Dynamic programming is an approach of solving complex problems by breaking into sub-problems.

The sub-problems results are stored. Each time if the same sub-problem occurs, instead of re-computing its solution, we can simply looks up the previously computed solution, thereby saving computation time.

or

Dynamic programming is really just caching previous work on recursion.

The technique of storing solutions to subproblems instead of recomputing them is called "memoization".

One Example problem of DP is Coin Change problem

Ex: I have 3 denominations of coins 1, 2, 3 with any count, I need to come up with value 4.

Possible options are

1. 1 1 1 1
2. 1 1 2
3. 1 3
4. 2 2

<https://www.youtube.com/watch?v=_fgjrs570YE>