CS220 written homework 2
name:
eid:.

In the following, characters are chosen from the set of 26 letters, the set of 10 digits, or the set of 4 special characters. Show work and calculate the **final numeric answer.** Print this template and submit final answers on the template, no notebook paper, no staples (50% penalty). Due at the start of class. Accepted until the end of class for 50% penalty.

1. How many subsets of the set of digits with odd cardinality are there?

2. How many subsets of the set of digits with even cardinality are there? (Empty set has even cardinality.)

3. How many ways are there to have 5 letters followed by 3 digits without any repetition among the letters or digits?

4. How many subsets of 2 digits and 2 special characters are there?

5. How many bit strings of length 12 contain exactly 3 ones?

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. How many permutations of the 10 digits are there with 2 preceding 7 and 3 preceding 1? Preceding is not necessarily directly preceding.

9. How many bit strings of length 12 contain at least three 1-s

10. How many anagrams of "abracadabra" are there?