Assignment1

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July 2019

1

What is a greedy algorithm - you can look up definitions online but final response should be in your own words.

A greedy algorithm is one that seeks an optimized way of doing things.

2

How else could you solve the above problem?

The way I initially approached this problem (as commented out in my code in brackets) was by using the recursive equation:

a = (a-1) + (a-2)

of course by 'a-1' I meant the value in the index preceding 'a', however, Python would do it by subtracting 1 from the given value and again subtracting 2 from the initial given value. I found a way to use indices within the equation (import the program function itself) but couldn't get it to run.

3

What other problems are greedy algorithms successfully used for?

The greedy algorithm can only be used in very specific cases because it does not assess every potential avenue, it only asses the avenue that it is already pursuing which may not ultimately produce the most efficient path. A greedy algorithm is 'short sighted' and thus may not produce the optimal pathway or answer.

A greedy algorithm can be used for mapping distances and finding the shortest way to get from point A to point B (Dijkstra's Algorithm). Perhaps Google maps uses a more complex greedy algorithm to tell the user which route to take when traveling.