

1 Problem

Given x_1, x_2, \dots, x_n TB of available data for the next n days and given the amount of data a server can process s_1, s_2, \dots, s_n for n days after a fresh reboot.

Choose the days on which you are going to reboot so as to maximize the total amount of data you process.

2 Dynamic Programming Algorithm

2.1 Main Idea

On each day, decide whether the server processing is limited by the available data or the processing capability.

Breaking Problem Into Sub-problems On day d , choose to reboot on day i where i is the index of the day that maximizes the amount of data processed in the right partition of the list.

2.2 Pseudocode

2.3 Traceback Algorithm

2.4 Time Complexity