

① arr = [2, 2, 1, 0, 1, 2, 1, 0]

arr = [0, 0, 1, 1, 1, 2, 2, 2]

② start = 0

↔

mid = 1

↔

end = 2

↔

↓
pivot = 1

① $\text{start} = 0, \text{mid} = 0, \text{end} = n-1;$

② $\text{while} (\text{mid} \leq \text{end})$

{
if ($a[\text{mid}] < \text{pivot}$) $\Rightarrow 0$

{
swap ($A, \text{start}, \text{mid}$);

start ++;

mid ++;

}

else if ($a[\overset{2}{mid}] > \underset{1}{pivot}$) $\Rightarrow 2$

{

swap (A, $\underset{\longleftrightarrow}{mid}$, end);

end -- ;

}

else

{

}

}

mid \searrow end
0, 1, 1, 1, 2, 2
0, 0, 1, 1, 1, 2, 2, 2

$Y =$

0	1	2	3	4	5	6
8	11	19	25	30	72	100

$Y[1 \dots 6]$ is sorted

$first = Y(0) = \underline{30} \quad \Rightarrow 2$

for (int $k = 1$; $k < n$ && $Y[k] < first$; $k++$)

{ $Y[k-1] = Y[k];$

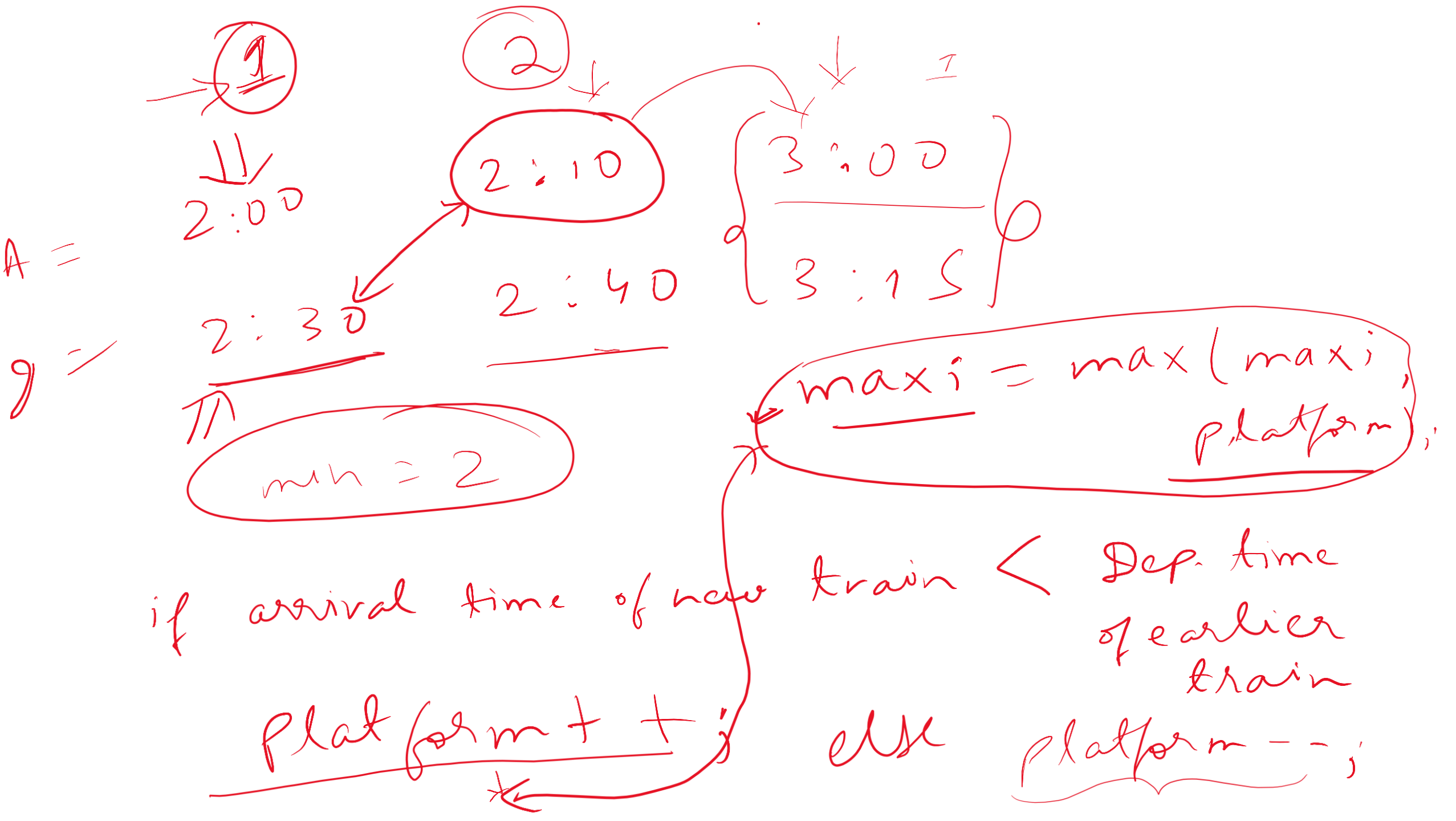
$Y[2] = Y(4)$

}

$Y[k-1] = first;$

$Y(4) = 30$

$= 25$



$arr = [\overset{T_1}{2}, \overset{T_2}{2.15}, \overset{T_3}{2.30}, \overset{T_4}{2.45}, \overset{T_5}{3.15}, \overset{T_6}{3.45}]$
 $dep = [\overset{T_1}{2.18}, \overset{T_2}{2.33}, \overset{T_3}{2.48}, \overset{T_4}{2.59}, \overset{T_5}{3.59}, \overset{T_6}{4.00}]$

$\leftarrow (2)$

$\leftarrow \begin{cases} P_1 = T_5 \\ P_2 = T_6 \end{cases}$

$\boxed{max_i = 2}$

$\leftarrow count = 1$

$\leftarrow \underline{max_i} = \max(max_i, count) = 2$

① $\underbrace{-ve} \times \underbrace{-ve} = \underline{+ve}$ no

② $\min_ending_till_here = a(0);$

③ $\max_ending_till_here = a(0);$

④ $\underline{\max_so_far} = a(0);$

```
for (int i = 1; i < n; i++)  
{  
    int temp = max(a(i), a(i) * max-eh,  
                  a(i) * min-eh);  
    min-eh = min(a(i), a(i) * max-eh,  
                 a(i) * min-eh);  
    max-eh = temp;  
    max-so-far = max(max-so-far, max-eh);  
}
```


$$\underline{n + y = \text{constant}}$$

$$y = \underline{\text{constant} - n}$$

map [curr-sum]
key

