

Example

What's the distance between babyodas and tastysoda?

x	B	A	B		Y	Y	O	D	A	S
op	Sub		sub	ins		sub				del
y	T	A	S	T	Y	S	O	D	A	

Distance: 5, one point for each colored box

Quick Checks – can you explain these?

If x has length n and y has length m , the edit distance is at most $\max(x, y)$

The distance from x to y is the same as from y to x (i.e. transforming x to y and y to x are the same)

2

Any Questions on DP Process

1. Define the object you're looking for
2. Write a recurrence to say how to find it
3. Design a memoization structure
4. Write an iterative algorithm

30

Vertex Cover – Recursively

Let's try to write a recursive algorithm first.

What information do we need to decide if we include u ?

If we don't include u then to be a valid vertex cover we need...

If we do include u then to be a valid vertex cover we need...

39

Vertex Cover Dynamic Program (loose ends,1)

What memoization structure should we use?

What code should we write?

What's the running time?

43