DYNAMIC PROGRAMMING - SET 1 QUESTIONS

Question 1:

- ❖ **Problem link**: https://leetcode.com/problems/maximum-subarray/
- ❖ **Difficulty level**: Easy
- ❖ **Expected Complexity**:
  - ➢ Time: O(n)
  - ➢ Extra space:O(n)

Question 2:

- ❖ **Problem link**: https://leetcode.com/problems/climbing-stairs/
- ❖ **Difficulty level**: Easy
- ❖ **Expected Complexity**:
  - ➢ Time: O(n)
  - ➢ Extra space: O(n)

Question 3:

- ❖ **Problem link**: https://leetcode.com/problems/is-subsequence/
- ❖ **Difficulty level**: Easy
- ❖ **Expected Complexity**:
  - ➢ Time: O(n)
  - ➢ Extra space: O(1)

Question 4:

- ❖ **Problem link**: https://leetcode.com/problems/decode-ways/
- ❖ **Difficulty level**: Medium
- ❖ **Expected Complexity**:
  - ➢ Time: O(n)
  - ➢ Extra space:O(n)

Question 5:

- ❖ **Problem link**: https://leetcode.com/problems/coin-change/
- ❖ **Difficulty level**: Medium
- ❖ **Expected Complexity**:
  - ➢ Time: $O(S*n)$, where S is the amount and n is denomination count.
  - ➢ Extra space: $O(S)$, where S is the amount to change

Question 6:

- ❖ **Problem link**: https://leetcode.com/problems/perfect-squares/
- ❖ **Difficulty level**: Medium
- ❖ **Expected Complexity**:
  - ➢ Time: O(n)
  - ➢ Extra space: O(n*sqrt(n))

Question 7:

- ❖ **Problem link**: https://leetcode.com/problems/minimum-path-sum/
- ❖ **Difficulty level**: Medium
- ❖ **Expected Complexity**:
  - ➢ Time: O(m*n)
  - ➢ Extra space: O(m*n) or O(n)

Question 8:

- ❖ **Problem link**: https://leetcode.com/problems/regular-expression-matching/
- ❖ **Difficulty level**: Hard
- ❖ **Expected Complexity**:
  - ➢ Time: O(n^2)
  - ➢ Extra space: O(n^2)

Question 9:

- ❖ **Problem link**: https://leetcode.com/problems/trapping-rain-water/
- ❖ **Difficulty level**: Hard
- ❖ **Expected Complexity**:
  - ➢ Time: O(n)
  - ➢ Extra space:O(n)