

Unit 12 Test

Your Score: **90%**
18 Correct out of **20**
Question 1 of 20

Every symbolic ____ algorithm can be done by a Turing machine.

- ☒ manipulation

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Question 2 of 20

Which of the following statements is NOT correct?

- ☒ The Church-Turing thesis is not widely accepted by computer scientists.

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Question 3 of 20

A Turing machine is different in scale from any real computing agent in one respect: ____.

- ☒ memory

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Question 4 of 20

If any odd number of bits is changed from a 1 to 0 or from a 0 to 1, then the ____ is incorrect.

- ☒ parity bit

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Question 5 of 20

Any computing agent should be able to do all but which of the following?

- ☒ Make decisions based on previous input and stored information

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Question 6 of 20

The ____ problem deals with deciding if a collection of Turing machine instructions will ever halt.

- ☒ halting

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Question 7 of 20

A ____ is a theoretical model of computation that includes a (conceptual) tape extending infinitely in both directions.

- ☒ Turing machine

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Question **8** of **20**

The ____ serves as the Turing machine memory.

- ☒ tape

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Question **9** of **20**

In a state diagram, ____ represent transitions from one state to another.

- ☒ arrows

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Question **10** of **20**

A(n) ____ governs the action of a Turing machine.

- ☒ clock

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Question **11** of **20**

In a Turing machine the symbols contained in the cells on the tape come from a finite set of symbols called the tape ____.

- ☒ alphabet

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Question **12** of **20**

Which of the following statements is correct?

- ☒ A Turing machine executing an algorithm to solve some task must halt when begun on a tape containing input appropriate to that task.

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Question **13** of **20**

A ____ of a new design may reveal major flaws without the time, expense, and potential danger of building a prototype.

- ☒ model

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Question **14** of **20**

_____ are used to detect errors that occur as a result of electronic interference when transmitting information in electronic form.

- ☒ Parity bits

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Question **15** of **20**

No one has ever been able to propose an algorithm for a task that a(n) _____ could not perform.

- ☒ Turing machine

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Question **16** of **20**

The Turing machine captures all of the properties that are essential for a _____.

- ☒ computing agent

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Question **17** of **20**

No distinction is made between a Turing machine as a computing agent and the _____ it carries out.

- ☒ algorithm

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Question **18** of **20**

The Church-Turing thesis says that any _____ manipulation task that has an algorithmic solution can also be carried out by a Turing machine executing some set of Turing machine instructions.

- ☒ symbolic

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Question **19** of **20**

Which of the following is typically not a characteristic of a model?

- ☒ Is always the same scale or larger than the real thing

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One might say he is writing a Turing machine to do a particular task when he really means that he is writing a set of ____.

- ☒ instructions