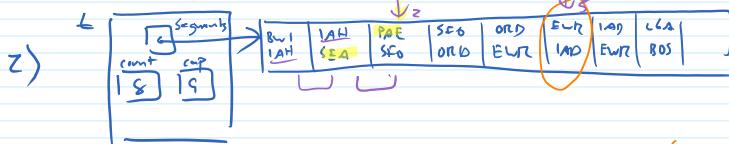
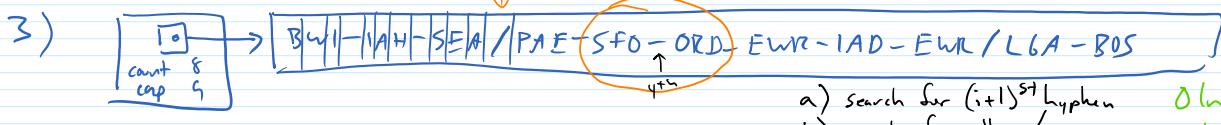




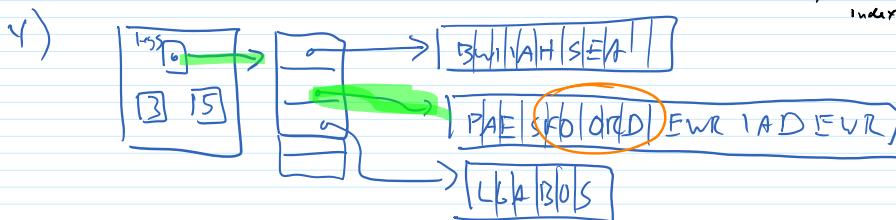
a) ticket\_get\_segment\_by\_index(t, i)  
b) ticket\_get\_segment\_with\_lag(t, i, j)  $t-g-s-w(t, \boxed{i}, \boxed{j})$



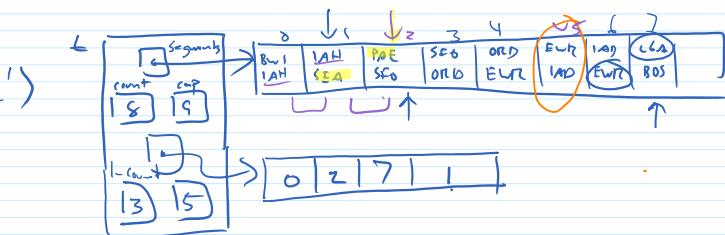
a) return  $t \rightarrow \text{segments}[i]$   $O(1)$   
b) 1) find start of  $\text{lag}_j$  / loop  
2) offset from there  $O(n)$



$t-g-s-bi(t, 3)$   
a) search for  $(i+1)^{\text{st}}$  hyphen  $O(n)$   
b) search for  $j^{\text{th}}$  index  $O(n)$



a) search through  $\text{lags}$  to count  $O(n)$  segments  
b)  $\text{strcpy}(\text{result}.orig, t \rightarrow \text{lags}[i] + j * 3, 3)$   
 $\text{strcpy}(\text{result}.dest, t \rightarrow \text{lags}[i] + (j+1) * 3, 3)$   
 $O(1)$



b) return  $t \rightarrow \text{segments}[t \rightarrow \text{lags}[i] + j]$   $O(1)$

```
int seg_count = ticket_count_segments(t);
for (int i = 0; i < seg_count; i++)
{
    segment = ticket_get_segment_by_index(t, i);
    printf("%s\n", segment.orig, segment.dest);
}
```

