

Number of Permutations with Repetition.

(1) The number of permutations (arrangements) of n different objects, taken r at a time, when each object may occur once, twice, thrice,.....upto r times in any arrangement = The number of ways of filling r places where each place can be filled by any one of n objects.

r – places:

1	2	3	4
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r

Number of choices: n n n n n

The number of permutations = The number of ways of filling r places = $(n)^r$

(2) The number of arrangements that can be formed using n objects out of which p are identical (and of one kind) q are identical (and of another kind), r are identical (and of another kind) and

the rest are distinct is $\frac{n!}{p!q!r!}$.