

1. $u=3$ $n=1$ $s=1$ $a=1$ $l=1$

If 1 u, 1 possibility. If 2 us, 4 possibilities. If 3, 6 possibilities.

Thus, Total subsets = $6 + 4 + 1 = 11$

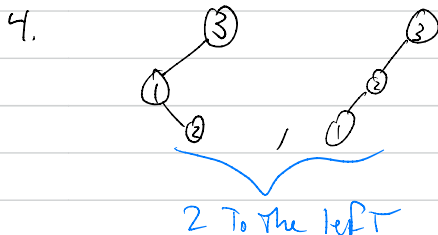
Diff strings = $\binom{5}{1} \binom{4}{1} \binom{3}{1} \binom{2}{1} \binom{1}{1} + \binom{5}{2} \binom{3}{1} \binom{2}{1} \binom{1}{1} \binom{2}{1} + \binom{5}{3} \binom{2}{1} \binom{1}{1} \binom{3}{1} \binom{2}{1}$

2. 13 possible pairs. 52 Total cards

$\binom{13}{2} \binom{4}{2} \binom{4}{2} \binom{44}{1} = 123,552$

3. 16 songs. 1 couple 1 song. 6 couples random

$\binom{16}{1} \binom{15}{6} = 80080$



2 left To The right.

Ans = $2 \cdot (\text{ways To arrange numbers To The right})$

Ans = $2 \cdot \binom{9}{1} \binom{8}{1} \binom{7}{1} \binom{6}{1} \binom{5}{1} \binom{4}{1} \binom{3}{1} \binom{2}{1}$

5. Combo for # of patients served by nurses = $\frac{10!}{(10-4)!} = 5040$