

7.7.2020

Soru 2

a-) 124

124

b-) $(M_1 \cdot (M_2 \cdot M_3 \cdot M_4)) M_5 \longrightarrow (M_1 \cdot (M_2 (M_3 \cdot M_4))) M_5$

Soru 3-

	$n=1$	$n=2$	$n=4$	$n=8$	$n=16$
2^{n^2}	2	16	256	65.536	
$n^{3/4}$	$4\sqrt{1}$	$4\sqrt{2}$	$4\sqrt{2^2}$	$4\sqrt{2^3}$	
\sqrt{n}	$\sqrt{1}$	$\sqrt{2}$	$\sqrt{3}$	$\sqrt{4}$	
1000	1000	1000	1000	1000	
$\log \log n$	0	0	1	1.5	
$n!$	1	2	24	40.320	
$\log n$	0	1	2	3	
n^2	1	4	16	64	
$n \log n$	0	1	8	24	
n	1	2	4	8	
2^n	2	4	16	256	

Soru 4-)

veya for döngüsü \rightarrow $(n+1)$ defa

39

while $n=8$ $n+1$ 9
 while $n=4$ $n+1$ 5
 while $n=2$ $n+1$ 3
 while $=$ $n+1$ 2

Soru 5 Master Teorem:

$$T(n) = aT\left(\frac{n}{b}\right) + \left(\frac{1}{2}\right)n^2 + n$$

$a=1 \quad b=2 \quad c=\frac{1}{2} \quad d=2$

$a < b^c$
 $1 < 2^2 \quad \Theta(n^2) \rightarrow$

- $O(n^2)$ $a < b^c$
- $O(n^2 \log n)$ $a = b^c$
- $O(n^{\log_b a})$ $a > b^c$

$a \geq 1$
 $b \geq 2$
 $c > 0$
 $d \geq 0$ } şartlar

$T(n) = 2T(n/4) + \sqrt{n} + 42$

$a=2 \quad b=4 \quad c=1 \quad d=1/2$

$O(\sqrt{n} \log n)$

$a ? b^c$
 $2 = 4^{1/2}$

$$T(n) = 3T\left(\frac{n}{2}\right) + \frac{3}{4}n + 1$$

$$a=3 \quad b=2 \quad c=\frac{3}{4} \quad d=1$$

$$a \geq b^d$$

$$3 \geq 2^1$$

$$O(n^{\log_2 3}) //$$

2016

Sol 3

$x = b d c a b a$

$y = a b c b d a b$

$i \rightarrow$

		1	2	3	4	5	6
	$x \rightarrow$	b	d	c	a	b	a
		0	0	0	0	0	0
1	a	0	0	0	1	1	1
2	b	1	1	1	1	2	2
3	c	1	1	2	2	2	2
4	b	1	1	2	2	3	3
5	d	1	2	2	2	3	3
6	a	1	2	2	3	3	4
7	b	1	2	2	3	4	4

bc b a
b d a b

2015

$$X(i, j) = X(i, j-1) + X(j-1, j) + p_{i-1} p_j p_{j+1}$$

ser-1

M_1
5x10
 p_0

M_2
10x4
 p_1

M_3
4x6
 p_2

M_4
6x10
 p_3

M_5
10x2
 p_4 p_5

$i \backslash j$	1	2	3	4	5
5			96 $k=3$	48 $k=4$	0
4		480 $k=2$	240 $k=3$	0	
3	360 $k=1$	240 $k=2$	0		
2	200 $k=1$	0			
1	0				

$$1,4 = \begin{matrix} 6 \\ 11 \\ 200 \\ 12 \end{matrix} \quad \begin{matrix} 480 \\ 24 \\ 240 \\ 3,4 \end{matrix}$$

$$\begin{matrix} 1,3 \\ 360 \end{matrix} \quad \begin{matrix} 4,4 \\ 0 \end{matrix}$$

$$2,5 = \begin{matrix} 2,2 \\ 2,3 \\ 2,4 \end{matrix} \quad \begin{matrix} 3,5 \\ 4,5 \\ 5,5 \end{matrix}$$

$$\begin{matrix} 5 \\ 0 \end{matrix} \quad \begin{matrix} 10 \\ 1 \\ 4 \\ 2 \\ 6 \\ 3 \end{matrix} \quad \begin{matrix} 10 \\ 4 \\ 4 \\ 4 \\ 4 \end{matrix} = \begin{matrix} 380 \\ 640 \rightarrow \\ 660 \end{matrix}$$

$$\begin{matrix} 10 \\ 1 \\ 1 \\ 1 \end{matrix} \quad \begin{matrix} 4 \\ 2 \\ 3 \\ 4 \end{matrix} \quad \begin{matrix} 2 \\ 5 \\ 5 \\ 5 \end{matrix}$$

$$M(1,3) = \overset{0}{(1,1)} + \overset{240}{(2,3)} + \overset{5}{p_0} \overset{4}{p_2} \overset{6}{p_3} = 360 \rightarrow$$

$$\overset{240}{(1,2)} + \overset{0}{(3,3)} + \overset{5}{p_0} \overset{10}{p_1} \overset{6}{p_3} = 500$$

$$M(2,4) = \overset{240}{(2,2)} + \overset{240}{(3,4)} + \overset{10}{p_1} \overset{4}{p_2} \overset{6}{p_4} = 480 \rightarrow$$

$$\overset{240}{(2,3)} + \overset{0}{(4,4)} + \overset{10}{p_1} \overset{6}{p_3} \overset{10}{p_4} = 540$$

$$M(3,5) = \overset{240}{(3,3)} + \overset{48}{(4,5)} + \overset{4}{p_2} \overset{6}{p_3} \overset{2}{p_5} = 36 \rightarrow$$

$$\overset{34}{(3,4)} + \overset{55}{(5,5)} + \overset{4}{p_2} \overset{4}{p_3} \overset{5}{p_5} = 72 \rightarrow$$

$$M(1,2) = M(1,2) = \underset{0}{(1,1)} + \underset{0}{(2,2)} + \underset{5}{p_0} \underset{10}{p_1} \underset{4}{p_2} = 200$$

$$M(2,3) = \underset{0}{(2,2)} + \underset{0}{(3,3)} + \underset{10}{p_1} \underset{4}{p_2} \underset{6}{p_3} = 240$$

$$M(3,4) = (3,3) + (4,4) = p_2 p_3 p_4 = 240$$

$$M(4,5) = \overset{0}{44} + \overset{0}{55} = \overset{4}{p_3} \overset{6}{p_4} \overset{10}{p_5} = 48$$

$$\overset{4}{p_3} \overset{6}{p_4} \overset{2}{p_5} = 48$$