

Feedback — Quiz 3: Computing Technology

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You submitted this quiz on **Tue 4 Aug 2015 10:09 PM PDT**. You got a score of **9.00** out of **10.00**.

Question 1

A computer algorithm is

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

Question 2

You can make a program more efficient by

Your Answer	Score	Explanation
<input type="radio"/> Recompiling it on a different computer		
<input type="radio"/> Using a faster computer		

☒ Re-designing the algorithm to require fewer steps  1.00

☐ Running it on the Amazon cloud

Total 1.00 / 1.00

Question 3

DNA sequences can be represented efficiently using

Your Answer	Score	Explanation
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☐ The SAM alignment format

☐ One codon for each amino acid

☒ Two bits for each of the 4 possible bases  1.00

☐ The compressed BAM file format

Total 1.00 / 1.00

Question 4

A programming language is

Your Answer	Score	Explanation
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☐ Anything written in Python

☐ The way we describe high-level algorithms

☒ A formal language used to instruct computers what to do  1.00

☐ A method for translating between languages such as English and French

Total 1.00 / 1.00

Question 5

Software engineering involves

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

Question 6

Bowtie, TopHat, and Cufflinks are

Your Answer	Score	Explanation
<input checked="" type="radio"/> A suite of software tools for alignment and analysis of next-generation sequence data	✓ 1.00	
<input type="radio"/> A web-based system for browsing genome data		
<input type="radio"/> Programs for determining the function of a gene		
<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 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		
<input type="radio"/> Shuffling the positions in a sequence to randomize them		
<input checked="" type="radio"/> Lining up two DNA sequences so that positions with the same base match one another	✓ 1.00	
Total	1.00 / 1.00	

Question 8

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

Your Answer	Score	Explanation
<input checked="" type="radio"/> Compare cases to controls and determine which genes were responsible for any differences in phenotype	✗ 0.00	
<input type="radio"/> Process large raw sequence files into a summary table showing which genes were present		
<input type="radio"/> Create a database in which one can efficiently store and retrieve results		
<input type="radio"/> Evaluate the best RNA-seq protocol for minimizing sequencing artifacts		
Total	0.00 / 1.00	

Question 9

Which of the following is not a computer operating system?

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