Introduction To Algorithm

Third Edition

Answer

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1.1

1.1–1

Rank in competition requires sorting.

1.1–2

Use of space.

1.1–3

Array. It can efficiently index but isn't good at growing or shrinking dynamically.

1.1–4

They are similar, because each of then has to walk a graph and find a path in them.

The difference is the constraint on the solution. The shortest-path requires just a path between two points, while the traveling salesman requires a path between more points that returns to the first point.

1.1–5

A single-solution maze requests best solution. Finding a path between two points in a city requires an "approximately" best solution.

1.2

1.2–1

Finding pictures containing people from many pictures requires machine learning algorithm. A better algorithm can find such pictures efficiently and correctly.

1.2–2

$n > 43$

1.2–3

$n > 14$