

## Chapter10

### True/False

*Indicate whether the statement is true or false.*

- \_\_\_ 1. A decision is easy to make when one option will clearly bring about a better outcome than any other.
- \_\_\_ 2. Mathematicians call a sequence of steps a parameter.
- \_\_\_ 3. Most mathematical and physical problems are unstructured.
- \_\_\_ 4. The majority of problems in the business world are structured.
- \_\_\_ 5. Stock investment, weather forecasting, and medicine are domains of unstructured or semistructured decision making.
- \_\_\_ 6. The terms “decision support systems” and “expert systems” are mentioned more and more frequently in recent years.
- \_\_\_ 7. A DSS might use a database created specially for that system, but DSSs are usually linked to databases used for other purposes as well, such as purchasing, shipping, billing, and other daily transactions.
- \_\_\_ 8. A fixed variable model constantly changes.
- \_\_\_ 9. A private business might develop a linear regression model to estimate future sales based on past experience.
- \_\_\_ 10. All DSS models are business-oriented.
- \_\_\_ 11. A small change in price per unit might result in a dramatic increase in sales, which means sales volume has a high sensitivity to product price.
- \_\_\_ 12. You might be familiar with sensitivity analysis from using word processors.
- \_\_\_ 13. Many government agencies offer decision support systems on the Web.
- \_\_\_ 14. When one passenger on an airplane pays a third of what another paid for the same flight, this is the result of recommendations the airline receives from a DSS whose purpose is to maximize revenue.
- \_\_\_ 15. A good risk is a person or institution that is likely to default on a loan.
- \_\_\_ 16. Artificial intelligence (AI) is so called because it focuses on methods and technologies to emulate how humans learn and solve problems.
- \_\_\_ 17. Neural nets have been very effective in detecting fraud of many types.
- \_\_\_ 18. A GIS might be used to help a housing developer determine where to invest by tracking and displaying population changes on a map, highlighting in color increases of more than 10 percent over the past 3 years.

- \_\_\_ 19. Neural nets allow employees to bring up thousands of maps from a central repository on their own PCs.
- \_\_\_ 20. In government work, an FIS allows a city clerk to bring up a map of the neighborhood of a resident, zoom in on the resident's house pictured on the map, click on the picture, and receive information such as real-estate taxes owed and paid over the past several years.

### Multiple Choice

*Identify the choice that best completes the statement or answers the question.*

- \_\_\_ 21. Businesses use \_\_\_ to analyze data.
- a. models
  - b. documents
  - c. references
  - d. plans
- \_\_\_ 22. A(n) \_\_\_ is one for which there is no algorithm to follow to reach an optimal solution.
- a. unstructured discussion
  - b. unstructured problem
  - c. structured problem
  - d. structured report
- \_\_\_ 23. A \_\_\_ is one that is neither fully structured nor totally unstructured.
- a. half structured problem
  - b. limited structured problem
  - c. semistructured problem
  - d. superstructured problem
- \_\_\_ 24. Although the use of \_\_\_ typically increases with the level of management, the systems are used at all levels, and often by nonmanagerial staff.
- a. accounting systems
  - b. CRM systems
  - c. SCM systems
  - d. DSSs
- \_\_\_ 25. You should realize that some components of a computer-based decision aid, such as databases, might already be in place when a new \_\_\_ is developed.
- a. DBMS
  - b. GIS
  - c. CAD system
  - d. DSS
- \_\_\_ 26. The majority of DSSs comprise three major components: a data management module, a model management module, and a \_\_\_.
- a. full management module
  - b. global module
  - c. dialog module
  - d. diagram module
- \_\_\_ 27. When organizations use a supply chain management (SCM) or \_\_\_, the databases of such systems provide the data for the DSS.
- a. document management system(DMS)
  - b. customer relationship management (CRM) system
  - c. geographic information system (GIS)
  - d. global positioning system (GPS)
- \_\_\_ 28. A \_\_\_ is one that is automatically adjusted based on changing relationships among variables.
- a. dynamically modified model
  - b. constantly modified model
  - c. fixed variable model
  - d. static model
- \_\_\_ 29. \_\_\_ or models might be unique to a certain industry or even to an individual business.
- a. Patterns
  - b. Data sheets
  - c. References
  - d. Agendas

- \_\_\_ 30. Among the general statistical models, a(n) \_\_\_ model is the best-fit linear relationship between two variables, such as sales and the money spent on marketing.
- a. exponential curve
  - b. linear regression
  - c. quadratic
  - d. logarithmic statistical
- \_\_\_ 31. Some models can be expressed as a curve, rather than a(n) \_\_\_\_.
- a. s shape
  - b. bell shape
  - c. straight line
  - d. step function
- \_\_\_ 32. The \_\_\_ prompts the user to select a model, allowing the user to access the database and select data for the decision process or to set criteria for selecting such data.
- a. model management module
  - b. data management module
  - c. information management module
  - d. dialog module
- \_\_\_ 33. As an increasing number of DSSs are available for use through the Internet, some \_\_\_ are especially designed to be compatible with Web browsers.
- a. data management modules
  - b. information management modules
  - c. model management modules
  - d. dialog modules
- \_\_\_ 34. A(n) \_\_\_ is almost always affected by more than one parameter.
- a. schema
  - b. impression
  - c. outcome
  - d. agenda
- \_\_\_ 35. Outcomes rarely respond in equal measure to changes in \_\_\_\_.
- a. data sheets
  - b. parameters
  - c. indexes
  - d. units
- \_\_\_ 36. \_\_\_ are an excellent tool for building both the data and the models that decision support systems need, and therefore they make excellent tools for building decision support software.
- a. Spreadsheets
  - b. Data sheets
  - c. Data lists
  - d. Base lists
- \_\_\_ 37. A growing number of organizations implement software applications that produce decisions automatically and in \_\_\_\_.
- a. real time
  - b. parallel
  - c. modules
  - d. line with forecasts
- \_\_\_ 38. Some companies offer \_\_\_ specifically designed to analyze shoppers' behavior at their sites based on captured data such as pages viewed, options clicked, and the sequence of pages shoppers view.
- a. SCMs
  - b. GISs
  - c. data warehouses
  - d. DSSs
- \_\_\_ 39. An increasing amount of \_\_\_ in the financial services and many other industries are made automatically and in real time.
- a. data automation
  - b. materials management
  - c. decision agenda
  - d. decision making
- \_\_\_ 40. For some banks, if your credit score is in the 500s or even 600s on a scale of \_\_\_\_, you are not considered a good credit risk.
- a. 0–800
  - b. 350–850
  - c. 200–1000
  - d. 350–1000
- \_\_\_ 41. When using a DSS or a(n) \_\_\_\_, the user enjoys the knowledge and experience that have been accumulated by other people over many years.

- a. accounting system  
b. human intelligence system
- c. expert system  
d. human resource management system
- \_\_\_ 42. It is not always possible to exploit expertise by coupling quantitative data from a database with decision models, so in such cases, an \_\_\_ might be required.  
a. experienced system  
b. experimental system  
c. expert system  
d. expertise system
- \_\_\_ 43. A \_\_\_ is a specific area of knowledge.  
a. neural network  
b. domain  
c. domino  
d. protocol
- \_\_\_ 44. Rather than containing a set of IF-THEN rules, more sophisticated ESs use programs called \_\_\_, which are designed to mimic the way a human brain learns.  
a. neural networks  
b. power rules  
c. communication networks  
d. sensitivity analysis
- \_\_\_ 45. Medical \_\_\_ help diagnose patients and suggest treatments.  
a. expert systems  
b. ERPs  
c. model systems  
d. data management modules
- \_\_\_ 46. Like other similar institutions, the American Stock Exchange (AMEX) has a special department to prevent \_\_\_ of the securities under its supervision.  
a. inside training  
b. insider trading  
c. insufficient trading  
d. insider tracking
- \_\_\_ 47. General Electric Corp. developed a(n) \_\_\_ that helps nonexperts to identify common metals and alloys outside laboratories.  
a. prospector system  
b. neural network  
c. expert system  
d. metalloy system
- \_\_\_ 48. HTML and \_\_\_, the primary languages used to compose and retrieve Web pages, support the presentation of pictures with marked areas, which makes them ideal for retrieval of marked maps.  
a. XML  
b. HTTP  
c. SGML  
d. SML
- \_\_\_ 49. Clicking different areas of a map can zoom in and out as well as bring up related information in the form of other maps or text, utilizing the \_\_\_ capabilities of the Web to the fullest.  
a. hypertext  
b. video  
c. multimedia  
d. hypergraphic
- \_\_\_ 50. \_\_\_ are applications that combine features of two or more online applications.  
a. Databases  
b. Mashups  
c. Spreadsheets  
d. Graphics

### Completion

Complete each statement.

51. Whenever more than one possible action is available, a(n) \_\_\_\_\_ must be made.
52. In the \_\_\_\_\_ phase of decision making, decision makers collect facts, ideas, and beliefs.

53. A(n) \_\_\_\_\_ is one in which an optimal solution can be reached through a single set of steps.
54. Mathematicians call a sequence of steps a(n) \_\_\_\_\_ and the categories of data that are considered when following those steps parameters.
55. A(n) \_\_\_\_\_, is a computer-based information system designed to help managers select one of many alternative solutions to a problem.
56. A DSS's \_\_\_\_\_ is a database or data warehouse that provides the data for the intelligence phase of decision making.
57. To turn data into useful information, the system utilizes its \_\_\_\_\_, which offers a single fixed model, a dynamically modified model, or a collection of models from which either the DSS or the user selects the most appropriate one.
58. The part of the DSS that allows the user to interact with it is called the \_\_\_\_\_.
59. You can use a DSS to perform \_\_\_\_\_ analyses on multiple parameters at the same time.
60. In airlines, the purpose of \_\_\_\_\_ DSSs is to find the proper pricing to maximize the overall revenue from selling seats for each flight.
61. Many banks use automated \_\_\_\_\_ aids to determine a client's creditworthiness.
62. A(n) \_\_\_\_\_ is developed to emulate the knowledge of an expert to solve problems and make decisions in a relatively narrow domain.
63. Expert systems and neural networks are two techniques researched and implemented in a field called \_\_\_\_\_.
64. An ES uses a(n) \_\_\_\_\_, which is a collection of facts and the relationships among them.
65. A(n) \_\_\_\_\_ is software that combines data that is input by the user with the data relationships stored in the knowledge base.
66. In most ESs, the knowledge base is built as a series of \_\_\_\_\_ rules.
67. An ES is constructed with a set of rules, but as data on real successes and failures of decisions is accumulated and fed into the system, the \_\_\_\_\_ refines the rules to accomplish a higher success rate.
68. Insurance companies use \_\_\_\_\_ nets to detect fraudulent claims both from the insured party and from health-care providers.
69. Because medicine is one of the most unstructured domains, it is not surprising that many of the early \_\_\_\_\_ were developed to help doctors with the diagnosis of symptoms and treatment advice.

70. In addition to diagnostic \_\_\_\_\_, some hospitals use systems that help discern which tests or other initial treatment a patient should receive.