Twitter Thread by Saurav Jain

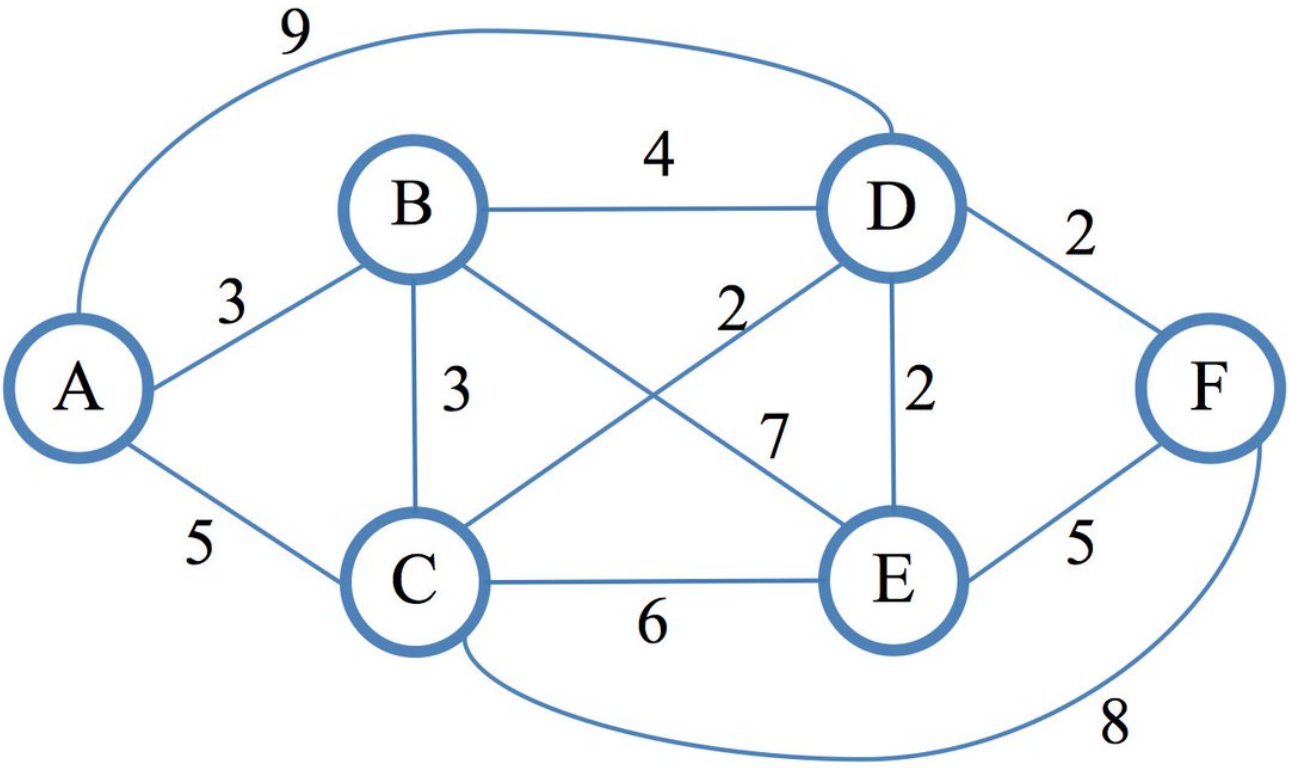
Saurav Jain
@Sauain

SEVEN Algorithms that every software developer should know about ■

Thread ■■

1. Shortest Path

Distance of one particular point to another, one particular point to all other points, and each point to other points.



2. Hashing

Hashing helps in retrieving the items in a complex database easily by simple indexing rather than through original value which takes a lot of time.



3. Sorting

- Quick Sort
- Bubble Sort
- Selection Sort
- many more

Algorithm	Time Complexity		
	Best	Average	Worst
Selection Sort	Ω(n^2)	θ(n^2)	O(n^2)
Bubble Sort	Ω(n)	θ(n^2)	O(n^2)
Insertion Sort	Ω(n)	θ(n^2)	O(n^2)
Heap Sort	Ω(n log(n))	θ(n log(n))	O(n log(n))
Quick Sort	Ω(n log(n))	θ(n log(n))	O(n^2)
Merge Sort	Ω(n log(n))	θ(n log(n))	O(n log(n))
Bucket Sort	Ω(n+k)	θ(n+k)	O(n^2)
Radix Sort	Ω(nk)	θ(nk)	O(nk)

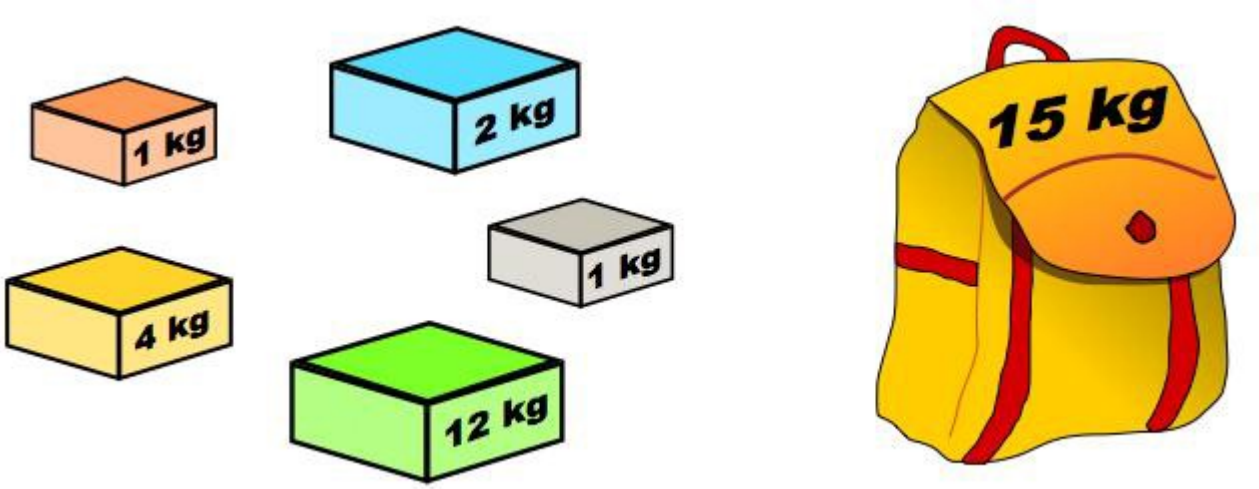
4. Searching

- Binary Search
- Linear Search
- etc.

	Time Complexity
Linear Search	O (n)
Binary Search	O (log (n))
Jump Search	O (√ n)
Interpolation Search	O (log (log n))-Best | O (n)-Worst
Exponential Search	O (log (n))
Sequential search	O (n)
Depth-first search (DFS)	O (|V| + |E|)
Breadth-first search (BFS)	O (|V| + |E|)

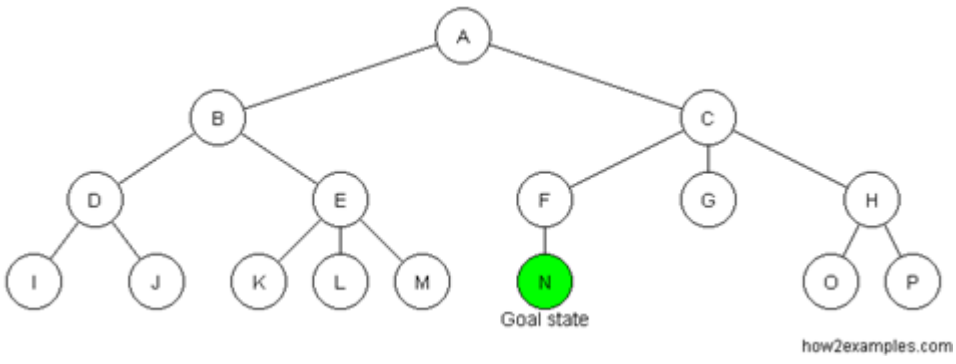
5. Knapsack Problem

The items are either completely or no items are filled in a knapsack.



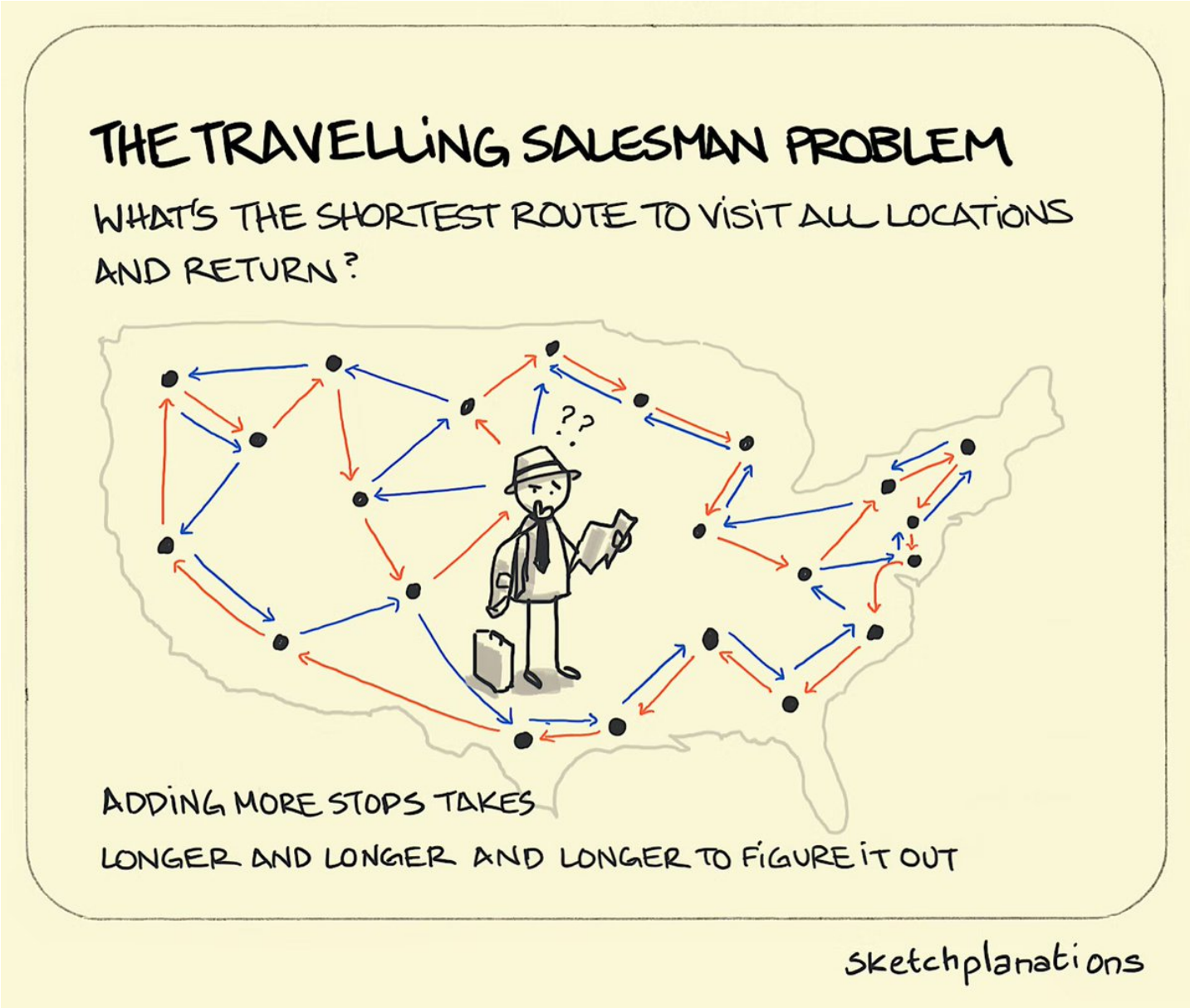
6. Search Tree

With the help of tree algorithms, one can find an item in a reasonably balanced time.



7. Travelling Salesman

Optimization is the key to success. This helps in solving a problem through the quickest, most efficient, and cheapest possible solution.



That's a wrap!

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> — Saurav Jain (@Sauain) March 31, 2022