

## 19SSK301: Assignment 1

1. If I write all the numbers from 100 to 1000, for how many times I will have to write the digit 2?
2. 5 boys and 5 girls are to be arranged in a row. Find the difference between the number of possible arrangements when no two girls are sitting together, and when boys and girls are alternate.
3. A palindrome is a number that reads the same from left to right as it does from right to left. How many six digit palindromes are there which are even?
4. In a staircase, there are 4 steps. A person can take 1 step, 2 steps, 3 steps or 4 steps. In how many ways can he reach the top?
5. How many four digit numbers can be formed with the digits 0, 1, 2 and 7 so that at least one of the digits is repeated?
6. There are 9 elements given as AABBBCCCC. In how many ways any 7 elements can be chosen?
7. In how many ways can three digit numbers be formed choosing the digits from 1, 1, 2, 3, 4?
8. In how many ways can 8 letters be put in 8 differently addressed envelopes such that exactly 5 letters go into wrong envelopes?
9. Five coins are tossed simultaneously. Find the total number of cases in which the number of heads will be greater than the number of tails.
10. 12 persons are sitting in a row. Find the number of ways of selecting 5 persons such that no two of them are consecutive.

## Answers

1. 280, 2. 57600, 3. 400, 4. 8, 5. 174, 6. 6, 7. 33, 8. 2464, 9. 16, 10. 56