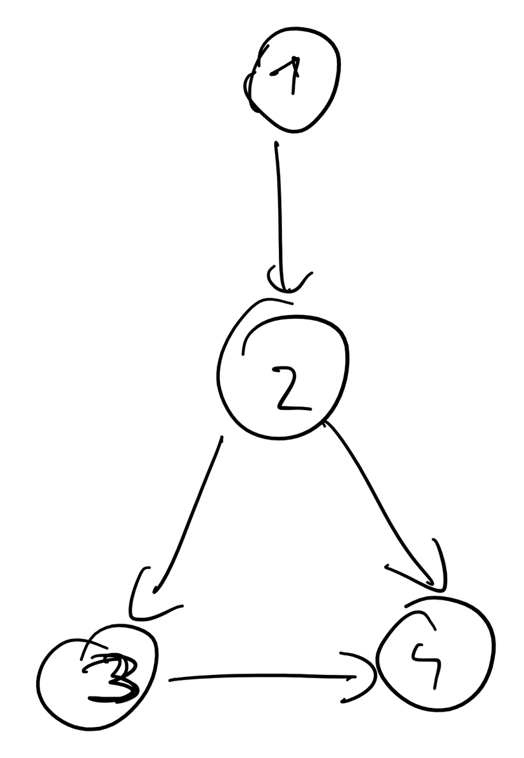
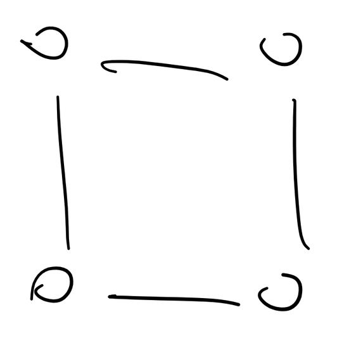
R686

Tuesday, 24 November 2020 19:12



8

2-3-4

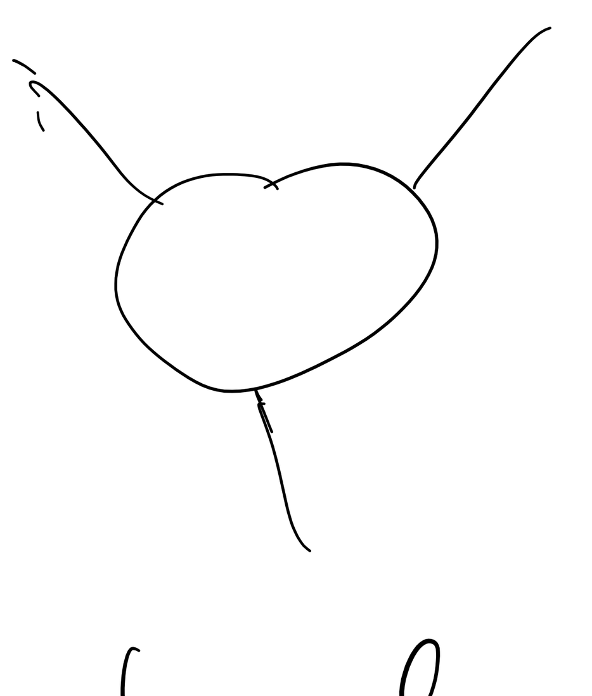


2 3

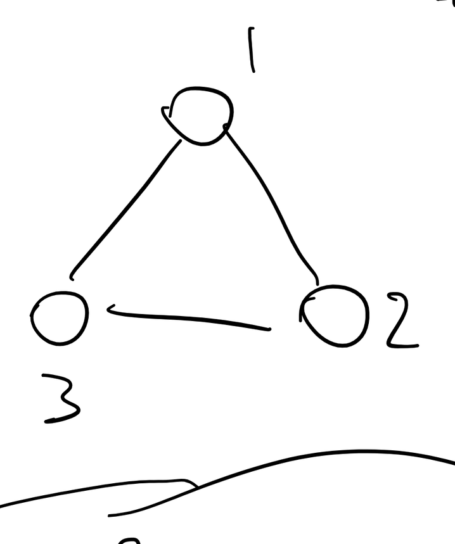
3 4
2 4
2 3 4
~~3 4~~
1 3 4
1 2 4
1 2 3 4
1 3 4
1 2
1 2 3

2 3 4
2 4 3

Graph:



Result det. only by cycle size?



#paths	len
3	1
3	2
1	3

$n^2 - n$ on cycle

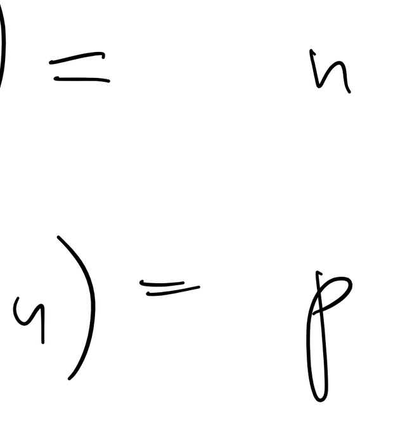
$n=3 \Rightarrow 7$

o—o—o = 3

$\frac{(p+1)^2 - p}{2}$

$p^2 + 2p + 1 - p$

$p^2 + p + 1$



$\frac{p(p+1)}{2}$ on line itself

$+ \; p * \left(2(n-1) + 1\right)$

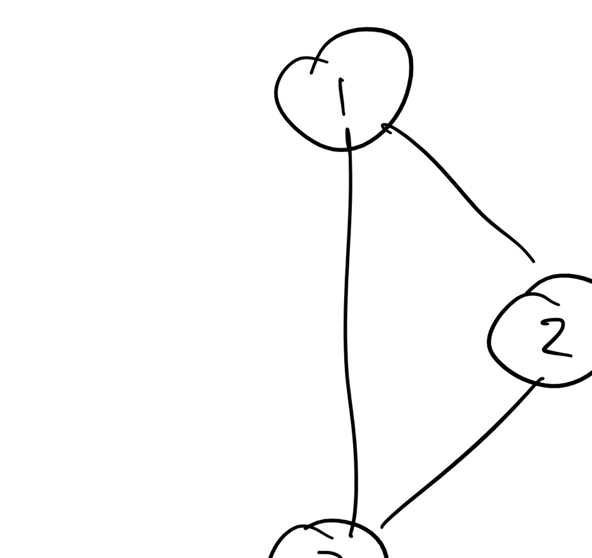
$C(n) = n(n-1)$

$P(p,n) = p\left(\frac{p+1}{2} + 2(n-1)\right)$

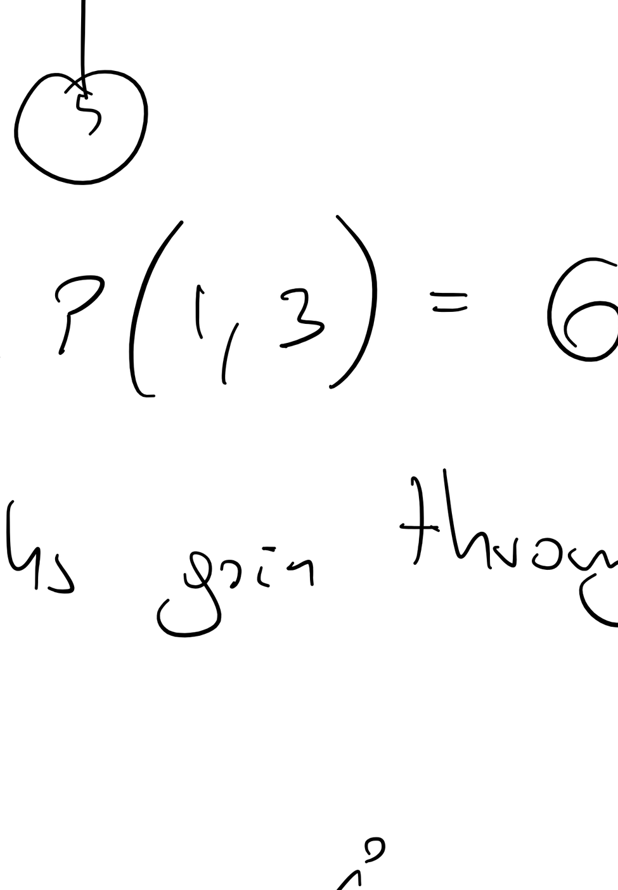
$C(3) = 3 \cdot 2 = 6$

$P(1,3) = 1 + 4 = 5$

11

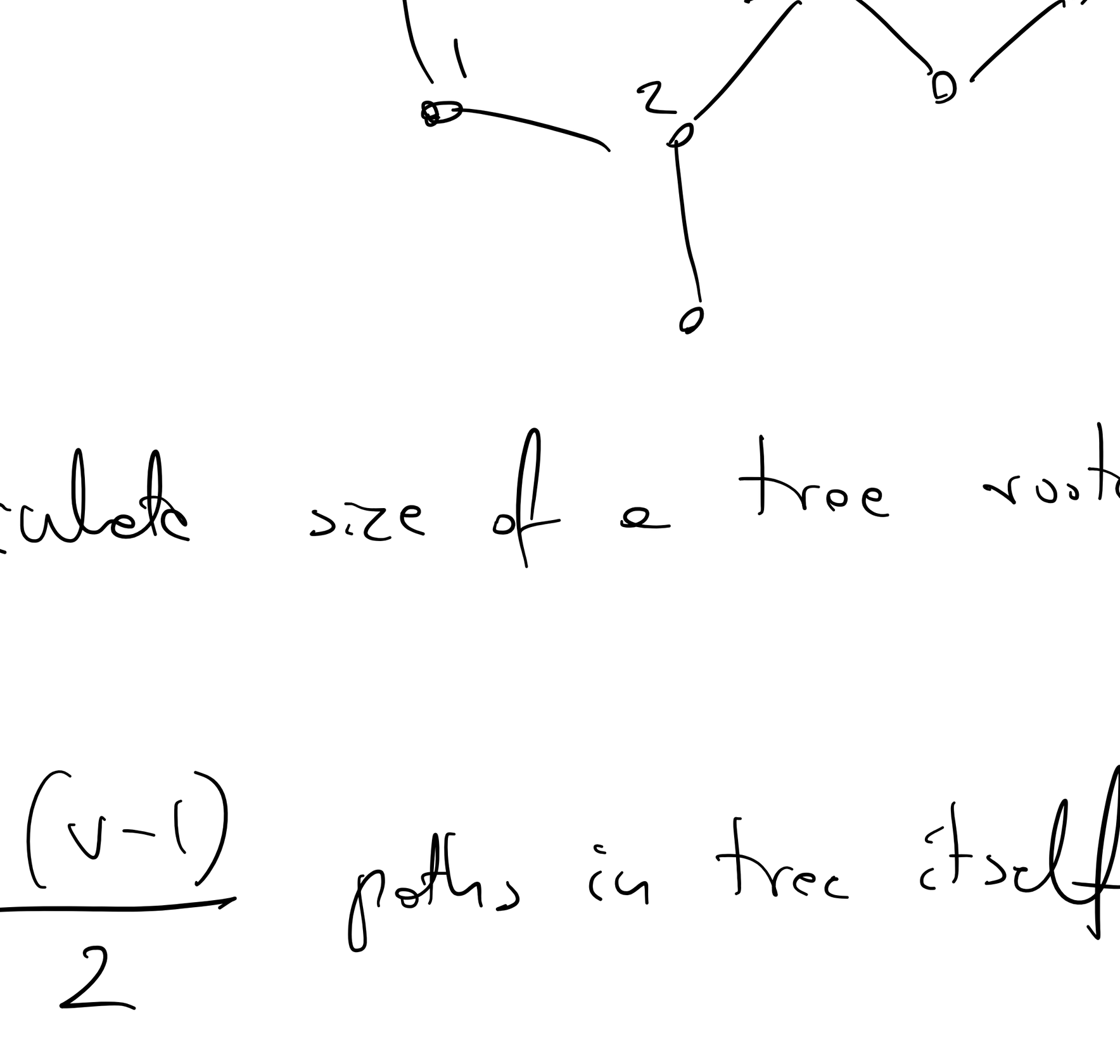


$\Rightarrow 6$



$C(3) + 2P(1,3) = 6 + 2 \cdot 5 = 16$

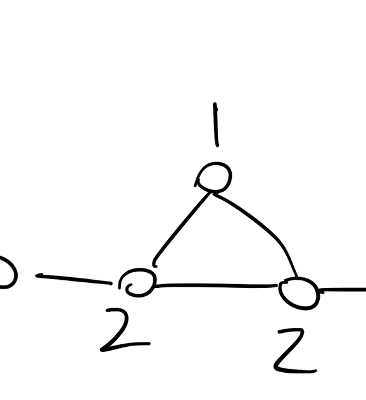
Missing paths going through both tails...



calculate size of a tree rooted on cycle vertex.

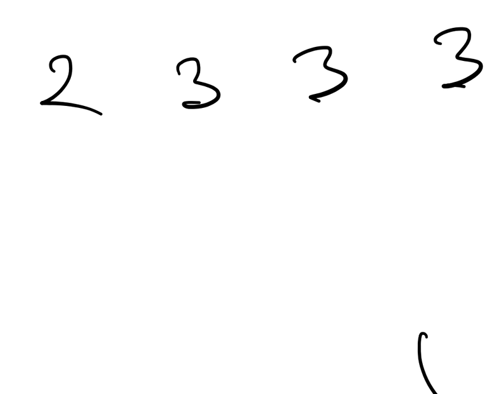
$\frac{v(v-1)}{2}$ paths in tree itself

$v(n-v)$ paths touching cycle



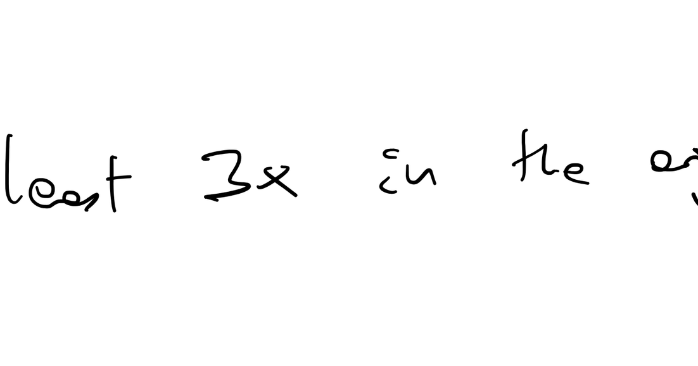
$3 + 3 + 4 + 1 = 11$

$2 + 2 + 2 = 6$



$4 + 2 \cdot 6 + 2 \cdot 1 = 18$

1 2 3 3 3 (4) | (4) | 3 (4) 2 1



$\leq x$ [x] $\leq x$ $\geq x$ [x] $\geq x$ $\leq x$ [x] $\leq x$

x at least 3x in the array

(2) 1 | 4 (2) 4 3 3 | 1 (2)