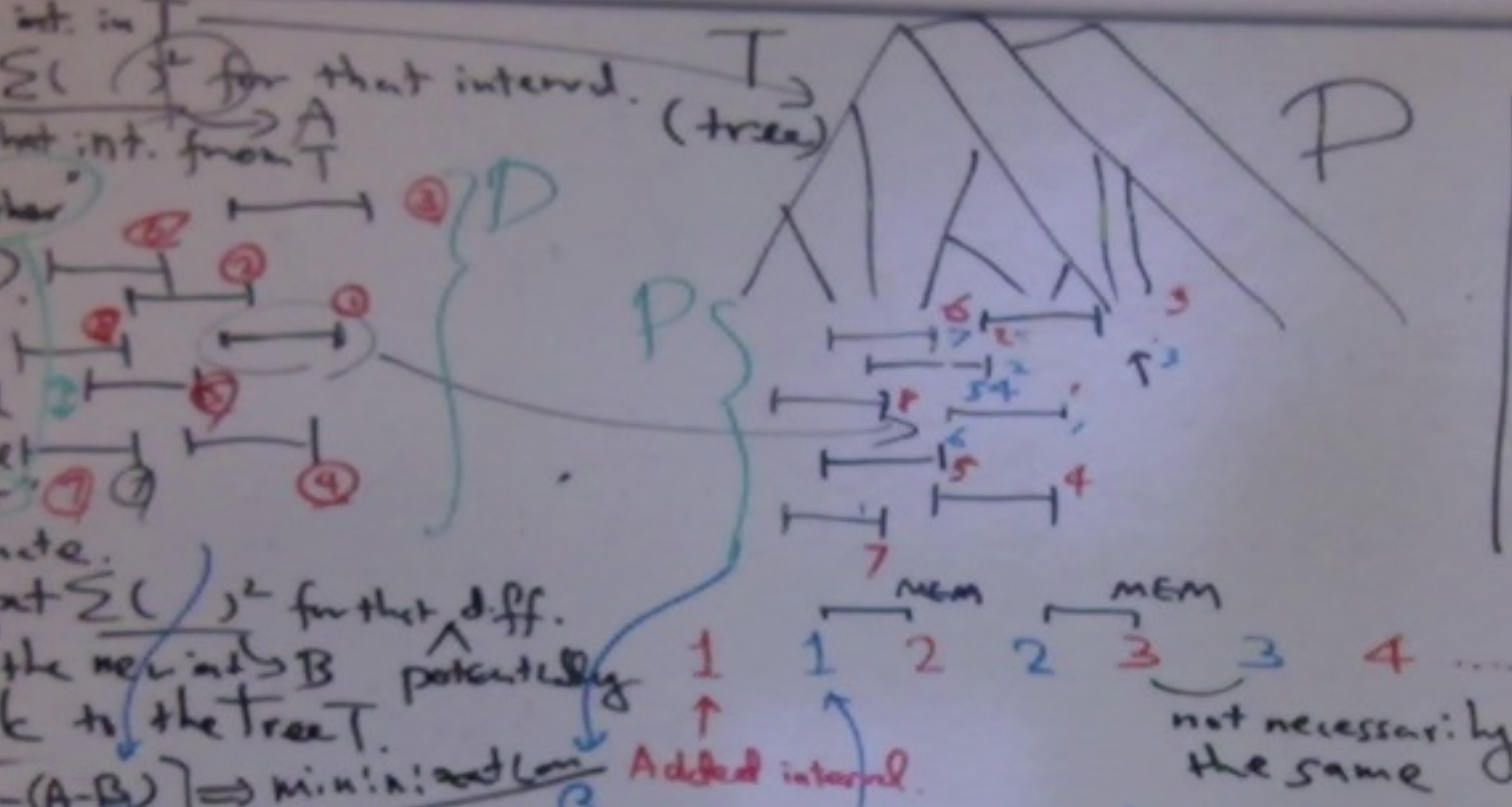
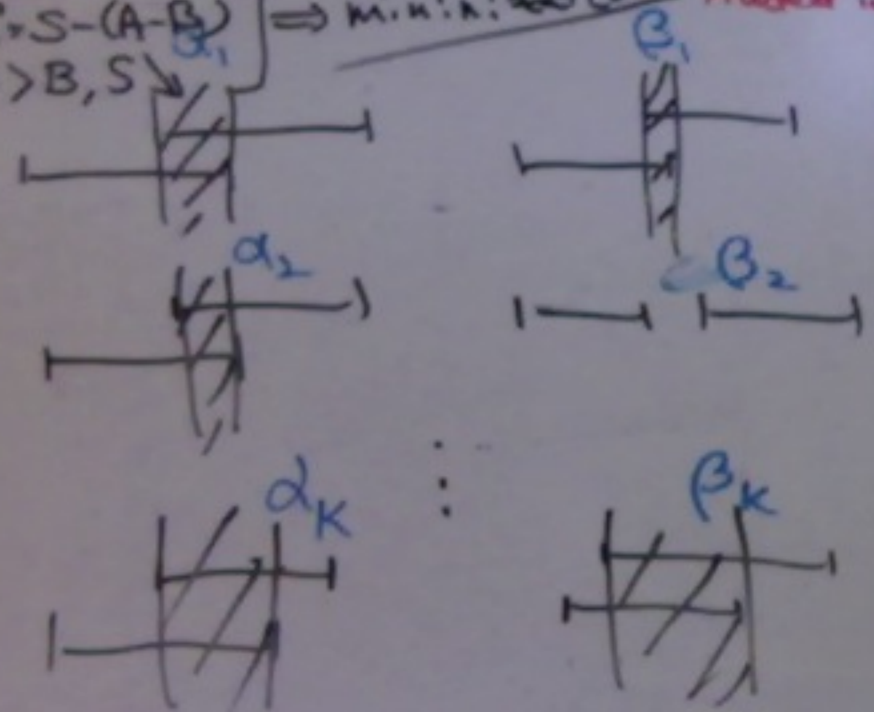
1. Choose an int. in T
2. Compute $\sum(\ )^2$ for that interval.
3. Remove that int. from T → A
4. Find "other" pair in D.
5. Now, the interval could have "different" coordinate.
6. Recompute $\sum(\ /\ )^2$ for that potentially diff.
7. Add the new int. → B back to the tree T.

S = S − (A−B) ⇒ minimized
if A > B, S



"All pairwise" relation

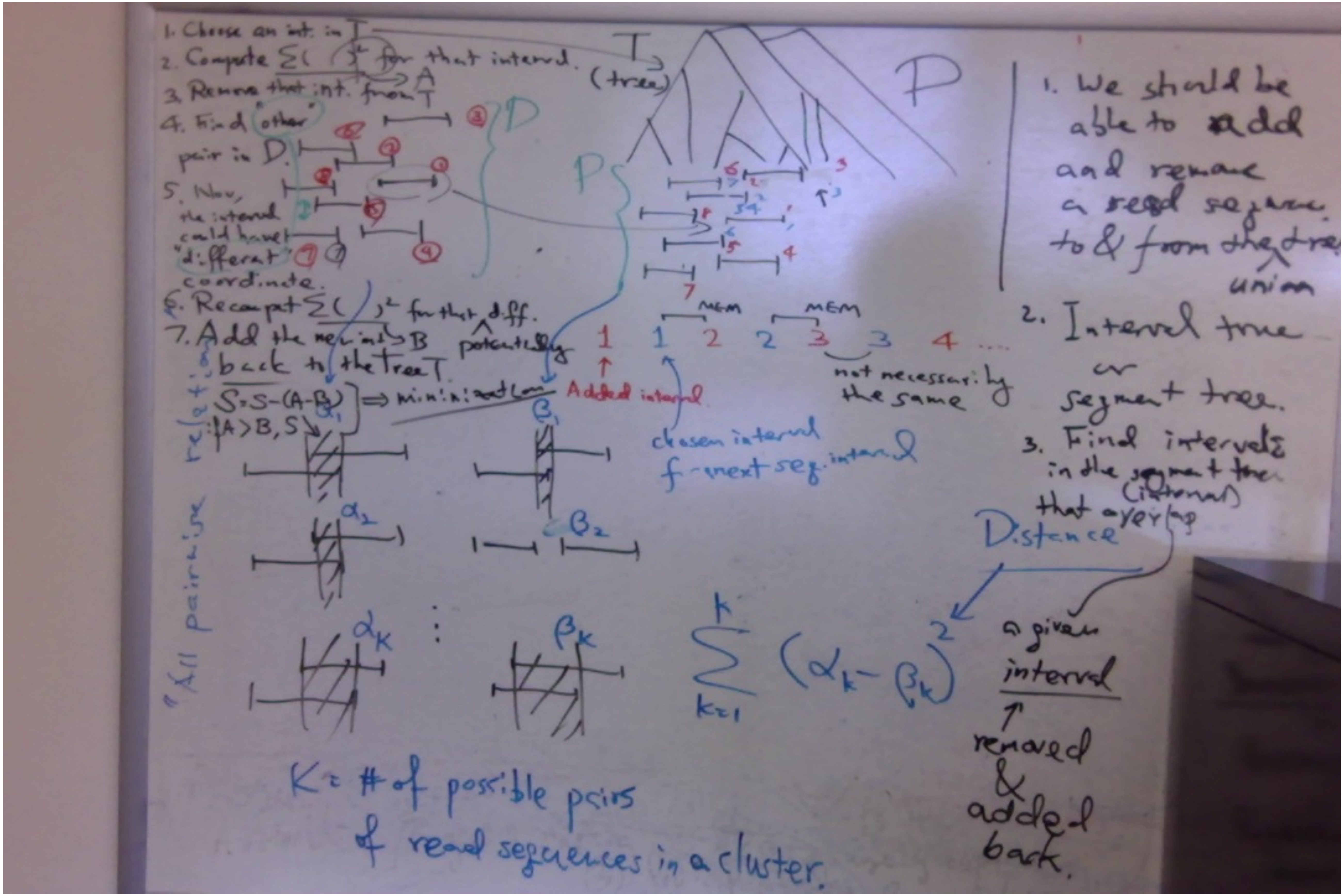


Distance

$$\sum_{k=1}^{K} (\alpha_k - \beta_k)^2$$

K = # of possible pairs of read sequences in a cluster.

1. We should be able to add and remove a read sequence to & from the union tree
2. Interval tree or segment tree.
3. Find intervals in the segment tree (internal) that overlap a given interval ← removed & added back.


1. Choose an int. in T
2. Compute Σ( )² for that interval. → A
3. Remove that int. from T
4. Find "other" pair in D.
5. Now, the interval could have "different" coordinate.
6. Recompute Σ( )² for that diff. → potentially
7. Add the new int. → B back to the tree T.
S=S-(A-B) ⇒ minimized loss
if A>B, S
T (tree)
P
D
P
not necessarily the same
Added interval
chosen interval
f-next seg. interval
MEM
MEM
1 1 2 2 3 3 4 ....
α₁
β₁
α₂
β₂
α_K
β_K
"All pairwise relation"
$\sum_{k=1}^{K} (\alpha_k - \beta_k)^2$
Distance
K = # of possible pairs of read sequences in a cluster.
1. We should be able to add and remove a read sequence to & from the union tree
2. Interval tree or segment tree.
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a given interval
removed & added back.

1. Choose an int. in T
2. Compute $\Sigma(\ )^2$ for that interval.
3. Remove that int. from T
4. Find "other" pair in D.
5. Now, the interval could have "different" coordinate.
6. Recompute $\Sigma(\ )^2$ for that diff.
7. Add the new int. to B back to the tree T.

T → (tree)

D

P

$S = S - (A - B)$ if $A > B$, $S \searrow$ ⇒ minimization

α_1 α_2 β_1 β_2

potentially

Added interval.

chosen interval
& next seg. interval

MEM MEM

1 1 2 2 3 3

not ne
the s

that intend.

T (tree)

P

1. We should be able to add and remove a read segment to & from the tree union

2. Interval tree or segment tree.

3. Find intervals in the segment tree (interval) that overlap

Distance

2 a given

MEM MEM

1 1 2 2 3 3 4 ....

not necessarily the same

1

Added interval.

chosen interval

for next seg. interval

B_1

B_2

k

6. Recompute $\sum(\ /\ )^2$ for that diff.
7. Add the new int. B potentially back to the tree T.

$S = S - (A - B)$] ⇒ minimization
if $A > B$, S ↘

MEM MEM

1 1 2 2 3 3 4 ....

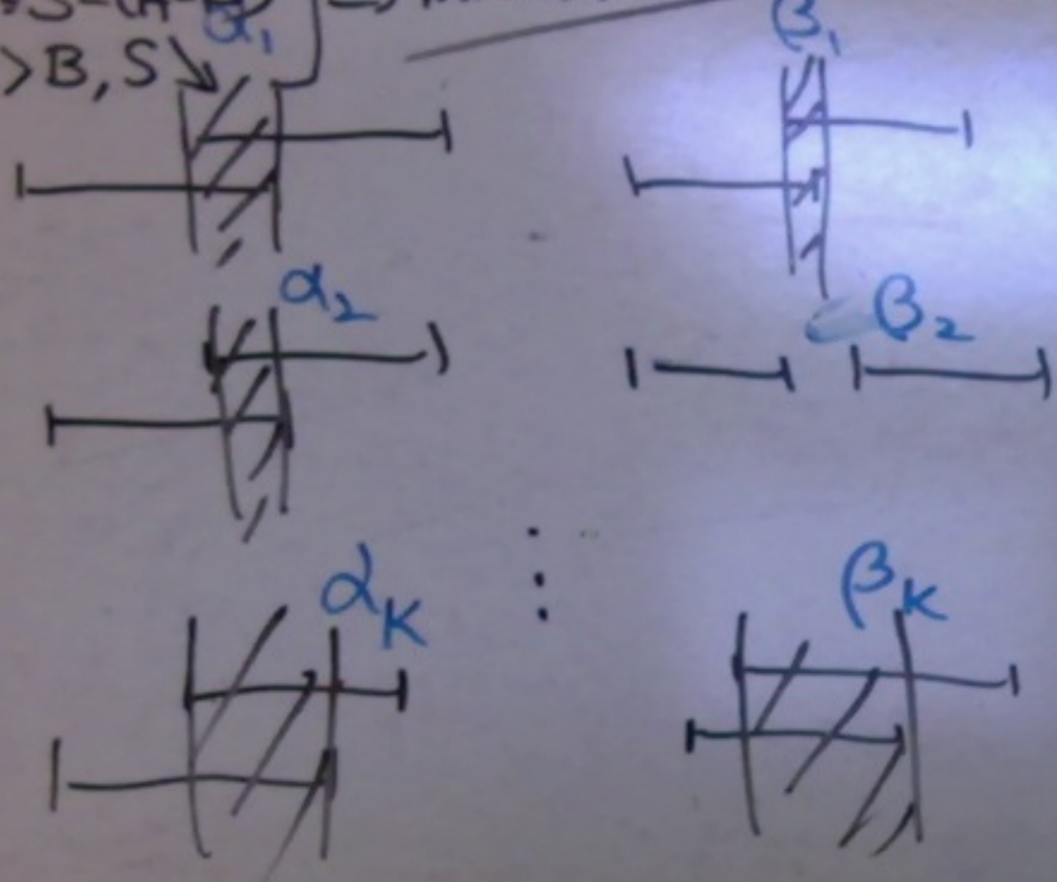
↑ Added interval.

chosen interval f. next seg. interval

not necessarily the same

2. Inter... or segmen...
3. Find in the se... (i... that are...

"All pairwise relation"



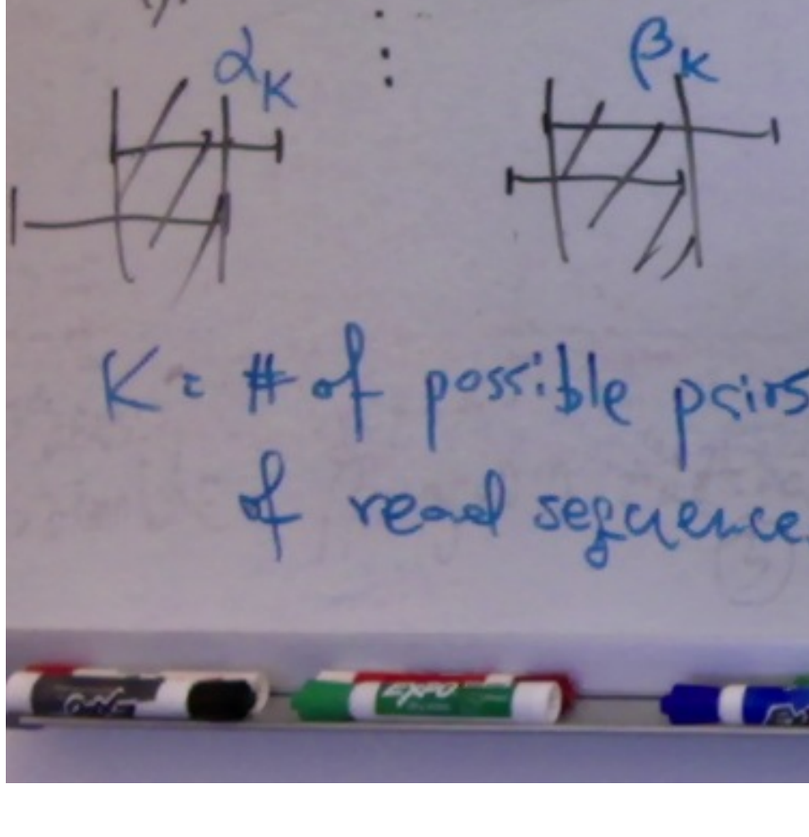
Distance

$$\sum_{k=1}^{K} (\alpha_k - \beta_k)^2$$

a given interval
↑
removed & added back.

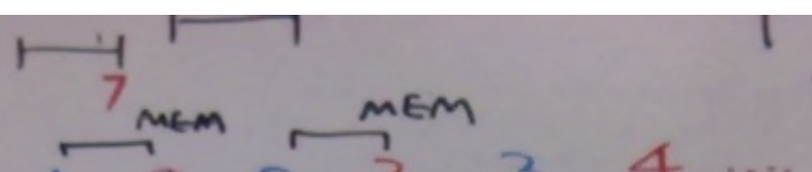
K = # of possible pairs of read sequences in a cluster.

nce.
put $\sum(\ )^2$ for that diff.
the new int. B potentially
k to the tree T.
-(A-B) $\Rightarrow$ minimal cost
3, 5



1 ↑ Added interval.

chosen interval
f-next seg. interval



2. Interval tree or segment tree.

3. Find intervals in the segment tree (if any) that overlap a given interval

Distance

$$\sum_{k=1}^{K} (\alpha_k - \beta_k)^2$$

↑ removed & added back.

K = # of possible pairs of read sequences in a cluster.