

Math 55 — Discrete Mathematics — Spring 2003

Quiz 11 Solutions

Version I:

Problem 1. How many five-digit odd numbers have distinct digits?

Choose the last digit (1,3,5,7 or 9), then the first digit (1–9 and different from the last digit), then the other three digits:

$$5 \cdot 8 \cdot (8)_3 = 5 \cdot 8 \cdot 8 \cdot 7 \cdot 6.$$

Problem 2. How many different strings can be formed by rearranging the letters in the word *HULLABALOO*?

$$\binom{10}{3, 2, 2, 1, 1, 1}.$$

Version II:

Problem 1. How many six-digit odd numbers have distinct digits?

$$5 \cdot 8 \cdot (8)_4 = 5 \cdot 8 \cdot 8 \cdot 7 \cdot 6 \cdot 5.$$

Problem 2. How many different strings can be formed by rearranging the letters in the word *PEPPERIER*?

$$\binom{9}{3, 3, 2, 1}.$$