

formula

Time analysis of each function:

1. $\text{printFormula} = O(n)$
2. $\text{StringToInt} = O(n)$
3. $nCr = O(n)$ because nCr was calculated using $\text{Factorial}(n)/(\text{Factorial}(r)*\text{Factorial}(n-r))$
 $= O(n + r + n-r) = O(n)$
4. $\text{factorial} = O(n)$

Note:

I chose $n=13$ as the overflow point because $13! = 6227020800$ which is greater than 2,147,483,647 (the largest number that fits in type int)