Quiz on Analog and Binary Signals

Instructions: For each question, choose the single best answer. Make your choice by clicking on its button. You can change your answers at any time. When the quiz is graded, the correct answers will appear in the box after each question.

1. What does the word **binary** mean?

- ○ **A.** *Binary* means "containing a computer."
- ● **B.** *Binary* means "having only two states."
- ○ **C.** *Binary* means "having a discrete number of values."
- ○ **D.** *Binary* means "using electronics to do arithmetic."

B

2. What is a **bit**?

- ● **A.** A *bit* is a single binary value.
- ○ **B.** A *bit* is a collection of several bytes.
- ○ **C.** A *bit* is a single character stored in main memory.
- ○ **D.** A *bit* is a small unit of computer time.

A

3. Which of the following is **NOT** an advantage of building computers out of binary devices?

- ○ **A.** Binary devices are simple and easy to build.
- ○ **B.** Binary signals are unambiguous.

   ◉ **C.**   Binary devices are much faster than decimal devices.

   ◯ **D.**   Patterns of bits can be used to represent anything symbolic.

> C

4. What is true of an **analog** signal?

   ◯ **A.**   An analog signal has a discrete number of states.

   ◯ **B.**   An analog signal is the only way that music can be recorded.

   ◯ **C.**   An analog signal can never be converted into a binary signal.

   ◉ **D.**   An analog signal is usually continuously changing in value.

> D

5. If an **analog** signal picks up some noise, has information been lost?

   ◯ **A.**   No — electronics can just ignore the noise.

   ◯ **B.**   No — information has been added to the signal.

   ◯ **C.**   Maybe — it depends on how loud the noise is.

   ◉ **D.**   Yes — the noise hides the exact values of the original signal.

> D

6. If a **binary** signal picks up some noise, has information been lost?

   ◉ **A.**   No — the exact value of the bits can be determined, as long as the noise is not too great.

   ◯ **B.**   No — binary signals can't pick up any noise.

   ◯ **C.**   Yes — the exact value of the bits cannot be determined.

   ◯ **D.**   Yes — the signal will have extra bits in it because of the noise.

> A

7. Why does a computer have a clock?

   ⦿ **A.**   The state of binary signals is measured only at specific instants in time.

   ○ **B.**   A clock is needed to check how fast signals are changing.

   ○ **C.**   A clock is needed to check that voltage levels are correct.

   ○ **D.**   A clock is used only with application programs that need to know the current time.

> A

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8. Can Japanese writing be represented in a computer?

   ○ **A.**   No — only English and English-like languages can be represented.

   ○ **B.**   No — only languages with an alphabet can be represented.

   ○ **C.**   Yes — but a special processor chip is needed.

   ⦿ **D.**   Yes — since it is symbolic, and anything symbolic can be represented.

> D

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9. Can English writing be represented with **analog** signals?

   ○ **A.**   No—only binary signals can represent symbolic data.

   ○ **B.**   No — it is not symbolic.

   ○ **C.**   No — analog signals don't represent anything.

   ⦿ **D.**   Yes — just read out loud into a microphone.

> D

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10. Why is it important that unlimited perfect copies can be made of data represented in binary?

   ○ **A.**   Transmitting data over the Internet involves making many copies of the data.

   ○ **B.**   Application programs such as wordprocessors and computer games must be perfect copies of the original in order to run.

   ○ **C.**   Because data are copied back and forth between parts of a computer

system many times per second.

🔘 **D.**   All of the above.

D

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grade quiz

The number you got right: 10   Percent Correct: 100   Letter Grade: A

If you have returned here from another page, or have re-loaded this page, you will need to click again on each of your choices for the grading program to work correctly. You may want to press the SHIFT KEY while clicking to clear the old answers.