Assignment 2

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2018-09-12, 23:59 IST.

1) Which of the following statements is true about first year students in science and engineering?

- We do not expect them to know anything about computers and several may not know anything about computers.
- We do not expect them to know much about algorithms and several may not know anything about algorithms.
- In school they may have learned some algorithms but those algorithms are not relevant for programming.
- A fifth standard student is not expected to know any algorithms and indeed does not know any algorithms.

No, the answer is incorrect.

Score: 0

Accepted Answers:

We do not expect them to know anything about computers and several may not know anything about computers.

2) Suppose $A[0...n-1]$ and $B[0...n-1]$ contain (decimal) digits of two numbers, in least significant to most significant order. The product needs to be computed in $C[0...2n-1]$, also in least to most significant digit order. Suppose we set $C[i+j]$ to be the sum of all possible products $A[i] \times B[j]$. Which of the following is true?

- $C$ correctly contains the digits of the product.
- $C$ does not contain the digits, but the product does equal $\sum_i 10^i C[i]$.

No, the answer is incorrect.
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No, the answer is incorrect.
Score: 0
Accepted Answers:
Knowledge
Comprehension
Applying
Analyzing
Synthesizing
Evaluating

6) "Being able to appreciate the beauty of object oriented programming" is closest to which of the following levels in Bloom’s taxonomy of learning objectives?

- Knowledge
- Comprehension
- Applying
- Analyzing
- Synthesizing
- Evaluating

No, the answer is incorrect.
Score: 0
Accepted Answers:
Evaluating

7) Which of the following attributes of real computer hardware is least important to discuss in an introductory programming course?

- Numbers are represented in binary.
- Memory is organized in bytes each of which has an address.
- The CPU of a computer has registers which hold numbers and which are faster to access than main memory.
- A machine language program consists of sequence of instructions which are represented using numeric codes.

No, the answer is incorrect.
Score: 0
Accepted Answers:
The CPU of a computer has registers which hold numbers and which are faster to access than main memory.

8) Suppose $p$ is an int variable. Consider the expressions "$p++$" and "$p+1$" and "++p". Which of the following is true?

- You should avoid using expressions "$p++$" or "++p" for their values.
- Only expressions "$p+1$" and "$p++$" have the same value.
- All three expressions have the same value.
- The value of $p$ after executing "$p+1$" and "$p++$" is the same.

No, the answer is incorrect.
Score: 0
Accepted Answers:
You should avoid using expressions "$p++$" or "++p" for their values.

9) Suppose I have an array of length 10 containing numbers. I want to find the maximum number that can be obtained by adding up elements in any subarray of $A$. A subarray is simply a sequence of consecutive elements of the array starting at any index and ending at any index.

Suppose I find the solution by considering all possible subarrays, finding the sum of each subarray, and picking the maximum. How many subarrays do I need to consider?
10 Suppose \(x\) is an integer. Then \((x/1000)\%10\) evaluates to:

- third least significant digit of \(x\)
- third most significant digit of \(x\)
- fourth least significant digit of \(x\)
- fourth most significant digit of \(x\)

No, the answer is incorrect.
Score: 0
Accepted Answers: 55

11 Which of the following is false?

- Students should be encouraged to design a manual algorithm before writing a computer program.
- We should teach strategies to translate common idioms found in manual algorithms to the corresponding programming language equivalents.
- We should teach students how to design divide and conquer algorithms.
- We should take programming examples from many different areas.

No, the answer is incorrect.
Score: 0
Accepted Answers: We should teach students how to design divide and conquer algorithms.