

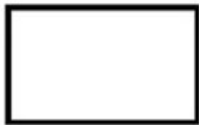
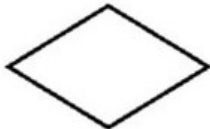
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Question 1

Complete

Marked out of 1.00

The flowchart symbol used to denote decision is

☐ a.☐ b.☒ c.☐ d.

Question 2

Complete

Marked out of 1.00

Following pseudocode is used to sort a list using insertion sort. What is the missing code segment (indicated as *<missing>*)?

```
INSERTION-SORT(A)
  for j = 2 to A.length
    key = A[j]
    i = j-1
    while i > 0 and A[i] > key
      <missing>
    A[i+1] = key
```

- ☐ a. $A[i+1] = A[i]$
 $i = i+1$
- ☐ b. $A[i-1] = A[i]$
 $i = i+1$
- ☐ c. $A[i-1] = A[i]$
 $i = i-1$
- ☒ d. $A[i+1] = A[i]$
 $i = i-1$

Question 3

Complete

Marked out of 1.00

What is the smallest value of n such that an algorithm whose running time is $100n^2$ runs faster than an algorithm whose running time is 2^n on the same machine?

- ☐ a. 5
- ☐ b. 10
- ☐ c. 20
- ☒ d. 15

Question 4

Complete

Marked out of 1.00

Which of the following is a computational task?

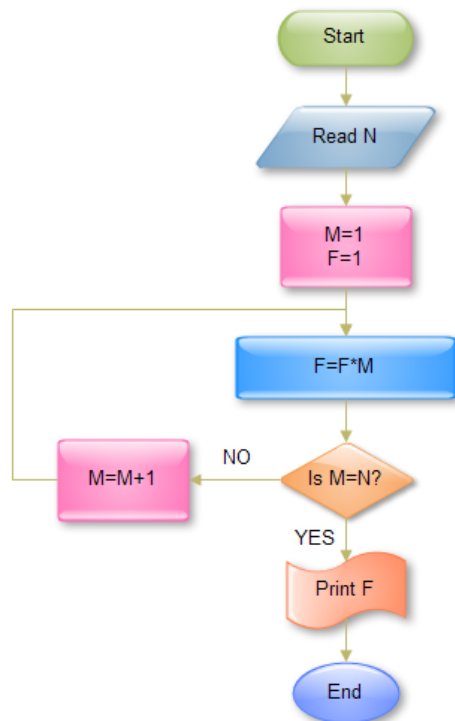
- ☐ a. What is 54×566 ?
- ☒ b. Given a whole number A, is A prime?
- ☐ c. What is $85 - 9 + 4$?
- ☐ d. All of the Above

Question 5

Complete

Marked out of 1.00

What is the result (F) when the input (N) = 5?



- ☒ a. 120
- ☐ b. 150
- ☐ c. 100
- ☐ d. 50

Question 6

Complete

Marked out of 1.00

Which of the following examples represent the worst case input for an insertion sort?

- ☒ a. array sorted in reverse order
- ☐ b. array in sorted order
- ☐ c. large array
- ☐ d. normal unsorted array

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