

CS220 Counting worksheet

In the following questions there are always 26 letters (a-z) and 10 digits (0-9). Identifiers start with a letter, followed by letters or digits. Passwords are strings of letters and digits.

1. How many functions are there from letters to digits?
2. How many one to one functions are there from letters to digits?
3. How many one to one functions are there from digits to letters?
4. How many 3 character passwords are there with one digit and two letters?
5. How many 3 character passwords are there with at least one digit?
6. How many positive integers less than 1000 are divisible by 7?
7. How many positive integers less than 1000 are divisible by 7 or 11?
8. At least how many cards are needed so that three are of the same suit?