Workshop 3 Solutions

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1. Data practice

In class we imported the survey data using the `read.table()` function.

This is the code we used:

```r
survey <- read.table("survey_data.csv", header=TRUE, sep=",")
```

(a) How many survey respondents are from MISM or Other?

```r
sum(survey[["Program"]] == "MISM" | survey[["Program"]] == "Other")
```

```
## [1] 16
```

(b) What % of survey respondents are from PPM?

```r
100 * sum(survey[["Program"]] == "PPM") / nrow(survey)
```

```
## [1] 48.3871
```

2. Index practice

(a) Use $ notation to pull the OperatingSystem column from the survey data

```r
survey$OperatingSystem
```

```
##  [1] Windows  Windows  Windows  Windows  Windows  Mac OS X Mac OS X
##  [8] Windows  Mac OS X Windows  Mac OS X Windows  Mac OS X Mac OS X
## [15] Windows  Mac OS X Windows  Mac OS X Windows  Windows  Mac OS X
## [22] Windows  Windows  Mac OS X Mac OS X Mac OS X Mac OS X Windows
## [29] Mac OS X Windows  Windows
## Levels: Mac OS X Windows
```

(b) Do the same thing with [,] notation, referring to OperatingSystem by name

```r
survey[, "OperatingSystem"]
```

```
##  [1] Windows  Windows  Windows  Windows  Windows  Mac OS X Mac OS X
##  [8] Windows  Mac OS X Windows  Mac OS X Windows  Mac OS X Mac OS X
## [15] Windows  Mac OS X Windows  Mac OS X Windows  Windows  Mac OS X
## [22] Windows  Windows  Mac OS X Mac OS X Mac OS X Mac OS X Windows
## [29] Mac OS X Windows  Windows
## Levels: Mac OS X Windows
```

(c) Repeat part (b), this time referring to OperatingSystem by column number

```r
survey[, 3]
```

```
##  [1] Never used           Basic competence     Basic competence
##  [4] Installed on machine Never used           Never used
##  [7] Never used           Never used           Never used
## [10] Never used           Installed on machine Never used
## [13] Never used           Never used           Never used
## [16] Never used           Installed on machine Never used
## [19] Never used           Never used           Installed on machine
## [22] Never used           Never used           Never used
## [25] Never used           Installed on machine Never used
## [28] Installed on machine Never used           Never used
## [31] Installed on machine
## Levels: Basic competence Installed on machine Never used
```