CS 131 – Spring 2017 – Lab 9

Question 1 How many 6-element RNA sequences of A, C, G and U

    a) do not contain U?

    b) end with GU?

    c) start with C?

    d) contain only A or U?

Question 2 How many bit strings are there of length six or less, not counting the empty string?

Question 3 How many strings of three decimal digits

    a) do not contain the same digit three times?

    b) begin with an odd digit?

    c) have exactly two digits that are 4s?

Question 4 How many functions are there from the set $\{1, 2, ..., n\}$, where n is a positive integer, to the set $\{0, 1\}$

    a) that are one-to-one?

    b) that assign 0 to both 1 and n?

    c) that assign 1 to exactly one of the positive integers less than n?

Question 5 How many subsets with more than two elements does a set with 100 elements have?

Question 6 In how many different orders can five runners finish a race if no ties are allowed?