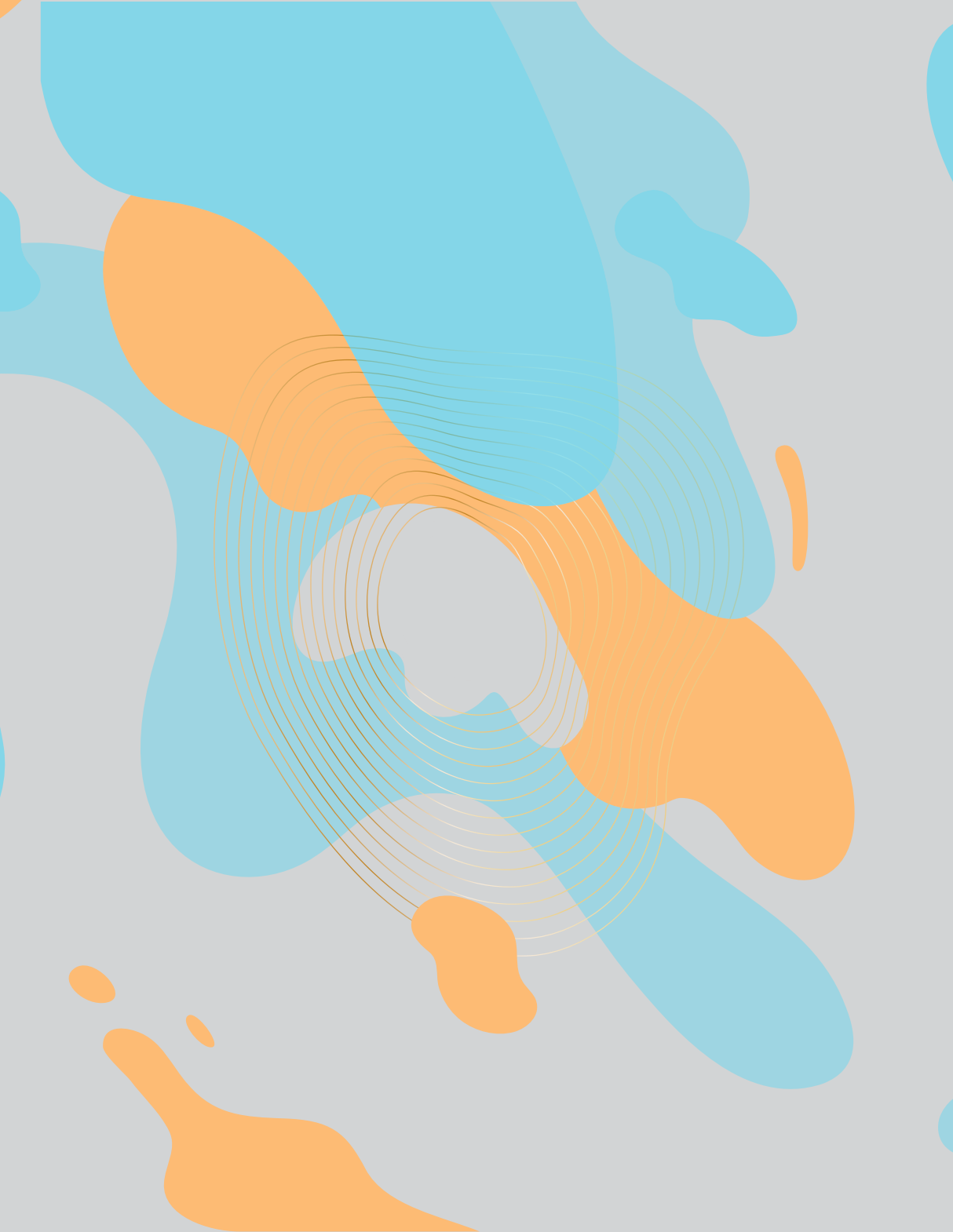

MCQ's (Assignment)

Prefix Sum

(Introduction to Problem Solving - I)

Q1. Prefix Sum Formula Solved

Using hints except Complete Solution is Penalty free now

The prefix sum formula for an array **A** of **N** integers is given by :-

- prefSum[i] = prefSum[i] + A[i]
- **prefSum[i] = prefSum[i - 1] + A[i]**
- prefSum[i - 1] = prefSum[i] + A[i]
- prefSum[i - 1] = prefSum[i - 1] + A[i]

Q2. Time Complexity of Prefix Sum Solved

Using hints except Complete Solution is Penalty free now Use Hint

What is the time complexity of creating the prefix sum array of an array **A** of **N** integers ?

- O(1)
- **O(N)** → We only iterate the array once while creating prefix sum
- O(N^2)
- O(N^3)

Q5. Prefix Sum - I Solved

Using hints except Complete Solution is Penalty free now Use Hint

Given the prefix sum of an array, prefSum = [-2, 4, 1, 5, 2]
What is the sum of the original array from index 0 to 2 (0-based) ?

$\Rightarrow$ $sum(L \to R) = p[R] - p[L-2]$

when $L > 0$

$\Rightarrow$ But for $L = 0$

$sum(0 \to R) = p[R] = p[2]$

$= 1$

Q6. Prefix Sum - II Solved

Using hints except Complete Solution is Penalty free now Use Hint

Given the prefix sum of an array, prefSum = [-2, 4, 1, 5, 2]
What is the sum of the original array from index 2 to 4 (0-based) ?

$\Rightarrow$ $sum(L \to R) = p[R] - p[L-1]$, as $L > 0$

$= p[4] - p[1] = 2 - 4$

$= -2$