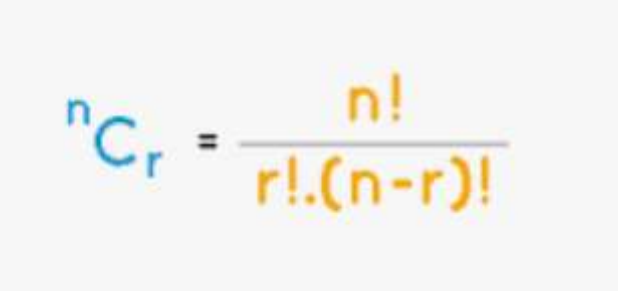
NCR function

Make sure you have made the factorial function first.

This is a combanatoric function. It lets you calculate the number of possible options without condideration of ordering.

This is the formula.



Eg how many ways are there to select 3 book from 5 books on a shelf.

We can use the formula to work this out.

We say n choose r , that is we have 5 books and can choose 3

5 C 3

so we use 5 factorial = 120 on the top

and on the bottom we have 3 factorial * (5 - 3) factorial

so on the bottom we have 6 * 2 = 12

120 / 12 = 10 Ways to choose 3 books out of 5 books.

$$^{n}C_{r} = \frac{n!}{r!\,(n-r)!}$$

$$= \frac{5!}{3!\,(5-3)!}$$

$$= \frac{120}{6 \times 2}$$

$$= 10$$

Make a function to calculate this. Use your factorial function.