survival8

BITS WILP Data Structures and Algorithms Design Quiz-1 2017-H1

Index Subjects Mail Us

Question 1

Consider the ArrayFind algorithm.
input : an element x, n, an array A of n integers
Output : The index i such that A[i]=x or -1 if no element in A is equal to x
i ← 0
while i <n do
if x = A[i] then
return i
else
i ←i+1
return -1
The number of primitive operations for the best case is

Select one:
a. 5n+3
b. 5n-2
c. None of the above
d. 5n
e. 5n+1

Feedback
The correct answer is: 5n+1

Question 2

T(n) = b if n=1
2T(n-1) +b otherwise
Then T(n) is

Select one:
a. $O(2^n)$
b. O(n)
c. $O(n^b)$
d. None of the above
e. $O(n2)$

Feedback
The correct answer is: $O(2^n)$

Question 3

$1+3+9+27+... +3^n$

Select one:
a. $O(n^3)$
b. $O(2^n)$
c. $O(n)$

Pages
- Postings Index
- Index of BITS WILP Exam Papers and Content
- Index of Lessons in Technology
- Index of Guest Interviews
- Downloads
- Book Requests

Blog Archive
▼ 2020 (31)
▼ May (1)
Covid-19 and response of IT companies (by Divjot S...
► April (6)
► March (12)
► February (6)
► January (6)
► 2019 (48)
► 2018 (31)
► 2017 (15)
► 2016 (6)

Popular Posts

You Are a Badass. How to stop doubting your greatness and start living an awesome life (Jen Sincero, 2013)
INTRODUCTION The language used in the book extremely funny and Jen Sincero still makes sure that she m...

Covid-19 and response of IT companies (by Divjot Singh)
As the Covid-19 pandemic ravages the world, many domains like airlines, tourism and services...

Innovation to beat the Coronavirus (Covid19)
Coronovirus' Exponential growth and decline In the first phase of the pandemic, we saw a...

Download fiction books (March 2018)
Download fiction books for free: Link for Google Dr...

Life Lessons By Steve Jobs

◉d. $O(4^{\wedge}n)$
○e. None of the above
Feedback
The correct answer is: $O(4^{\wedge}n)$

Question 4
Algorithm Loop(n)
p ← 1
for i← 1 to n do
    p ← p.i
return p
What is the value of Loop(6)?

Select one:
◉a. 720
○b. 5
○c. 1
○d. None of the above
○e. 120
Feedback
The correct answer is: 720

Question 5
Which of these is the correct big-O expression for $1+4+9+...+(n+2)^2$?

Select one:
○a. O(log n)
○b. O(n log n)
○c. $O(n^2)$
○d. None of the above
◉e. $O(n^3)$
Feedback
The correct answer is: $O(n^3)$

Question 6
Consider the ArrayFind algorithm.
input : an element x, n, an array A of n integers
Output : The index i such that A[i]=x or -1 if no element in A is equal to x
i ← 0
while i <n do
  if x = A[i] then
    return i
  else
  i ←i+1
return -1
The number of primitive operations for the best case is

Select one:
◉a. 5
○b. n/2
○c. None of the above
○d. 4
○e. n
Feedback
The correct answer is: 5

Question 7
Consider the following recurrence relation.
T(n) = 5 if n <= 2
        T(n-1)+ n otherwise
Closed form solution for T(n) is

Select one:
◉a. n(n+1)/2 +2
○b. n(n+1)/2 +7
○c. n(n-1)/2
○d. n(n+1)/2
○e. None of the above
Feedback
The correct answer is: n(n+1)/2 +2

Question 8
Which of the following statements are true?
i. If f(n) is $O(n^{\wedge}3)$, then $f(n)+10n^{\wedge}3$ is $O(n^{\wedge}3)$
ii. If f(n) is $O(n^{\wedge}3)$, then f(n) is $\Theta(n^{\wedge}3)$
iii. If $f(n)+10n^{\wedge}3$ is $O(n^{\wedge}3)$, then f(n) is $O(n^{\wedge}3)$
Select one:
○a. None of the above
○b. All of them are true
○c. iii only
○d. i only
◉e. i and iii only

Feedback
The correct answer is: i and iii only

Question 9

If C =1, what would be the appropriate value of n_0 to show that $2n^2 + 9$ is $O(n^2)$?
Select one:
- a. 4
- b. None of the above
- c. 100
- d. 5
- e. 10

Feedback
The correct answer is: None of the above

Question 10

Consider the array implementation of Stack ADT with array size N.
Which of the following statements are true?

i. We can store at max N-1 elements in the stack
ii. Stack ADT supports inserting elements anywhere

Select one:
- a. Both of them are true
- b. i only
- c. ii only
- d. None of them are true

Feedback
The correct answer is: None of them are true

Question 11

Which of the following statements are true?
i) n! is O(n)
ii) n! is O(n^n)
iii) n! is O(2^n)

Select one:
- a. i only
- b. None of the above
- c. ii and iii only
- d. i and iii only
- e. ii only

Feedback
The correct answer is: ii only

Question 12

Algorithm Loop(n)
p ← 1
for i← 1 to n do
  p ← p.i
return p
Give a big-Oh characterization for the above algorithm.
Select one:
- a. O(1)
- b. $O(\sqrt{n})$
- c. O(log n)
- d. O(n)
- e. None of the above

Feedback
The correct answer is: O(n)

Question 13

Which of the following statements are true.
i) $(2^{(n+1)})$ is $O(2^{(n/2)})$
ii) $(2^{(2n)})$ is $O(2^n)$

Select one:
- a. i only
- b. None of them true
- c. Both of them are true
- d. None of the above
- e. ii only

Feedback
The correct answer is: None of them true

Question 14

Consider the array implementation of Stack ADT S and we modify the Pop operation as follows.
Algorithm pop()
if isEmpty() then
  return Error
dummy ← *???*
t ← t-1
return dummy

What should ??? be replaced with?

Select one:
a. S[t+1]
b. S[t]
c. None of the above
d. S[t-1]
e. S[0]

Feedback
The correct answer is: S[t]

Question 15

Algorithm A uses 5nlog n operations and algorithm B uses $n\sqrt{}$ operations. Determine the value n_0 such that A is better than B for n > n_0

Select one:
a. 2048
b. 1024
c. None of the above
d. 512
e. 4096

Feedback
The correct answer is: 512

Question 16

Consider the following stack operations. new(), push(a), push(b), pop(), push (c), pop(), push(5). what is the index of top element in the array implementation?

Select one:
a. 0
b. -1
c. 2
d. 1
e. None of the above

Feedback
The correct answer is: 1

Question 17

Which of the following formulas in big-O notation best represent the expression $10n^2+5n\log n$?

Select one:
a. None of the above
b. O(n)
c. $O(n^3)$
d. O(42)
e. $O(n^2)$

Feedback
The correct answer is: $O(n^2)$

Question 18

Which of the following expressions is not sublinear?

Select one:
a. O(logn)
b. O(n)
c. None of the above
d. $O(n\sqrt{})$
e. O(log log n)

Feedback
The correct answer is: O(n)

Question 19

$Log\hat{}2\ (n/2)$ is

Select one:
a. $log\hat{}2\ (n) - 2logn + 1$

b. $log\hat{}2\ (n)$ -1

c. None of the above
d. log log (n/2)
e. $log(n2)$

Feedback
The correct answer is: $log\hat{}2\ (n) - 2logn + 1$

Question 20

Consider the Array implementation for Stack ADT. Stack is empty when

Select one:
a. t=1
b. t=0
c. None of the above

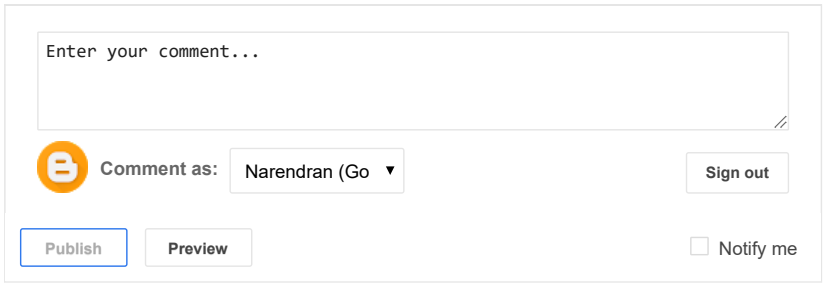
◉d. t= -1

Feedback

The correct answer is: t= -1

No comments:

Post a Comment



Home

Subscribe to: Posts (Atom)

Followers

Followers (0)

Follow

Simple theme. Powered by Blogger.