Answer on Question#34772 – Math – Combinatorics

Question.

how many numbers of five digits each can be made from the digits 1,2,3,4,5,6,7,8,9, where each number contains exactly one even digit and no digit is used more than once.

Solution.

On one digit place should be stayed even number. So, 2,4,6 or 8. 4 ways. We have 8 ways to choose the second digit (as no digit is used more than once). 3 digit – 7 ways. 4 digit – 6 ways. 5 digit -5 ways.

Thus, we can be made $4 * 8 * 7 * 6 * 5 = 6720$ numbers from the digit 1,2,3,4,56,7,8,9.

Answer. 6720