

Carry Forward Technique

3. Carry Forward Technique:

Problem: The carry forward technique is used when you need to propagate information from one step to the next.

Approach: Carry forward the result of the current step to the next step, especially in dynamic programming or greedy algorithms.

Scenarios:

1. ****Dynamic Programming:**** The carry forward technique is widely used in dynamic programming to store intermediate results.
2. ****Greedy Algorithms:**** In greedy algorithms, carry forward the best solution found so far.
3. ****Prefix and Suffix Arrays:**** The carry forward technique can be used to maintain prefix and suffix arrays while solving problems.

Java Code for Dynamic Programming:

```
public class Solution {  
    public int maxProfit(int[] prices) {  
        int n = prices.length;  
        int[] dp = new int[n + 1];  
        for (int i = 1; i <= n; i++) {  
            dp[i] = Math.max(dp[i - 1], prices[i - 1] + dp[i - 1]);  
        }  
        return dp[n];  
    }  
}
```

Explanation: The carry forward technique is used to store the maximum profit up to each day.