

Example 10(Method 1)

How many 4-digit numbers can be formed by using the digits 1 to 9 if repetition of digits is not allowed?

n = Numbers from 1 to 9 = 9

$r = 4$ (as we gave to take 4 digits at a time)

Required 4 digit number

$$= {}^9P_4$$

$$= \frac{9!}{(9-4)!}$$

$$= \frac{9!}{5!}$$

$$= \frac{9 \times 8 \times 7 \times 6 \times 5!}{5!}$$

$$= 3024$$