Quiz 2

Due Apr 12 at 11:59pm **Points** 8 **Questions** 8
Available Apr 3 at 11:59pm - Apr 12 at 11:59pm 9 days **Time Limit** 15 Minutes

This quiz was locked Apr 12 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	15 minutes	5 out of 8

Score for this quiz: **5** out of 8
Submitted Apr 12 at 11:04pm
This attempt took 15 minutes.

Question 1 — 1 / 1 pts

Which are part of the steps at each level of recursion?

- Conquer
- Divide
- All of the above. — Correct!
- Combine

Question 2 — 1 / 1 pts

What methods does the textbook present for solving recurrences by guessing a bound and using mathematical induction to prove accuracy?

- The master method
- Correct! The substitution method
- The iterative functions method
- The recursion tree method

Question 3

1 / 1 pts

When using the master method, how many cases are required to memorize for the ability to easily determine asymptomatic bounds for many simple recurrences?

- 10
- Correct! 3
- 5
- 2

Question 4

1 / 1 pts

Using Divide and Conquer, use recurrence of asymptotic running time to solve

$$T(n) = \begin{cases} 1 & if\ n=1 \\ T(n-1)+1 & if\ n>1 \end{cases}$$

Correct!

- T(n) = n
- T(n) = n lg n
- T(n) = lg n
- T(n) = n^2

Question 5

0 / 1 pts

Which one is true about $T(n) = 2T(\lfloor n/2 \rfloor) + n$?

orrect Answer

- All of the above.

ou Answered

- $O(n\ lg\ n)$
- $\Omega(n\ lg\ n)$
- $\theta(n\ lg\ n)$

Question 6

0 / 1 pts

What is the solution of $T(n) = 4T(n/2) + n\sqrt{n}$ using the Master theorem?

ou Answered

- $\Theta\ (n\sqrt{n})$, Case 3
- $\Theta\ (n\ lg\ n)$, Case 2

orrect Answer

- $\Theta(n^2)$, Case 1
- $\Theta(n^2)$, Case 3

Question 7

0 / 1 pts

What is the solution of $T(n) = 2T(n/4) + \sqrt{n}$ using the Master theorem?

orrect Answer

- $\Theta(\sqrt{n} \lg n)$, Case 2
- Master method does not apply

ou Answered

- $\Theta(\sqrt{n} \lg n)$, Case 1
- $\Theta(\sqrt{n} \lg n)$, Case 3

Question 8

1 / 1 pts

What is the solution of $T(n) = 2T(n/2) + n^2$ using the Master theorem?

Correct!

- $\Theta(n^2)$, Case 3
- $\Theta(n \lg n)$, Case 2
- $\Theta(n \lg n)$, Case 3

- $\Theta(n^2)$, Case 1

Quiz Score: **5** out of 8