

Exemplar Problems

Permutation and Combination

2. If the letters of the word RACHIT are arranged in all possible ways as listed in dictionary. Then what is the rank of the word RACHIT?

[Hint: In each case number of words beginning with A, C, H, I is 5!]

Solution:

According to the question,

R	A	C	H	I	T
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Arranging in alphabetical order, we get,

A C H I R T

Number of words that can start with A=5!

Number of words that can start with C=5!

Number of words that can start with H=5!

Number of words that can start with I=5!

Total = 5! +5!+5!+5!

= 120+120+120+120=480

Since, the word that can start with R is RACHIT

Number of words that can start with R = 1

Hence, we obtain that,

The rank of the word RACHIT = 480+1=481