skills.

17 : Explain the purpose of annotation symbols.

Correct Answer : In a flowchart, you can use an annotation symbol to hold information that expands on what is stored within another flowchart symbol. An annotation symbol is most often represented by a three-sided box that is connected to the step it references by a dashed line. Annotation symbols are used to hold comments, or sometimes statements that are too long to fit neatly into a flowchart symbol.

18 : Discuss why it is important to use meaningful names for identifiers.

Correct Answer : Creating a data item named someData or a module named firstModule() makes a program cryptic. Not only will others find it hard to read your programs, but you will forget the purpose of these identifiers even within your own programs. All programmers occasionally use short, non-descriptive names such as x or temp in a quick program; however, in most cases, data and module names should be meaningful. Programmers refer to programs that contain meaningful names as self-documenting. This means that even without further documentation, the program code explains itself to readers.

19 : Explain the purpose of temporary variables.

Correct Answer : When you need several mathematical operations to determine a result, consider using a series of temporary variables to hold intermediate results. A temporary variable (or a work variable) is not used for input or output, but instead is just a working variable that you use during a program's execution.

20 : Discuss why it is important to maintain good programming habits.

Correct Answer : When you learn a programming language and begin to write lines of program code, it is easy to forget the principles you have learned in this text. Having some programming knowledge and a keyboard at your fingertips can lure you into typing lines of code before you think things through. But every program you write will be better if you plan before you code. If you maintain the habit of first drawing flowcharts or writing pseudocode, as you have learned here, your future programming projects will go more smoothly. If you desk-check your program logic on paper before starting to type statements in a programming language, your programs will run correctly sooner. If you think carefully about the variable and module names you use, and design your program statements to be easy to read and use, your programs will be easier to develop and maintain.

MULTIPLE CHOICE

21 : When you write programs, you work with data in three different forms: ____.
A : values, variables (or named values), and unnamed values
B : variables, named constants, and named memory

C : variables, literals (or unnamed constants), and named constants
D : variations, RAM (or unnamed constants), and named values

Correct Answer : C

22 : Fractional numeric variables that contain a decimal point are known as ____ variables.
A : partial
B : string
C : integer
D : floating-point

Correct Answer : D

23 : A specific numeric value is often called a(n) ____.
A : named constant
B : defined constant
C : arithmetic constant
D : numeric constant

Correct Answer : D

24 : In most programming languages, before you can use any variable, you must include a ____ for it.
A : declaration
B : definition
C : header
D : proclamation

Correct Answer : A

25 : The process of naming program variables and assigning a type to them is called ____ variables.
A : initializing
B : declaring
C : identifying
D : proclaiming

Correct Answer : B

26 : Declaring a starting value for a variable is known as ____ the variable.
A : initializing
B : declaring
C : defining
D : identifying

Correct Answer : A

27 : A variable’s unknown value is commonly called ____.
A : initial
B : default
C : random
D : garbage

Correct Answer : D

28 : When the variable starts with a lowercase letter and any subsequent word begins with an uppercase letter, this is called ____.
A : Hungarian notation
B : Pascal casing
C : camel casing
D : Turing notation

Correct Answer : C

29 : When the first letter of a variable name is uppercase, as in HourlyWage, the format is known as ____ casing.
A : Hungarian notation
B : Pascal casing
C : camel casing
D : Turing notation

Correct Answer : B

30 : ____ is where a variable's data type or other information is stored as part of the name.
A : Hungarian notation
B : Pascal case
C : Turing notation
D : Camel case

Correct Answer : A

31 : The assignment operator is the ____ sign.
A : *
B : +
C : =
D : /

Correct Answer : C

32 : A(n) ____ is similar to a variable, except it can be assigned a value only once.
A : unnamed constant
B : literal
C : named constant
D : constant

Correct Answer : C

33 : The ____ dictate the order in which operations in the same statement are carried out.
A : rules of precedence
B : statement rules
C : operation rules
D : rules of arithmetic

Correct Answer : A

34 : Depending on the programming language being used, modules are also known as ____ .

A : subroutines, procedures, or methods
B : subroutines, receptacles, or methods
C : tasks, functions, or methods
D : procedures, functions, or containers

Correct Answer : A

35 : The process of breaking down a large program into modules is called ____.
A : decomposing
B : modularization
C : fragmentation
D : caching

Correct Answer : B

36 : ____ is the process of paying attention to important properties while ignoring nonessential details.
A : Abstraction
B : Modularization
C : Abbreviation
D : Decomposition

Correct Answer : A

37 : Programmers say the statements that are contained in a module have been ____.
A : embedded
B : decomposed
C : encapsulated
D : modularized

Correct Answer : C

38 : Programmers say that variables and constants declared within a module are ____ only within that module.
A : abstracted
B : out of scope
C : in scope
D : in reference

Correct Answer : C

39 : ____ variables and constants are known to the entire program.
A : Local
B : Transient
C : Heap
D : Global

Correct Answer : D

40 : The mainline logic of almost every procedural computer program consists of these three distinct parts: ____ .
A : housekeeping tasks, main tasks, and end-of-job tasks
B : clearing tasks, detail loop tasks, and end-of-job tasks

C : housekeeping tasks, detail loop tasks, and end-of-job tasks
D : housekeeping tasks, detail loop tasks, and math tasks

Correct Answer : C

41 : When a program has several modules calling other modules, programmers often use a program ____, which operates similarly to an organizational chart, to show the overall picture of how modules are related to one another.
A : hierarchy chart
B : tree chart
C : flow chart
D : data diagram

Correct Answer : A

42 : As programs become larger and more complicated, the need for good planning and design ____ .
A : decreases
B : is inefficient
C : is not necessary
D : increases

Correct Answer : D

43 : In a flowchart, an ____ is most often represented by a three-sided box that is connected to the step it references by a dashed line.
A : abstraction symbol
B : annotation symbol
C : abbreviation symbol
D : enumeration symbol

Correct Answer : B

44 : Programmers refer to programs that contain meaningful names as ____.
A : undocumented
B : procedurally documented
C : formally documented
D : self-documenting

Correct Answer : D

45 : A ____ variable is not used for input or output, but instead is just a working variable that you use during a program's execution.
A : programming
B : throw away
C : temporary
D : calculating

Correct Answer : C

MATCHING

46 : Match each term with a statement below.

A : Named memory locations whose contents can vary or differ over time	A : Reliability
B : A statement that provides a data type and an identifier for a variable	B : Declaration
C : A program component's name	C : Echoing input
D : Can hold digits and have mathematical operations performed on it	D : String variable
E : Can hold text, such as letters of the alphabet, and other special characters, such as punctuation marks	E : Identifier
F : The feature of programming languages that prevents assigning values of an incorrect data type	F : Prompt
G : The feature of programs that assures you a module has been tested and proven to function correctly	G : Variables
H : A list of every variable name used in a program, along with its type, size, and description	H : Data dictionary
I : A message that is displayed on a monitor to ask the user for a response and perhaps explain how that response should be formatted	I : Numeric variable
J : The act of repeating input back to a user either in a subsequent prompt or in output	J : Type-safety

Correct Answer :
A : G

B : B

C : E

D : I

E : D

F : J

G : A

H : H

I : F

J : C

FILL IN THE BLANK

47 : Whole number variables are known as _____ variables.

Correct Answer : integer

48 : Declaring a starting value is known as _____ the variable.

Correct Answer : initializing

49 : Each programming language has a few reserved _____ that are not allowed as variable names because they are part of the language's syntax.

Correct Answer : key words

50 : _____ tasks include any steps you must perform at the beginning of a program to get ready for the rest of the program.

Correct Answer : house keeping

51 : Program _____ are written explanations that are not part of the program logic but that serve as documentation for readers of the program.

Correct Answer : comments