

## STAT110 Probability – Assignment 2

### Strategic Practice

1.1 For each season to have at least one people out of 7 people, first choose 7 out of 4 and assign them to each season. To do that, we first choose 7 out of 4 which gives us  $\binom{7}{3}$  ways, then we organize 4 people to 4 season which gives us  $4!$  Ways. In total, to have at least people in each season, we have  $\binom{7}{3} * 4!$  Ways.

$$\frac{\binom{7}{3} 4!}{4^7} = 0.513$$

1.2 let  $A_i$  be the event when there is not class in weekday  $i$  (Monday = 1, Tuesday = 2, ...). At least one day there is not class could be represented as  $A_1 \cup A_2 \cup A_3 \cup A_4 \cup A_5$ , where the complement will be the event we are interested in.