

Name: _____ Class: _____ Date: _____

Unit 01 Digital Content

1. _____ refers to the symbols that represent people, events, things, and ideas.

ANSWER: Data

REFERENCES: DATA REPRESENTATION BASICS

2. Data refers to the symbols that represent people, events, things, and ideas.

- a. True
- b. False

ANSWER: True

REFERENCES: DATA REPRESENTATION BASICS

3. Data becomes _____ when it is presented in a format that people can understand and use.

ANSWER: information

REFERENCES: DATA REPRESENTATION BASICS

4. Data _____ refers to the form in which data is stored, processed, and transmitted.

ANSWER: representation

REFERENCES: DATA REPRESENTATION BASICS

5. Digital data can be _____ that have been converted into discrete digits such as 0s and 1s.

- a. text
- b. numbers
- c. graphics, sound, and video
- d. all of the above

ANSWER: d

REFERENCES: DATA REPRESENTATION BASICS

6. The process of converting information, such as text, numbers, photos, or music, into digital data that can be manipulated by electronic devices is called _____.

- a. binary
- b. digitization
- c. representation
- d. none of the above

ANSWER: b

REFERENCES: DATA REPRESENTATION BASICS

7. A file name extension indicates the file format.

- a. True
- b. False

ANSWER: True

REFERENCES: DATA REPRESENTATION BASICS

8. The 0s and 1s used to represent digital data are referred to as _____ digits.

ANSWER: binary

REFERENCES: DATA REPRESENTATION BASICS

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9. _____ data consists of numbers that can be used in arithmetic operations.

- a. Text
- b. Digital
- c. Numeric
- d. Binary

ANSWER: c

REFERENCES: REPRESENTING NUMBERS

10. The binary number system has only two digits: 1 and 2.

- a. True
- b. False

ANSWER: False

REFERENCES: REPRESENTING NUMBERS

11. The _____ number system allows digital devices to represent virtually any number simply by using 0s and 1s.

- a. digital
- b. text
- c. numeric
- d. binary

ANSWER: d

REFERENCES: REPRESENTING NUMBERS

12. Character data is composed of letters, symbols, and numerals that are used in calculations.

- a. True
- b. False

ANSWER: False

REFERENCES: REPRESENTING TEXT

13. ASCII requires _____ bits for each character.

- a. two
- b. six
- c. seven
- d. ten

ANSWER: c

REFERENCES: REPRESENTING TEXT

14. Unicode uses _____ bits and provides codes for 65,000 characters.

- a. seven
- b. eight
- c. ten
- d. sixteen

ANSWER: d

REFERENCES: REPRESENTING TEXT

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15. Plain, unformatted text is sometimes called ASCII text.

- a. True
- b. False

ANSWER: True

REFERENCES: REPRESENTING TEXT

16. ASCII text files contain formatting.

- a. True
- b. False

ANSWER: False

REFERENCES: REPRESENTING TEXT

17. In a formatted text file, _____ signals the beginning and end of a formatting command.

ANSWER: delimiter, delimiters

REFERENCES: REPRESENTING TEXT

18. All of the data stored and transmitted by digital devices is encoded as bits.

- a. True
- b. False

ANSWER: True

REFERENCES: BITS AND BYTES

19. A group of eight bits is called a _____.

- a. byte
- b. megabit
- c. binary
- d. numeric data

ANSWER: a

REFERENCES: BITS AND BYTES

20. Transmission speeds are expressed in _____, whereas storage space is expressed in _____.

- a. bits, bytes
- b. bytes, bits
- c. binary, numeric
- d. none of the above

ANSWER: a

REFERENCES: BITS AND BYTES

21. Data _____ refers to any technique that recodes the data in a file so that it contains fewer bits.

ANSWER: compression

REFERENCES: COMPRESSION

22. Lossy compression provides a way to compress data and reconstitute it into its original state.

- a. True

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b. False

ANSWER: False

REFERENCES: COMPRESSION

23. Lossy compression throws away some of the original data during the compression process.

a. True

b. False

ANSWER: True

REFERENCES: COMPRESSION

24. Compressed files usually have _____ at the end of the file name.

a. .exe

b. .zip

c. .txt

d. none of the above

ANSWER: b

REFERENCES: COMPRESSION

25. _____ is music, speech, and other sounds represented in binary format for use in digital devices.

a. MIDI

b. speech recognition

c. speech synthesis

d. Digital audio

ANSWER: d

REFERENCES: DIGITAL AUDIO BASICS

26. To digitally record sound, _____ of a sound wave are collected at periodic intervals and stored as numeric data in an audio file.

ANSWER: samples, sample, sampling

REFERENCES: DIGITAL AUDIO BASICS

27. Sampling _____ refers to the number of times per second that a sound is measured during the recording process.

a. rate

b. compression

c. depth

d. sound

ANSWER: a

REFERENCES: DIGITAL AUDIO BASICS

28. To conserve space, applications that require high-quality sound use low sampling rates.

a. True

b. False

ANSWER: False

REFERENCES: DIGITAL AUDIO BASICS

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29. Regardless of sampling rate, digital audio file size can be reduced using audio compression techniques.

- a. True
- b. False

ANSWER: True

REFERENCES: DIGITAL AUDIO BASICS

30. Most music for portable media players is stored in _____ audio file formats.

- a. uncompressed
- b. compressed
- c. lossless
- d. zipped

ANSWER: b

REFERENCES: DIGITAL AUDIO FILE FORMATS

31. Digital audio is stored in a variety of file formats, including _____.

- a. WMA
- b. WAV
- c. MP3
- d. all of the above

ANSWER: d

REFERENCES: DIGITAL AUDIO FILE FORMATS

32. Which of the following is NOT a format that is used for digital audio?

- a. MP3
- b. DOC
- c. WAV
- d. Ogg

ANSWER: b

REFERENCES: DIGITAL AUDIO FILE FORMATS

33. A(n) _____ is software that works in conjunction with your computer's browser to manage and play audio that you are accessing from a Web page.

ANSWER: audio plugin

REFERENCES: DIGITAL AUDIO FILE FORMATS

34. The technical term for ripping music tracks is digital audio extraction.

- a. True
- b. False

ANSWER: True

REFERENCES: DIGITAL AUDIO FILE FORMATS

35. _____ specifies a standard way to store music data for synthesizers and computers.

ANSWER: MIDI

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REFERENCES: MIDI

36. MIDI files are less compact than digital audio files.

- a. True
- b. False

ANSWER: False

REFERENCES: MIDI

37. One of the main disadvantages of MIDI is that it cannot produce vocals.

- a. True
- b. False

ANSWER: True

REFERENCES: MIDI

38. _____ enables people to control software with spoken commands, as well as dictate text into a word processing document.

- a. MIDI
- b. Speech synthesis
- c. Speech recognition
- d. Phonemes

ANSWER: c

REFERENCES: DIGITIZED SPEECH

39. _____ is the process by which machines produce sound that resembles spoken words.

ANSWER: Speech synthesis

REFERENCES: DIGITIZED SPEECH

40. Text-to-speech software analyzes the words in a section of text, finds corresponding phonemes, and combines them into sentences for output.

- a. True
- b. False

ANSWER: True

REFERENCES: DIGITIZED SPEECH

41. Speech recognition software analyzes the sounds of your voice and converts each word into groups of _____.

ANSWER: phonemes, phoneme

REFERENCES: DIGITIZED SPEECH

42. A bitmap graphic is composed of a grid of tiny rectangular cells.

- a. True
- b. False

ANSWER: True

REFERENCES: BITMAP BASICS

43. Digital photographs are stored as bitmap files.

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- a. True
- b. False

ANSWER: True

REFERENCES: BITMAP BASICS

44. In a digital camera, a CCD's _____ correspond to pixels.

ANSWER: photosites, photosite

REFERENCES: BITMAP BASICS

45. Which of the following is NOT a type of bitmap format?

- a. TIFF
- b. RAW
- c. PNG
- d. ZIP

ANSWER: d

REFERENCES: BITMAP BASICS

46. Bitmap images are formed by a grid of _____.

ANSWER: pixels

REFERENCES: BITMAP DATA REPRESENTATION

47. Today's color display devices represent color using the _____ color model.

- a. RGB
- b. PNG
- c. BMP
- d. none of the above

ANSWER: a

REFERENCES: BITMAP DATA REPRESENTATION

48. The number of colors available in a graphic is referred to as color _____.

- a. depth
- b. range
- c. RGB
- d. PNG

ANSWER: a

REFERENCES: BITMAP DATA REPRESENTATION

49. 8-bit color depth is also called True Color.

- a. True
- b. False

ANSWER: False

REFERENCES: BITMAP DATA REPRESENTATION

50. The dimensions of the grid that forms a bitmap graphic are referred to as image _____.

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ANSWER: resolution

REFERENCES: BITMAP RESOLUTION

51. Bitmap graphics are resolution dependent because each element is a discrete pixel.

- a. True
- b. False

ANSWER: True

REFERENCES: BITMAP RESOLUTION

52. An undesirable jagged appearance of a graphics image is referred to as _____.

ANSWER: pixelation

REFERENCES: BITMAP RESOLUTION

53. Most graphics software uses a process called pixel _____ to create new pixels by averaging the colors of nearby pixels.

- a. polarization
- b. interpolation
- c. compression
- d. resolution

ANSWER: b

REFERENCES: BITMAP RESOLUTION

54. Image _____ refers to any technique that recodes the data in an image file so that it contains fewer bits.

ANSWER: compression

REFERENCES: IMAGE COMPRESSION

55. TIFF, PNG, and GIF graphics formats offer lossy compression.

- a. True
- b. False

ANSWER: False

REFERENCES: IMAGE COMPRESSION

56. JPEG files are compressed using lossy compression.

- a. True
- b. False

ANSWER: True

REFERENCES: IMAGE COMPRESSION

57. Lossy compression techniques discard some data from an image to shrink its file size.

- a. True
- b. False

ANSWER: True

REFERENCES: IMAGE COMPRESSION

58. Bitmap graphics are coded as a series of bits. Each bit represents the color of one _____.

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ANSWER: pixel

REFERENCES: MODIFYING BITMAP IMAGES

59. Image editors provide an image _____ that can be used to adjust the brightness values for various ranges of dark, mid-range, or light pixels

ANSWER: histogram

REFERENCES: MODIFYING BITMAP IMAGES

60. In the context of bitmap graphics editing, what technique employs algorithms that pull pixels from one area of an image and then apply them to another area?

- a. inpainting
- b. cloning
- c. noise reduction
- d. image enhancement

ANSWER: b

REFERENCES: MODIFYING BITMAP IMAGES

61. A clipping _____ essentially cuts an object out of an image and knocks out the background to make it transparent.

ANSWER: path

REFERENCES: MODIFYING BITMAP IMAGES

62. What is the term used to describes altering the pixel colors where the edges of the object and the background meet, so that the object appears to merge with the background?

- a. Alpha blending
- b. Clipping path
- c. Cloning
- d. Inpainting

ANSWER: a

REFERENCES: MODIFYING BITMAP IMAGES

63. A vector graphic consists of a set of instructions for creating a picture.

- a. True
- b. False

ANSWER: True

REFERENCES: VECTOR GRAPHICS BASICS

64. Instead of storing the color value for each pixel, a vector graphics file contains instructions that a computer uses to create the shape, size, position, and color for each object in an image.

- a. True
- b. False

ANSWER: True

REFERENCES: VECTOR GRAPHICS BASICS

65. When you change the size of a(n) _____ graphic, the objects change proportionally and maintain their smooth edges.

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ANSWER: vector

REFERENCES: VECTOR GRAPHICS BASICS

66. Vector graphics usually require more storage space than bitmaps.

- a. True
- b. False

ANSWER: False

REFERENCES: VECTOR GRAPHICS BASICS

67. Which of the following options are well suited for using vector graphics?

- a. line art
- b. logos
- c. diagrams
- d. all of the above

ANSWER: d

REFERENCES: VECTOR GRAPHICS BASICS

68. All bitmap graphics are photos.

- a. True
- b. False

ANSWER: False

REFERENCES: VECTOR GRAPHICS BASICS

69. Which of the following file extensions is NOT a vector graphic?

- a. .svg
- b. .eps
- c. .tif
- d. .ai

ANSWER: c

REFERENCES: VECTOR GRAPHICS BASICS

70. Both scanners and digital cameras produce vector graphics.

- a. True
- b. False

ANSWER: False

REFERENCES: VECTOR TOOLS

71. What is another term for vector graphics software?

- a. Drawing software
- b. Photo editing software
- c. Digital compositing
- d. All of the above

ANSWER: a

REFERENCES: VECTOR TOOLS

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72. A vector graphic can be converted into a bitmap graphic through a process called _____.

ANSWER: rasterizing, rasterization

REFERENCES: VECTOR TOOLS

73. After a vector graphic is converted to a bitmap, the resulting graphic no longer has the qualities of a vector graphic.

- a. True
- b. False

ANSWER: True

REFERENCES: VECTOR TOOLS

74. 3-D graphics are based on vectors stored as a set of instructions describing the coordinates for lines and shapes in a three-dimensional space. What do these vectors form?

- a. a bitmap graphic
- b. a zipped file
- c. a wireframe
- d. all of the above

ANSWER: c

REFERENCES: 3-D GRAPHICS

75. The process of covering a wireframe with surface color and texture is called _____.

ANSWER: rendering, render

REFERENCES: 3-D GRAPHICS

76. Which of the following is the technique for adding light and shadows to a 3-D image?

- a. rendering
- b. ray tracing
- c. wireframe
- d. rasterize

ANSWER: b

REFERENCES: 3-D GRAPHICS

77. 3-D graphics can be animated.

- a. True
- b. False

ANSWER: True

REFERENCES: 3-D GRAPHICS

78. Which of the following tools would be found in 3-D graphics software?

- a. rendering tools
- b. ray tracing tools
- c. surface texture tools
- d. all of the above

ANSWER: d

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REFERENCES: 3-D GRAPHICS

79. Digital video uses bits to store color and brightness data for each video frame.

- a. True
- b. False

ANSWER: True

REFERENCES: DIGITAL VIDEO BASICS

80. Analog footage can be digitized using video _____ equipment.

ANSWER: capture

REFERENCES: DIGITAL VIDEO BASICS

81. Digital _____ captures moving images as bits, rather than on film.

ANSWER: cinematography

REFERENCES: DIGITAL VIDEO BASICS

82. Digital video is a core technology for which of the following?

- a. digital television
- b. videoconferencing systems
- c. video messaging
- d. all of the above

ANSWER: d

REFERENCES: DIGITAL VIDEO BASICS

83. Which of the following is NOT a factor in the quality of digital video?

- a. frame rate and resolution
- b. color and bit depth
- c. compression technique
- d. memory technology in your camera

ANSWER: d

REFERENCES: DIGITAL VIDEO BASICS

84. In digital video, each bitmap image is referred to as a(n) _____.

ANSWER: frame

REFERENCES: DIGITAL VIDEO BASICS

85. The number of frames that are displayed per second is measured in _____.

- a. compression
- b. fps
- c. color depth
- d. bps

ANSWER: b

REFERENCES: DIGITAL VIDEO BASICS

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86. Digital videos look sharpest when they are displayed at a resolution that is larger than the frame size.
- a. True
 - b. False

ANSWER: False

REFERENCES: DIGITAL VIDEO BASICS

87. Video resolutions can be expressed as width x height.
- a. True
 - b. False

ANSWER: True

REFERENCES: DIGITAL VIDEO BASICS

88. Today's widescreen devices, such as laptops and smartphones, are designed for the 16:9 _____.
- a. resolution
 - b. aspect ratio
 - c. frame rate
 - d. all of the above

ANSWER: b

REFERENCES: DIGITAL VIDEO BASICS

89. When 4:3 videos are displayed in a widescreen player, they are bordered by the black bars of a(n) _____.

ANSWER: letterbox

REFERENCES: DIGITAL VIDEO BASICS

90. In digital video, as long as the proportion of horizontal and vertical pixels remains the same, the aspect ratio is consistent.
- a. True
 - b. False

ANSWER: True

REFERENCES: DIGITAL VIDEO BASICS

91. _____ is the number of bits that are processed during a specific unit of time, usually during one second.
- a. Bit rate
 - b. Bit depth
 - c. Color depth
 - d. none of the above

ANSWER: a

REFERENCES: DIGITAL VIDEO BASICS

92. Bit rate can be scaled down by reducing the resolution and applying _____ techniques.

ANSWER: compression

REFERENCES: VIDEO COMPRESSION

93. In digital video, a lower resolution reduces the bit rate.
- a. True

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b. False

ANSWER: True

REFERENCES: VIDEO COMPRESSION

94. _____ compression can be applied to each frame of a video.

ANSWER: Intraframe

REFERENCES: VIDEO COMPRESSION

95. _____ compression stores only the pixels that change color from one frame to the next.

ANSWER: Interframe

REFERENCES: VIDEO COMPRESSION

96. Video compression can be expressed as a compression _____.

ANSWER: ratio

REFERENCES: VIDEO COMPRESSION

97. A(n) _____ is the software that compresses a video stream when a video is stored, and decompresses the file when the video is played.

- a. compression
- b. codec
- c. bitmap
- d. resolution

ANSWER: b

REFERENCES: VIDEO COMPRESSION

98. Video files are stored in _____ formats that hold the compressed video stream and an audio stream.

ANSWER: container

REFERENCES: VIDEO FILE FORMATS

99. Which of the following is NOT a type of digital video container file?

- a. MP4
- b. AVI
- c. VOB
- d. PNG

ANSWER: d

REFERENCES: VIDEO FILE FORMATS

100. Transcoding digital videos does not cause a loss of quality.

- a. True
- b. False

ANSWER: False

REFERENCES: VIDEO FILE FORMATS