

Feedback — Quiz 3: Computing Technology

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Authentication is not required for this quiz.

You submitted this quiz on **Tue 4 Aug 2015 10:11 PM PDT**. You got a score of **10.00** out of **10.00**.

Question 1

A computer algorithm is

| Your Answer | Score | Explanation |
|---|-------------|-------------|
| <input type="radio"/> A program written in a computer language such as C++, Python, or Perl | | |
| <input type="radio"/> A description of the memory organization within a computer | | |
| <input checked="" type="radio"/> A precise specification of all the steps needed to compute a solution to a problem | ✓ 1.00 | |
| <input type="radio"/> A protocol for transmitting data over a network | | |
| Total | 1.00 / 1.00 | |

Question 2

You can make a program more efficient by

| Your Answer | Score | Explanation |
|--|--------|-------------|
| <input type="radio"/> Running it on the Amazon cloud | | |
| <input checked="" type="radio"/> Re-designing the algorithm to require fewer steps | ✓ 1.00 | |

☐ Recompiling it on a different computer

☐ Using a faster computer

Total

1.00 / 1.00

Question 3

DNA sequences can be represented efficiently using

| Your Answer | Score | Explanation |
|--|-------------|-------------|
| <input checked="" type="radio"/> Two bits for each of the 4 possible bases | ✓ 1.00 | |
| <input type="radio"/> One codon for each amino acid | | |
| <input type="radio"/> The compressed BAM file format | | |
| <input type="radio"/> The SAM alignment format | | |
| Total | 1.00 / 1.00 | |

Question 4

A programming language is

| Your Answer | Score | Explanation |
|---|-------------|-------------|
| <input type="radio"/> A method for translating between languages such as English and French | | |
| <input type="radio"/> Anything written in Python | | |
| <input checked="" type="radio"/> A formal language used to instruct computers what to do | ✓ 1.00 | |
| <input type="radio"/> The way we describe high-level algorithms | | |
| Total | 1.00 / 1.00 | |

Question 5

Software engineering involves

| Your Answer | Score | Explanation |
|---|-------------|-------------|
| <input type="radio"/> Debugging computer code | | |
| <input type="radio"/> Testing programs on a wide range of examples to see if they perform as expected | | |
| <input checked="" type="radio"/> All of these options | ✓ 1.00 | |
| <input type="radio"/> Documenting computer code so that others can understand it | | |
| Total | 1.00 / 1.00 | |

Question 6

Bowtie, TopHat, and Cufflinks are

| Your Answer | Score | Explanation |
|--|-------------|-------------|
| <input type="radio"/> A web-based system for browsing genome data | | |
| <input type="radio"/> Programs for determining the function of a gene | | |
| <input checked="" type="radio"/> A suite of software tools for alignment and analysis of next-generation sequence data | ✓ 1.00 | |
| <input type="radio"/> Elements of men's formal evening wear | | |
| Total | 1.00 / 1.00 | |

Question 7

Sequence alignment refers to

| Your Answer | Score | Explanation |
|---|----------------|-------------|
| <input checked="" type="radio"/> Lining up two DNA sequences so that positions with the same base match one another | ✓ 1.00 | |
| <input type="radio"/> Shuffling the positions in a sequence to randomize them | | |
| <input type="radio"/> Making sure that all the DNA sequences in a file use the same format | | |
| <input type="radio"/> Determining the amino acid sequence produced by translating a DNA sequence | | |
| Total | 1.00 / 1.00 | |

Question 8

A software pipeline for RNA sequence (RNA-seq) analysis will

| Your Answer | Score | Explanation |
|---|----------------|-------------|
| <input type="radio"/> Create a database in which one can efficiently store and retrieve results | | |
| <input checked="" type="radio"/> Process large raw sequence files into a summary table showing which genes were present | ✓ 1.00 | |
| <input type="radio"/> Compare cases to controls and determine which genes were responsible for any differences in phenotype | | |
| <input type="radio"/> Evaluate the best RNA-seq protocol for minimizing sequencing artifacts | | |
| Total | 1.00 / 1.00 | |

Question 9

Which of the following is not a computer operating system?

| Your Answer | Score | Explanation |
|---|-------------|-------------|
| <input type="radio"/> Unix | | |
| <input type="radio"/> Microsoft Windows | | |
| <input type="radio"/> RedHat Linux | | |
| <input checked="" type="radio"/> Google Drive | ✓ 1.00 | |
| Total | 1.00 / 1.00 | |

Question 10

A data set large enough to overwhelm the main memory of a computer would

| Your Answer | Score | Explanation |
|--|-------------|-------------|
| <input type="radio"/> Contain more than one genome's worth of data | | |
| <input type="radio"/> Contain more than 1000 genomes' worth of data | | |
| <input type="radio"/> Use uncompressed files rather than compressed ones | | |
| <input checked="" type="radio"/> Be larger than the available RAM | ✓ 1.00 | |
| Total | 1.00 / 1.00 | |