

## Statistics assignment - 3

(1) Outcomes with strictly  $< 4$  people

$$= {}^4C_3 3^7$$

Outcomes that are multiple counted

$$= {}^4C_2 2^7$$

Outcomes where exactly one season is

$$\text{represented} = {}^4C_1 1^7$$

So, total desired outcomes

$$= 4^7 - {}^4C_3 3^7 + {}^4C_2 2^7 - {}^4C_1 1^7$$

$$= 8400$$

Probability of all 4 seasons occurring

$$\text{atleast once} = \frac{8400}{4^7} = \underline{\underline{0.512}}$$

