n (1 to 10^6)

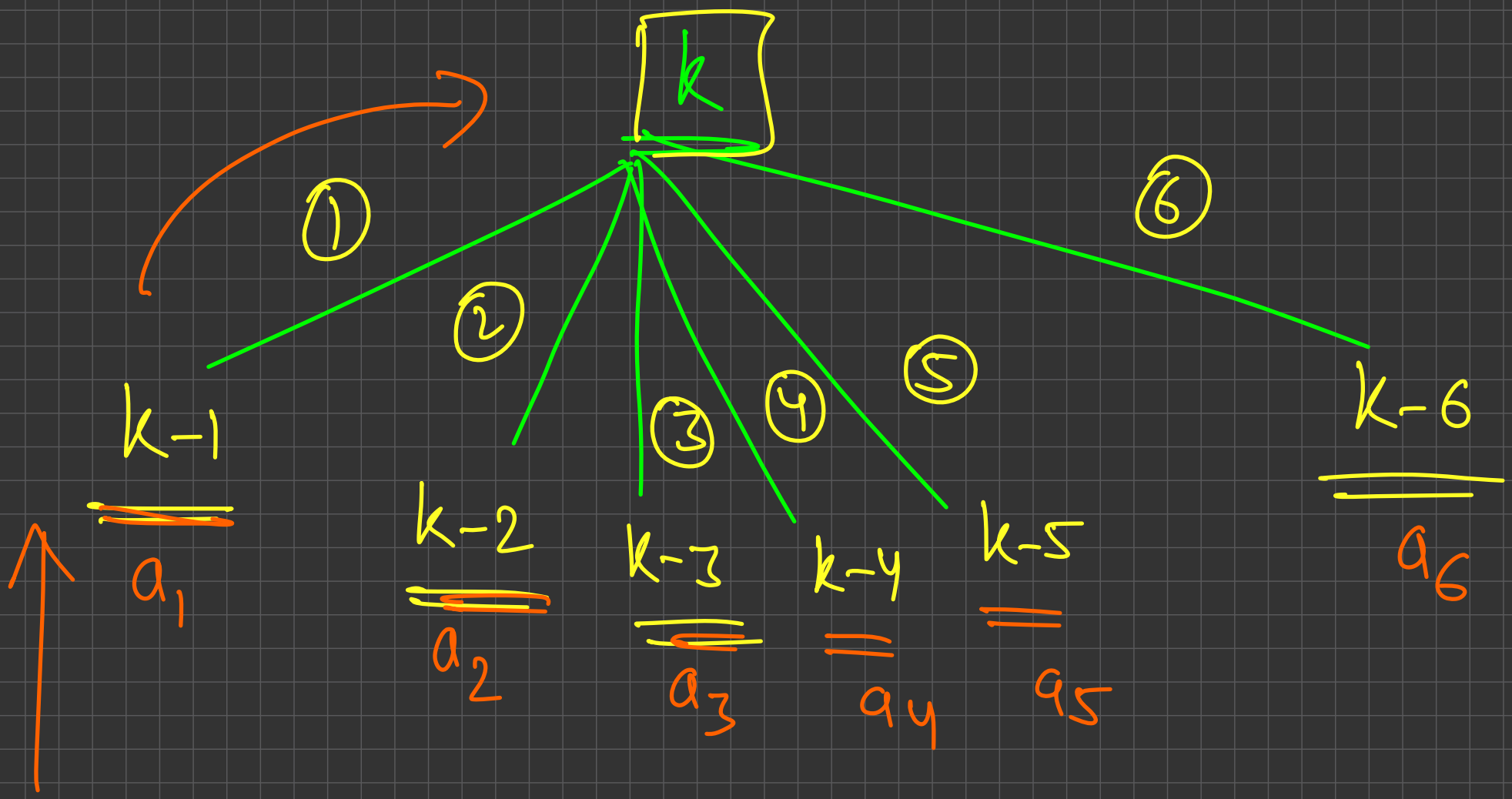
dice

(1 to 6)

k = 10 (1)

k = 6

k = 2



dp[k] = no. of way to get a sum of k

State

transition $dp[k] = \sum_{i=1}^{6} dp[k-i]$

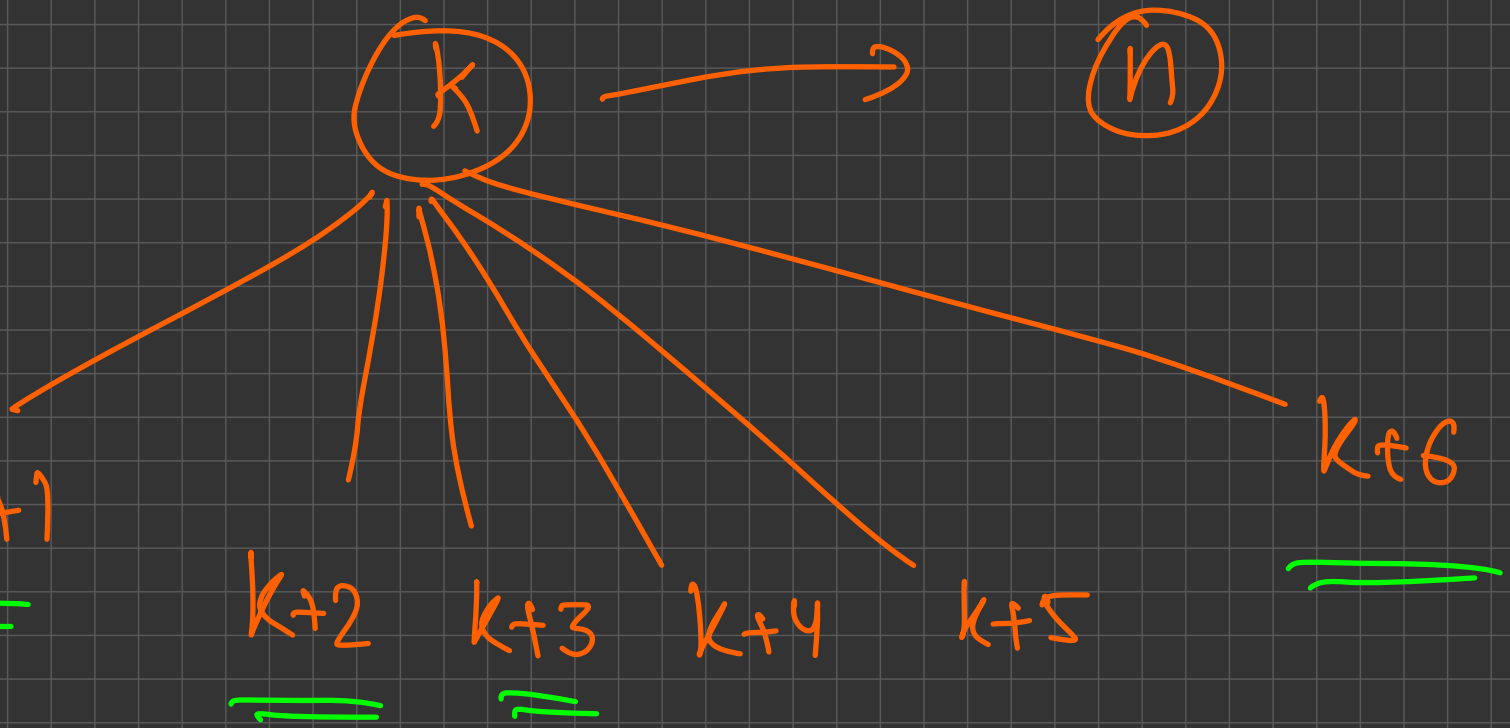
$dp(0) = 1$ Base Case

$dp(n) \equiv$ no. of ways to get sum of n

final subproblem

```
for ( int i = 1 ; i <= n ; i++)
```

dp(i)



state

dp[k] = no. of ways to get a sum of n starting from k

transition

$$dp[k] = \sum_{i=1}^{6} dp(k+i)$$

Base case $dp(n) = 1$

Final subproblem : $dp(0)$

```
for (int i= n-1 ; i >= 0 ; i--)
```