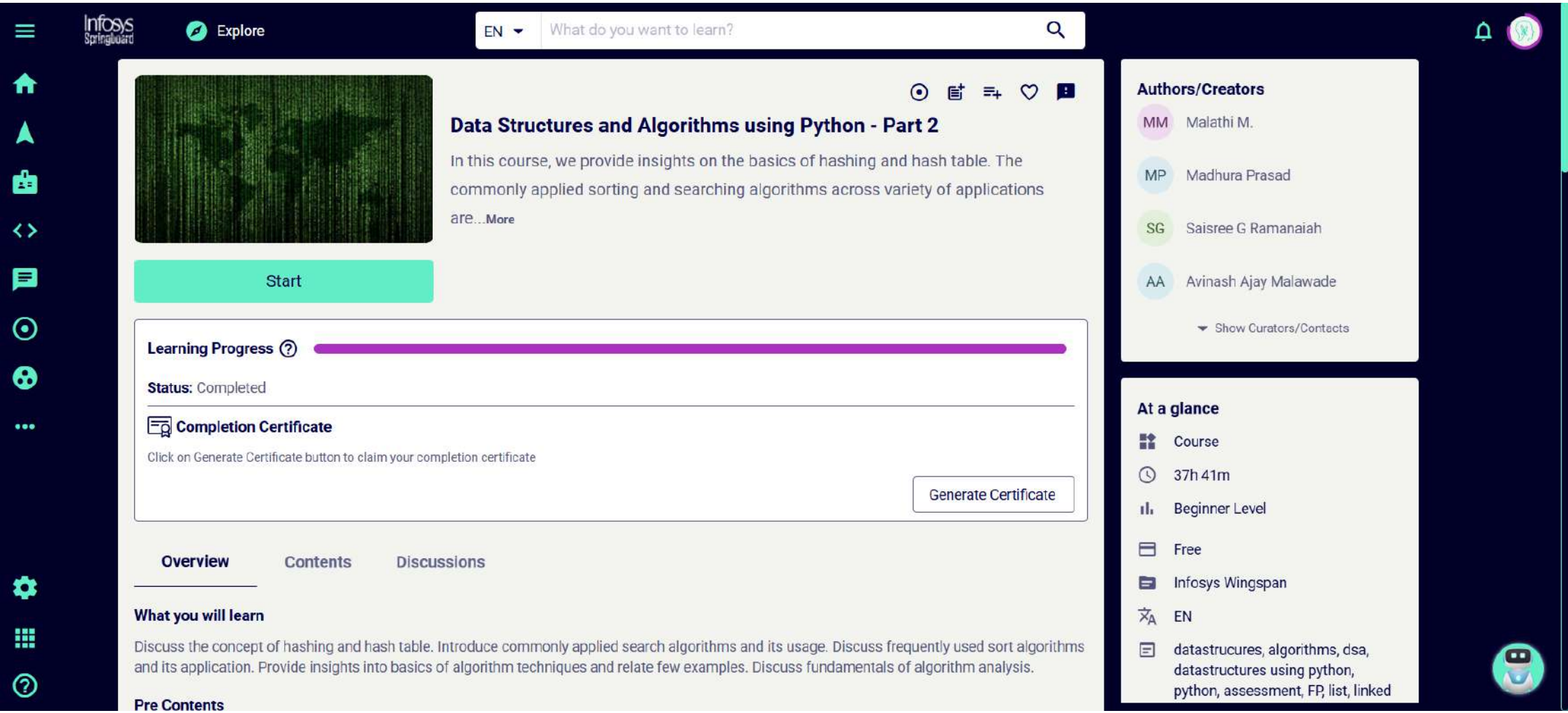


Thank you. Your test submitted.

You have cleared this assessment.

| Obtained Percentage | Obtained Marks |
| --- | --- |
| 75 % | 9 / 12 |

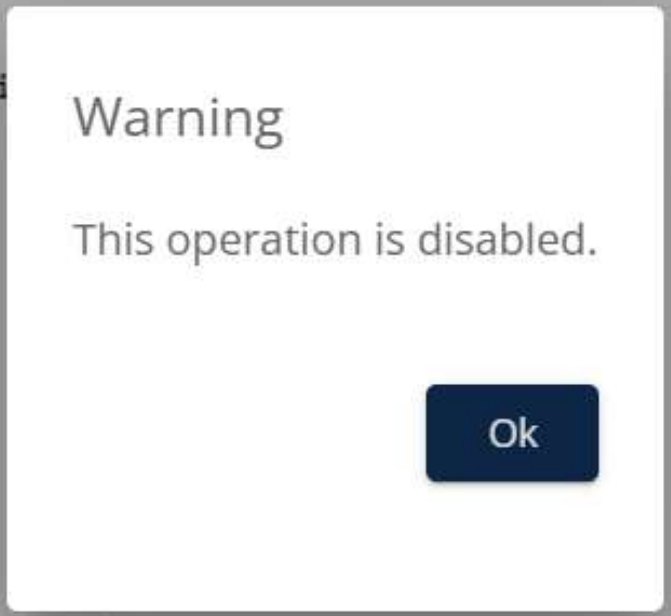
Best Attempt Score:75 % on 23-03-2025

Consider the Python code given below to compute the $n^{th}$ fibonacci number.

```
def fibonacci(num):
    global fibo,count
    if(num<=(len(fibo)-1)):
        return fibo[num]
    else:
        fibo.append(fibonacci(num-1) +fibonacci
        return fibo[num]



fibo=[]
fibo.append(0)
fibo.append(1)
count=1
n=6
print(n,"th Fibonacci number:",fibonacci(n))
```




Suppose we are using the above code to compute the $7^{th}$ fibonacci number, how many times fibonacci(3) will be computed?

- ○ 3
- ○ 4
- ○ 0
- ◉ 1

John has come up with 4 different algorithms with different step-counts as shown below to solve a problem.

Step count for Algorithm1 : n^2 + nlogn
Step count for Algorithm2 : n^2 + 2*n^3
Step count for Algorithm3 : logn + 2^n + n!
Step count for Algorithm4 : logn

Which of the following is the correct sequence of g r of their Big O notations?

- (●) Algorithm4,Algorithm1,Algorithm2,Algorithm
- ( ) Algorithm4,Algorithm2,Algorithm1,Algorithm
- ( ) Algorithm4,Algorithm1,Algorithm3,Algorithm
- ( ) Algorithm1,Algorithm4,Algorithm2,Algorithm3

Warning

This operation is disabled.

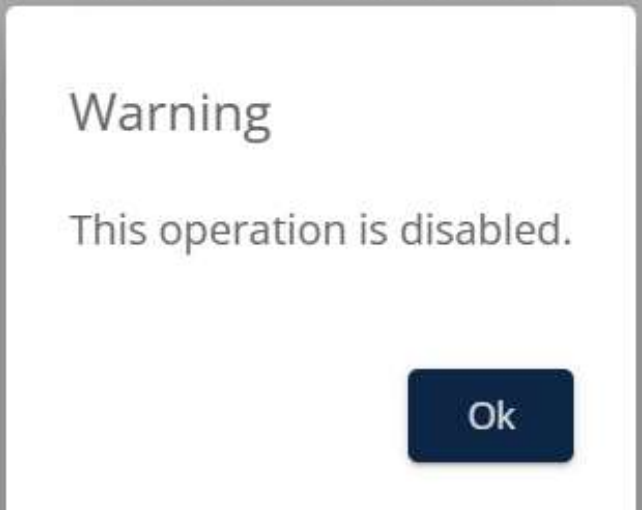
Ok

Consider the below given list of numbers.

43, 89, 15, 29, 7, 25, 0, 99

Suppose merge sort algorithm is used to sort the above list of numbers in ascending order, how many times lists will be merged?

- ○ 1
- ○ 7
- ○ 0
- ◉ 5



Consider the following list of numbers to be sorted using bubble sort in ascending order.

9, 6, 18, 3, 10, 25, 2

At the end of 3rd pass what will be status of the ab

- (●) [6, 9, 3, 10, 18, 2, 25]
- ( ) [2, 3, 6, 9, 10, 18, 25]
- ( ) [3, 6, 9, 2, 10, 18, 25]
- ( ) [3, 6, 2, 9, 10, 18, 25]

Warning

This operation is disabled.

Ok

Consider the list of numbers given below:

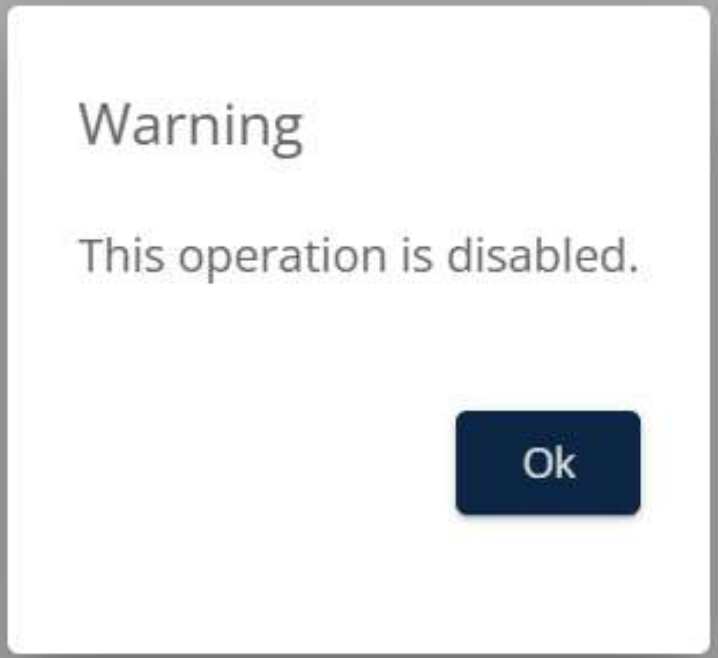
45 56 79 81 82 94 108

Identify the search algorithm which will be able to find the element 79 in 4 iterations from the below given options.

1. Linear Search

2. Binary Search

- ○ Only 1
- ○ Only 2
- ◉ Both 1 and 2
- ○ Neither 1 or 2



Consider the below given list of numbers.

56 45 78 23 90 12 89 39 99

Find the number of iterations required to search th

- ○ 1
- ◉ 5
- ○ 9
- ○ 6

Warning

This operation

The following values are to be stored in a hash table.
Consider that the values have arrived in the order given below:
80, 2, 13, 42, 22, 5

Identify the hash function which will result in 0 coll

- ○ h(k)= k%8
- ◉ h(k)= k%7
- ○ h(k)= k%5
- ○ h(k)= k%6

Warning

This operatic

Consider the below given list of numbers.

1 2 3 4 5 6 7 8

Find the number of iterations required to search th

- (•) 2
- ( ) 3
- ( ) 1
- ( ) 4

Warning

This operation is disabled.

Ok

Peter has come up with 4 different algorithms with different step-counts as shown below to solve a problem.

Step count for Algorithm1 : logn + 2^n + n!
Step count for Algorithm2 : n^2 + 2*n
Step count for Algorithm3 : n + logn
Step count for Algorithm4 : logn + n^n

Which is the best algorithm among these based or

- (●) Algorithm3
- ( ) Algorithm2
- ( ) Algorithm4
- ( ) Algorithm1

Warning

This operation is disabled.

Ok

The following values are to be stored in a hash table using the hash function, h(k)= k%7.

Values that need to be stored arrived in the order given below.

37,10,44,53,8,11,29

Identify for which of the hash values generated wi lues to their corresponding buckets using the given hash function.

- ○ No collision will occur
- ◉ Collision will occur for hash values 1,2,4
- ○ Collision will occur for hash values 1,4
- ○ Collision will occur for hash values 1,3

Warning

This operation is disabled.

Ok

Consider the list of numbers given below which should be sorted in ascending order:

91 68 12 83 72 3 47 65

At the  end of 4th pass, the status of the list is

3 12 47 65 72 91 68 83

Which sorting algorithm is being used to sort the li

- ○ bubble sort
- ◉ selection sort
- ○ merge sort
- ○ quick sort

Warning

This operation is disabled.

Ok

Hannah is at the billing counter of a retail store and she has to make a change for 54/-. She has notes of the following currencies with her.

1, 5, 10, 20

Following are the options she has for making the change.

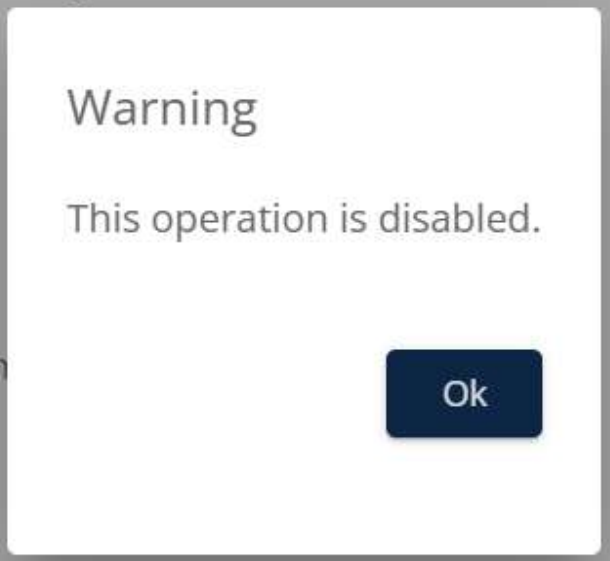
1. 5 - 10/- notes, 4 - 1/- coins

2. 1 - 20/- note, 3 - 10/- notes, 4- 1/- coins

3. 2- 20/- notes, 1 - 10/ - note, 4 - 1/- coins

4. 10 - 5/- notes, 4 - 1/coins

Identify the option which follows Greedy approach




- ○ 1
- ○ 2
- ◉ 3
- ○ 4