

Coding Assignment 05

Description

Greedy is an algorithmic paradigm that builds up a solution piece by piece, always choosing the next piece that offers the most obvious and immediate benefit. Greedy algorithms are used for optimization problems. An optimization problem can be solved using Greedy if the problem has the following property: *At every step, we can make a choice that looks best at the moment, and we get the optimal solution of the complete problem.*

Problem Statement

You are given n activities with their start and finish times. Select the maximum number of activities that can be performed by a single person, assuming that a person can only work on a single activity at a time.

The greedy choice is to always pick the next activity whose finish time is least among the remaining activities and the start time is more than or equal to the finish time of previously selected activity.

Test Cases

`start[] = {1, 3, 0, 5, 8, 5};`

`finish[] = {2, 4, 6, 7, 9, 9};`

-> Should select activities 0, 1, 3, and 4 as optimal

`start[] = {10, 12, 30};`

`finish[] = {20, 25, 30};`

-> Should select activities 0 and 2