

# P8131 HW4

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1. Summarize the data using appropriate tables of percentages to show the pairwise associations between the levels of satisfaction and 1) contact with other residents and 2) type of housing. Comment on patterns in the associations.

```
value = c(65, 130, 67, 34, 141, 130, 54, 76, 48, 47, 116, 105, 100, 111, 62, 100, 191, 104)
data1 <- tibble(
  Contact = c(rep("Low", 3), rep("High", 3), rep("Low", 3), rep("High", 3), rep("Low", 3), rep("High", 3),
  Satisfaction = c(rep("Low", 6), rep("Median", 6), rep("High", 6)),
  ApartmentType = c("Tower Block", "Apartment", "House", "Tower Block", "Apartment", "House",
    "Tower Block", "Apartment", "House", "Tower Block", "Apartment", "House",
    "Tower Block", "Apartment", "House", "Tower Block", "Apartment", "House")
)
data1 = data1[rep(seq_len(nrow(data1)), value),]
```

Produce Summary Table:

```
##
##
##   Cell Contents
## |-----|
## |                      N |
## | Chi-square contribution |
## |      N / Row Total |
## |      N / Col Total |
## |      N / Table Total |
## |-----|
##
##
## Total Observations in Table:  1681
##
##
##           | data1$ApartmentType
## data1$Satisfaction |   Apartment |   House | Tower Block | Row Total |
## -----|-----|-----|-----|-----|
##           High |      302 |      166 |      200 |      668 |
##           |      0.013 |      7.437 |     10.600 |           |
##           |      0.452 |      0.249 |      0.299 |      0.397 |
##           |      0.395 |      0.322 |      0.500 |           |
##           |      0.180 |      0.099 |      0.119 |           |
## -----|-----|-----|-----|-----|
##           Low |      271 |      197 |       99 |      567 |
##           |      0.652 |      3.027 |      9.563 |           |
```

```

##          |          0.478 |          0.347 |          0.175 |          0.337 |
##          |          0.354 |          0.382 |          0.247 |          |
##          |          0.161 |          0.117 |          0.059 |          |
## -----|-----|-----|-----|-----|
##          Median |          192 |          153 |          101 |          446 |
##          |          0.593 |          1.892 |          0.248 |          |
##          |          0.430 |          0.343 |          0.226 |          0.265 |
##          |          0.251 |          0.297 |          0.253 |          |
##          |          0.114 |          0.091 |          0.060 |          |
## -----|-----|-----|-----|-----|
##          Column Total |          765 |          516 |          400 |          1681 |
##          |          0.455 |          0.307 |          0.238 |          |
## -----|-----|-----|-----|-----|
##
##

```

```

##
##
##      Cell Contents
## |-----|
## |          N |
## | Chi-square contribution |
## |      N / Row Total |
## |      N / Col Total |
## |      N / Table Total |
## |-----|
##
##
## Total Observations in Table:  1681
##
##

```

```

##          | data1$Contact
## data1$Satisfaction |          High |          Low | Row Total |
## -----|-----|-----|-----|
##          High |          395 |          273 |          668 |
##          |          0.278 |          0.377 |          |
##          |          0.591 |          0.409 |          0.397 |
##          |          0.408 |          0.383 |          |
##          |          0.235 |          0.162 |          |
## -----|-----|-----|-----|
##          Low |          305 |          262 |          567 |
##          |          1.416 |          1.923 |          |
##          |          0.538 |          0.462 |          0.337 |
##          |          0.315 |          0.367 |          |
##          |          0.181 |          0.156 |          |
## -----|-----|-----|-----|
##          Median |          268 |          178 |          446 |
##          |          0.486 |          0.660 |          |
##          |          0.601 |          0.399 |          0.265 |
##          |          0.277 |          0.250 |          |
##          |          0.159 |          0.106 |          |
## -----|-----|-----|-----|
##          Column Total |          968 |          713 |          1681 |
##          |          0.576 |          0.424 |          |

```

```
## -----|-----|-----|-----|
##
##
```

```
gmodels::CrossTable(data1$Satisfaction, data1$ApartmentType)
```

```
##
##
##   Cell Contents
## |-----|
## |                N |
## | Chi-square contribution |
## |      N / Row Total |
## |      N / Col Total |
## |      N / Table Total |
## |-----|
##
##
## Total Observations in Table:  1681
##
##
##               | data1$ApartmentType
## data1$Satisfaction | Apartment | House | Tower Block | Row Total |
## -----|-----|-----|-----|-----|
##           High |      302 |      166 |          200 |        668 |
##               |      0.013 |      7.437 |      10.600 |           |
##               |      0.452 |      0.249 |      0.299 |      0.397 |
##               |      0.395 |      0.322 |      0.500 |           |
##               |      0.180 |      0.099 |      0.119 |           |
## -----|-----|-----|-----|-----|
##           Low |      271 |      197 |          99 |        567 |
##               |      0.652 |      3.027 |      9.563 |           |
##               |      0.478 |      0.347 |      0.175 |      0.337 |
##               |      0.354 |      0.382 |      0.247 |           |
##               |      0.161 |      0.117 |      0.059 |           |
## -----|-----|-----|-----|-----|
##           Median |      192 |      153 |          101 |        446 |
##               |      0.593 |      1.892 |      0.248 |           |
##               |      0.430 |      0.343 |      0.226 |      0.265 |
##               |      0.251 |      0.297 |      0.253 |           |
##               |      0.114 |      0.091 |      0.060 |           |
## -----|-----|-----|-----|-----|
##       Column Total |      765 |      516 |          400 |        1681 |
##               |      0.455 |      0.307 |      0.238 |           |
## -----|-----|-----|-----|-----|
##
##
```