

ANCC SHIVALIK 2023

WEEK-4

From : 12-Dec-23 Tuesday.

To : 17-Dec-23 Sunday.

Introduction

Implement all the solutions to all the previous sheets, a programming language is just a tool, and you must be able to convert any kind of algorithm provided as a theory into code. You get this only by practicing a lot of cool implementations.

We are currently learning the standard concepts in which most of them are less theory and more practice needed kind.

What are we going to learn this week

1. Greedy
2. Dynamic programming (DP)

What and from where to do this things

1. On the surface level DP is just a finding out a formula for $n+1$ st event in terms of the previous n events data, then storing the previous values of each event to optimally finding the answer instead of using recursion that could take exponential complexity.
2. Directly from CP hand book read the complete sections Greedy(at page 57 to 64) and Dynamic programming(at page 65 to 76).
3. Checkout CSES problemset for problems on DP. (Google it or find the link in standings pdf). Try implementations of the problems discussed in the book.
4. Better do dynamic programming first and then see Greedy.
5. DP and greedy need a lot of practice to get used to, see CSES and Practice sheet Week-4 is out, related to these and previous topics.
6. Note: While doing Greedy the most important aspect is to prove why Greedy works for the problem, you can't just assume things. (We do have problems where intuition says Greedy might work, but it doesn't).