CSE 402 Online#1 (B2)

1. Write a predicate **count/3** that will take a list, a character as input and output the number of occurrences of that character in the list in all levels.

```
?- count([a,b,a,a,a],a,X).
X = 4 ;
false.
?- count([a,b,[a,b,c],[],a],a,X).
X = 3 ;
false.
```

[You can use any predefined list predicates.]

2. Write a predicate **showBit/1** that will take an integer n as argument and print all the possible bit sequence of length n along with their one's complement in the following format.

```
?- showBit(3).
0 0 0 >>> 1 1 1
true ;
0 0 1 >>> 1 1 0
true ;
0 1 0 >>> 1 0 1
true ;
0 1 1 >>> 1 0 0
true ;
1 0 0 >>> 0 1 1
true ;
1 0 1 >>> 0 1 0
true ;
1 1 0 >>> 0 0 1
true ;
1 1 1 >>> 0 0 0
true ;
false.
```

```
?- showBit(3).
0 0 0 >>> 1 1 1
0 0 1 >>> 1 1 0
0 1 0 >>> 1 0 1
0 1 1 >>> 1 0 0
1 0 0 >>> 0 1 1
1 0 1 >>> 0 1 0
1 1 0 >>> 0 0 1
1 1 1 >>> 0 0 0
false.
```