

Homework 6

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a/ Let's say P represents our optimal data amount processed. We can split this into subproblems where we just look at individual days. We will declare variables below.

P - optimal data processed (MB)

r - days since last reboot (day)

i - day (day)

S - data to be processed (MB)

X - data processing capacity (MB)

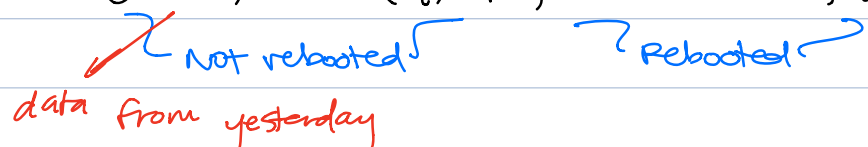
n - number of days (day) = 4

Let us formulate the model. There are two cases to look at:

- 1) System rebooted yesterday. No data was processed yesterday. We can take the maximum amount today. Add data from two days ago.
- 2) System not rebooted yesterday. Add the data processed yesterday and process the maximum capacity today.

Thus, we get the recurrence:

$$P(i) = \max(P(i-1) + \min(x_i, s_r), P(i-2) + \min(x_i, s_0))$$



b/ schedule.cpp

c/ schedule-1.cpp

d/ schedule_2.cpp