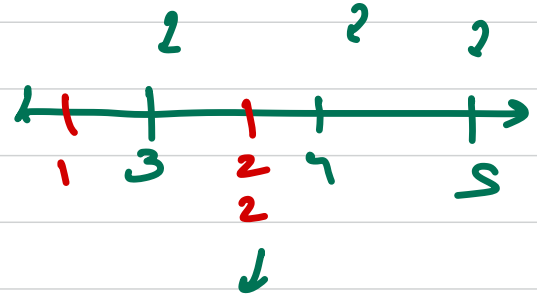


for any exam $a_1 \leftarrow$ and $a_2 \leftarrow$

$$\underbrace{b_1}_{a_1} < \underbrace{b_2}_{a_2}$$



$$\underbrace{b_1}_{a_1} \quad b_2 \quad b_3 \quad a_2$$

a_3

$a_i \quad b_i$

$$\begin{array}{cc} \underline{\underline{3}} & 2 \\ 3 & 1 \\ 4 & 2 \end{array} \quad \underbrace{\quad \quad \quad}$$

②

$(3,1) \quad (4,2) \quad (5,2)$

$(4,3) \quad (5,2) \quad (6,1)$

Activity Selection

List of activity $[(s_1, e_1) (s_2, e_2) \dots \dots \dots]$

find the max no. of non overlapping activities

i^{th}	1	2	3	4	5	6	7	8	9	10	11
s_i	1	3	6	5	3	5	6	8	8	2	12
e_i	4	5	6	7	9	9	10	11	12	14	16

greedy choice

We chose x activities, among those x , one activity will finish earliest.

↳ a_1 ← chosen first

↳

→ Let A_k be a max size subset of mutually compatible activities in S_k where S_k is any non empty subproblem.

Let a_j be the activity in A_k with earliest finish time

Let a_m be the activity in S_k with earliest finish time.

$$q_j \neq q_m$$

$$|S| \rightarrow |T|$$

say $A_k' = A_k - \{q_j\} \cup \{q_m\}$

The activities in A_k' are disjoint, because the activities in A_k are disjoint and q_j was the first activity to finish in A_k and $f_m \leq f_j$

$$|A_k'| = |A_k|$$

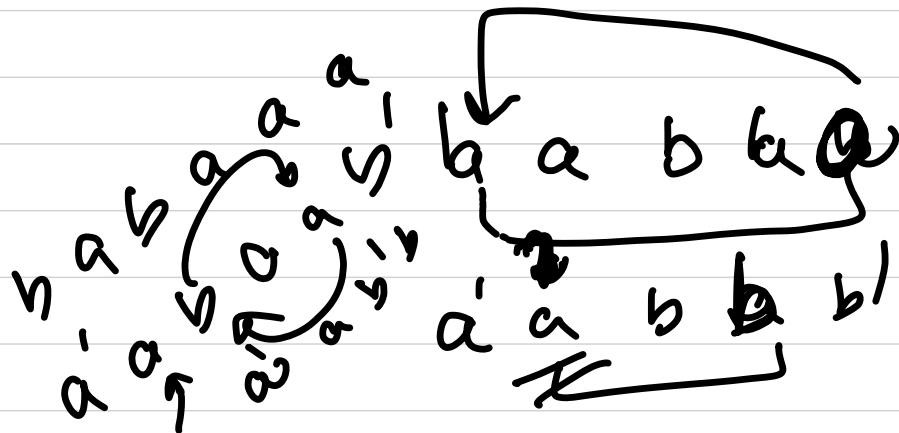
it concludes that $A_{x'}$ is a bkr max size

Subset of non overlapping / mutually compatible
activities of S_k so it includes a.m

P-2

✓ ✓
b b b a a
a a b b b
1 1 1 1 1

1 1
1+1

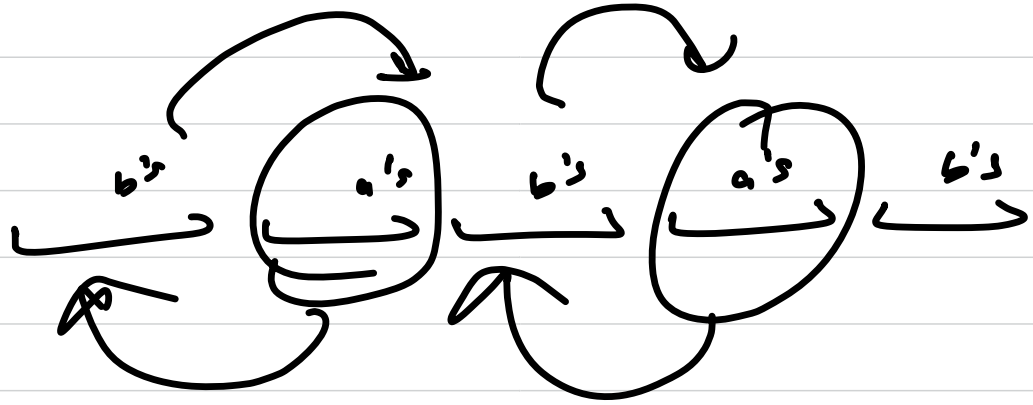


1+1
b b a a b b
a b a a b b
a a a b b b
1 1 1 1 1
2

1+1

~~a a b~~
b b a a
b b b a a s

0.1



$a's$ $a's$ $b's$ $b's$ $a's$

~~⊗~~ ⊗