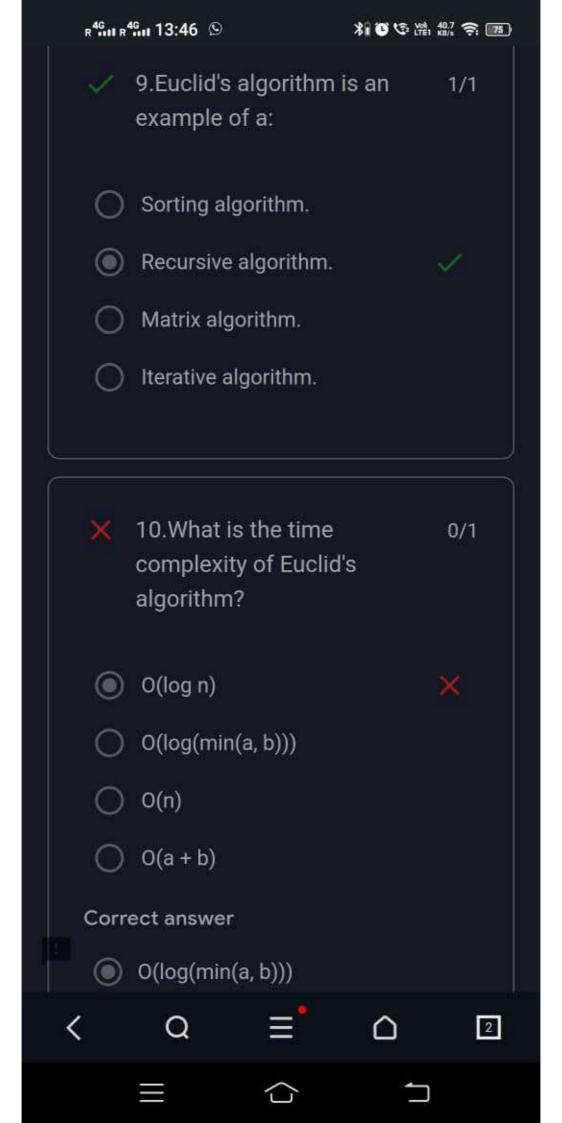
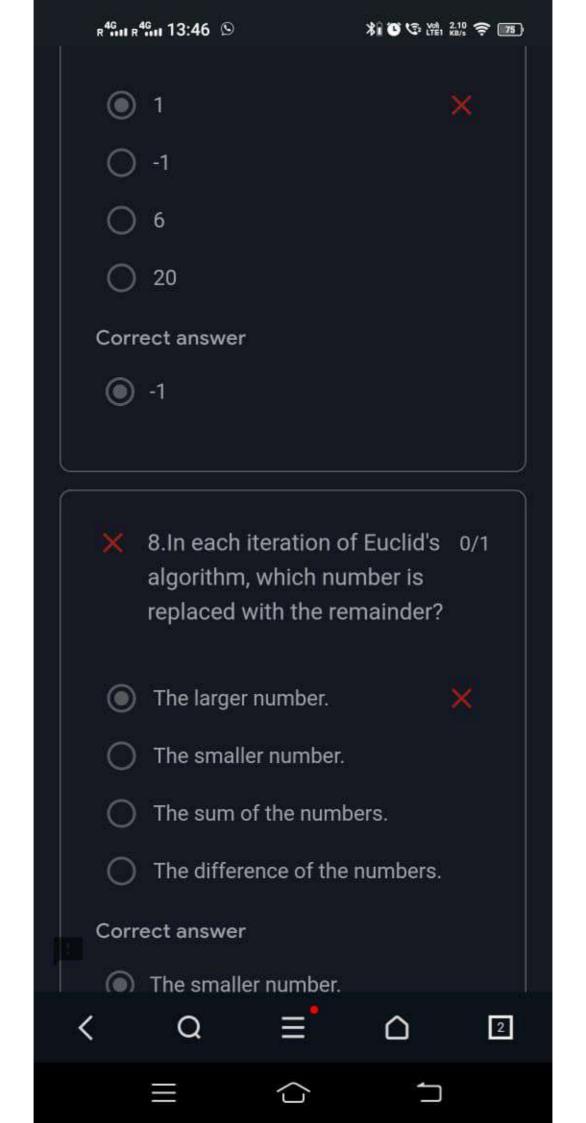
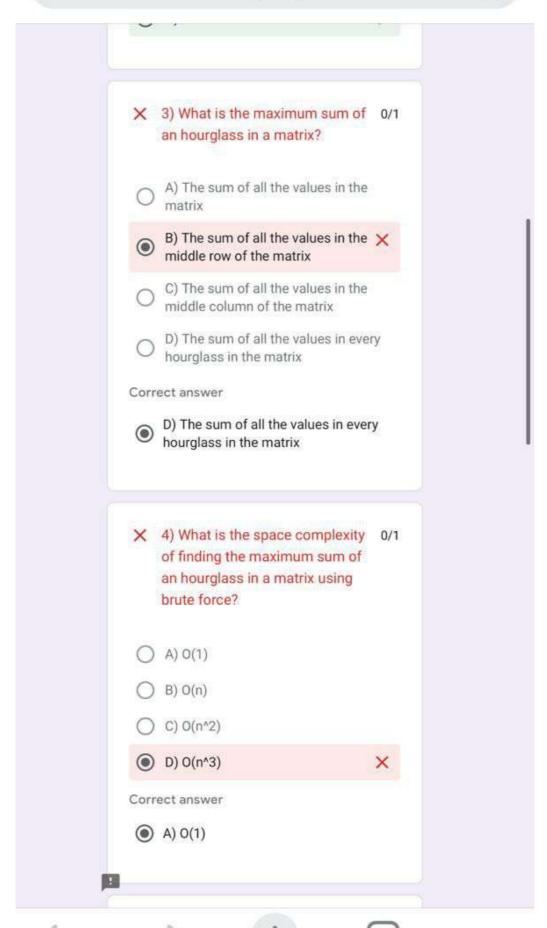
- 1.What is Euclid's algorithm 1/1 used for?
- Finding prime numbers
- Finding the greatest common divisor (GCD) of two numbers
- Calculating logarithms
- Solving quadratic equations

- 2.Euclid's algorithm is based 1/1 on which mathematical concept?
  - Division
  - Addition
  - Multiplication
  - Subtraction

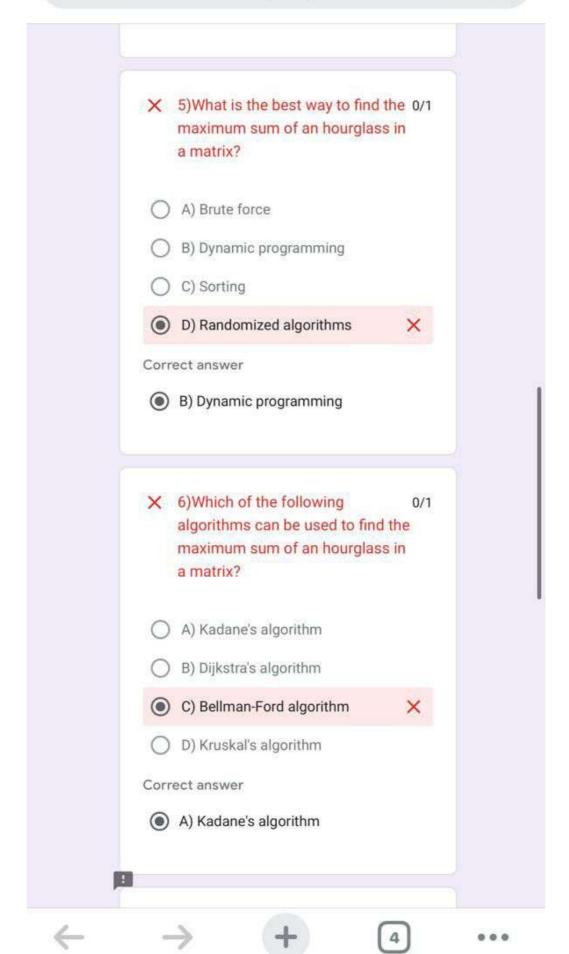




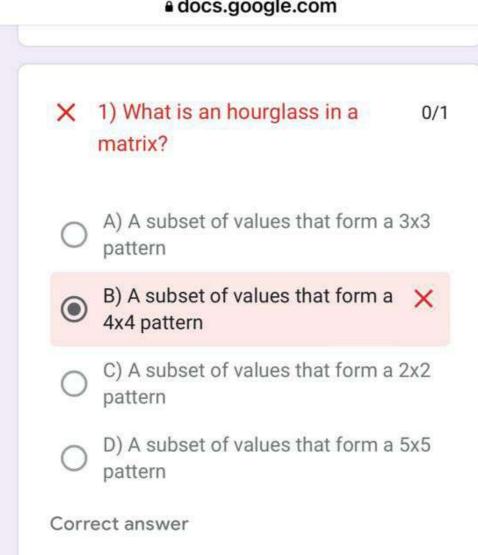








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A) A subset of values that form a 3x3 pattern

2) How many values form an 1/1 hourglass in a matrix?

- A) 4
- B) 6
- C) 8
- D) 7



- 9) What is the difference between 0/1 an hourglass and a submatrix in a matrix?
- A) An hourglass has a diamond shape, while a submatrix can have any shape
- B) An hourglass has nine values,
   while a submatrix can have any
   number of values
- O C) An hourglass is a specific type of submatrix that has a 3x3 shape
- O) There is no difference

Correct answer

- C) An hourglass is a specific type of submatrix that has a 3x3 shape
- X 10) How can you access an 0/1 element in a two-dimensional array in Java?
- A) Using a single index
- B) Using two indices
- C) Using a HashMap
- D) Using a LinkedList

Correct answer

B) Using two indices





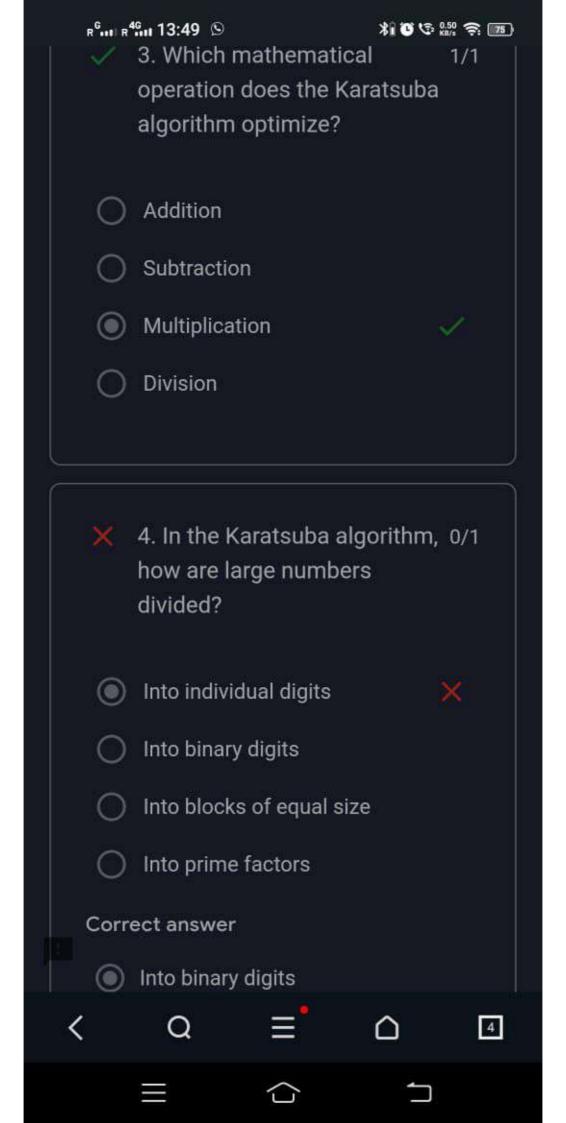


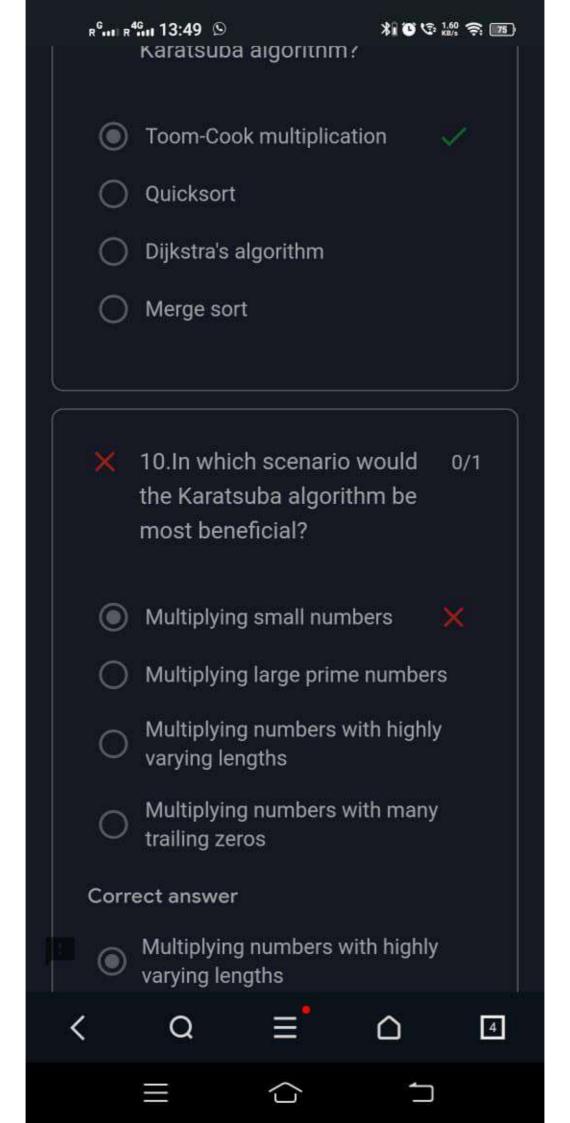


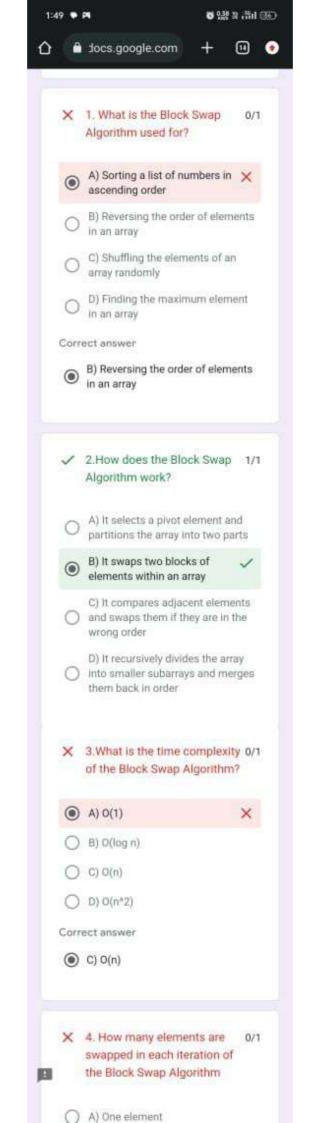
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COLLECT QUEME A) Kadane's algorithm X 7) Which of the following is an advantage of using Kadane's algorithm to find the maximum sum of an hourglass in a matrix? A) It is faster than brute force B) It has lower space complexity than brute force C) It can handle matrices of any size ( D) All of the above Correct answer D) All of the above X 8)Which of the following is a disadvantage of using Kadane's algorithm to find the maximum sum of an hourglass in a matrix? A) It may not work for some matrices B) It is more complex than brute C) It requires more memory than brute force D) None of the above Correct answer A) It may not work for some matrices







to reverse an array using the







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- ✓ 9.Which of the following statements is true regarding the longest sequence of 1's after flipping a bit?
   Flipping any bit in a sequence of 1's will always increase the length of the sequence.
   Flipping any bit in a sequence of 1's may increase or decrease the length of the sequence.
   Flipping any bit in a sequence of 1's
  - has no effect on the length of the sequence.

will always decrease the length of the

Flipping any bit in a sequence of 1's

sequence.

X 10.What is the maximum possible 0/1 length of a sequence of 1's after flipping exactly one bit in a binary sequence of length N?
N-1
N
N+1
N+2
Correct answer
N+1









- × 5. Which of the following data 0/1 structures can be used to efficiently solve the maximum product subarray problem?
  - a) Array
  - b) Stack
- c) Queue
- d) Binary Tree

Correct answer

b) Stack

- X 6. What is the maximum 0/1 product of a subarray in the array [ 1 5 - 7 5 3]
  - a) 6
  - b) 0
  - c) -35
  - d) 15

Correct answer

(a) d) 15

3. What is the time complexity 1/1 of the efficient algorithm for solving the maximum product subarray problem?

a) O(n)

b) O(n<sup>2</sup>)

c) O(log n)

d) O(2<sup>n</sup>)

4.Which of the following is not 0/1 a correct approach to solve the maximum product subarray problem?

a) Using a brute-force approach

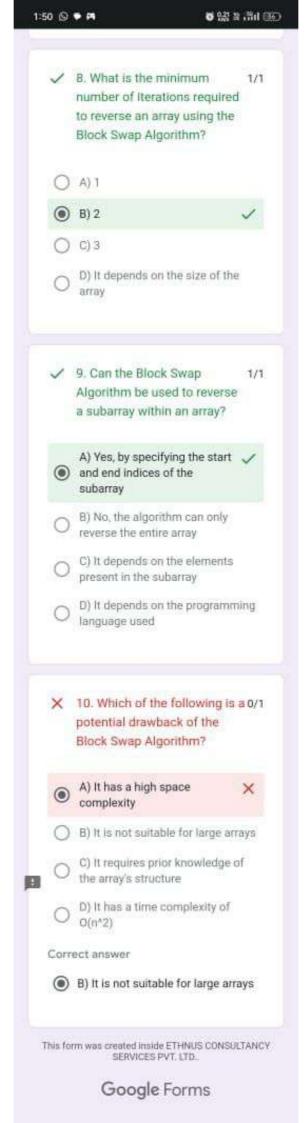
b) Using Kadane's algorithm

c) Using a sliding window technique

d) Using the Fibonacci sequence

Correct answer

d) Using the Fibonacci sequence



- X 8.In the maximum product 0/1 subarray problem, if the array contains only positive numbers, what will be the maximum product?
  - a) The product of all elements in the array
  - O b) Zero
- c) The maximum element in the array
- O d) One

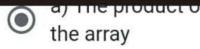
Correct answer

 a) The product of all elements in the array

9. Which of the following is an 0/1 efficient approach to solve the maximum product subarray problem when all elements are non-negative?

- ✓ 1.What is the maximum 1/1 product subarray problem?
  - a) Finding the largest sum of a contiguous subarray
- b) Finding the smallest product of a contiguous subarray
- c) Finding the largest product of a contiguous subarray
- d) Finding the smallest sum of a contiguous subarray

- 2. Which algorithm can be used to solve the maximum product subarray problem efficiently?
  - a) Depth-First Search (DFS)
  - b) Breadth-First Search (BFS)
  - c) Dynamic Programming (DP)
- d) Binary Search

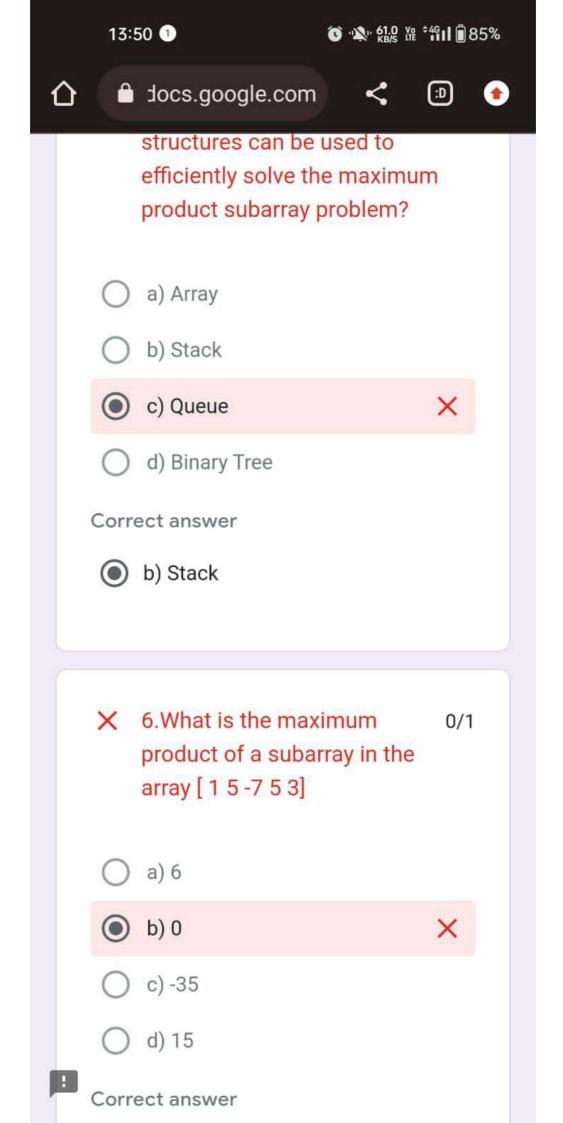


- 9. Which of the following is an 0/1 efficient approach to solve the maximum product subarray problem when all elements are non-negative?
- a) Brute-force algorithm
- b) Kadane's algorithm
- c) Sliding window algorithm
- d) Dynamic Programming algorithm

Correct answer

b) Kadane's algorithm

- X 10. What is the maximum 0/1 product of a subarray in the array [-1,2,-2,4,3,2,-1]?
- O a)24
- O b)2



d) Dynamic Programming algorithm

c) Sliding window algorithm

Correct answer

b) Kadane's algorithm

X 10. What is the maximum 0/1 product of a subarray in the array [-1,2,-2,4,3,2,-1]?

- ( a)24
- ( b)2
- ( c)89
- O d)34

Correct answer

a)24

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