TableOne

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Welcome to RMarkdown Documents!

RMarkdown documents are how many people produce files that are shareable for efficient collaborative work!

Please the annotations noted by the '#' symbol.

Quick Note: Running Code

2 Primary ways to quickly make the code run!

1. Highlight the code then click ctrl+enter
2. There is a green forward arrow in the upper right of these highlighted areas with code in them (these are called chunks btw!). Click that arrow and it will run all the code in sequential order!

—Package—

I have created 2 documents:

1. Epi-Stats code
2. Table One creation code

In reality I do this all at once, but I created separate ones for readability. In the package code below, you will find what your packages would look like if they were all combined.

Note: The MASS package is missing since I am using a different sample data set for this code template

```
#specify the packages of interest
packages = c("epiR", "tidyverse", "survival", "readr", "tableone")

#use this function to check if each package is on the local machine
#if a package is installed, it will be loaded
#if any are not, the missing package(s) will be installed and loaded
package.check <- lapply(packages, FUN = function(x) {
  if (!require(x, character.only = TRUE)) {
    install.packages(x, dependencies = TRUE)
    library(x, character.only = TRUE)
  }
})
```

```
## Loading required package: epiR

## Warning: package 'epiR' was built under R version 3.5.2

## Loading required package: survival

## Package epiR 0.9-99 is loaded

## Type help(epi.about) for summary information

##

## Loading required package: tidyverse

## -- Attaching packages ---------------------------------------------------- tidyverse 1.2.1 --
```

```
## v ggplot2 3.0.0     v purrr   0.2.5
## v tibble  1.4.2     v dplyr   0.7.6
## v tidyr   0.8.1     v stringr 1.3.1
## v readr   1.1.1     v forcats 0.3.0
```

```
## -- Conflicts ---------------------------------------------------------- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
## Loading required package: tableone
```

```
#verify they are loaded
search()
```

```
##  [1] ".GlobalEnv"        "package:tableone"  "package:forcats"
##  [4] "package:stringr"   "package:dplyr"     "package:purrr"
##  [7] "package:readr"     "package:tidyr"     "package:tibble"
## [10] "package:ggplot2"   "package:tidyverse" "package:epiR"
## [13] "package:survival"  "package:stats"     "package:graphics"
## [16] "package:grDevices" "package:utils"     "package:datasets"
## [19] "package:methods"   "Autoloads"         "package:base"
```

```
data(pbc); head(pbc)
```

```
##   id time status trt      age sex ascites hepato spiders edema bili chol
## 1  1  400      2   1 58.76523   f       1      1       1   1.0 14.5  261
## 2  2 4500      0   1 56.44627   f       0      1       1   0.0  1.1  302
## 3  3 1012      2   1 70.07255   m       0      0       0   0.5  1.4  176
## 4  4 1925      2   1 54.74059   f       0      1       1   0.5  1.8  244
## 5  5 1504      1   2 38.10541   f       0      1       1   0.0  3.4  279
## 6  6 2503      2   2 66.25873   f       0      1       0   0.0  0.8  248
##   albumin copper alk.phos    ast trig platelet protime stage
## 1    2.60    156   1718.0 137.95  172      190    12.2     4
## 2    4.14     54   7394.8 113.52   88      221    10.6     3
## 3    3.48    210    516.0  96.10   55      151    12.0     4
## 4    2.54     64   6121.8  60.63   92      183    10.3     4
## 5    3.53    143    671.0 113.15   72      136    10.9     3
## 6    3.98     50    944.0  93.00   63       NA    11.0     3
```

```
#changing all variables to lowercase
names(pbc) <- tolower(names(pbc))
```

```
## Make categorical variables factors


##Remember in the epi_stats guide how I made columns into factors?
##R has a lot of ways to do the same thing! Here is a way to turn multiple columns at once into factors
##I will break this code down. Feel free to use the other method if it is easier to read and use

#This first line creates a character string with status, trt, etc listed
varstofactor <- c("status","trt","ascites","hepato","spiders","edema","stage")


#I won't go into detail about lapply, but basically it tells R to apply the 'as.factor' command to colu

#pbc is the dataset name, 'varsToFactor' is the name of the character string.
pbc[varstofactor] <- lapply(pbc[varstofactor], factor)
```

Creating a Table One

The tableone package is pretty awesome! It does everything you need for a tableone really quickly and efficiently.

It takes a few steps to set-up, R is case sensitive and really picky about that so make sure you pay attention to your work!

Don't worry, the code looks way more intimidating than it actually is!

```
#Create a variable list
##The first step is to create a list of variables you want in your tableone. Typically you want a table
##Now, I'm lazy and don't want to find and type all of that! So we use the below code to generate all o
dput(names(pbc))
```

```
## c("id", "time", "status", "trt", "age", "sex", "ascites", "hepato",
## "spiders", "edema", "bili", "chol", "albumin", "copper", "alk.phos",
## "ast", "trig", "platelet", "protime", "stage")
```

```
#Now to create the actual list. I am creating an object called "vars" that is a list of all of the colu
vars <- c("time","status","age","sex","ascites","hepato",
"spiders","edema","bili","chol","albumin",
"copper","alk.phos","ast","trig","platelet",
"protime","stage")

#-------------------------------------------------------------------

## Create Table 1 stratified by trt

tableOne <- CreateTableOne(vars = vars, strata = c("trt"), data = pbc)

## Just typing the object name will invoke the print.TableOne method
tableOne
```

```
##                       Stratified by trt
##                        1                2                p      test
##   n                        158              154
##   time (mean (sd))     2015.62 (1094.12) 1996.86 (1155.93)  0.883
##   status (%)                                                0.894
##      0                      83 (52.5)        85 (55.2)
##      1                      10 ( 6.3)         9 ( 5.8)
##      2                      65 (41.1)        60 (39.0)
##   age (mean (sd))        51.42 (11.01)    48.58 (9.96)     0.018
##   sex = f (%)              137 (86.7)       139 (90.3)     0.421
##   ascites = 1 (%)           14 ( 8.9)        10 ( 6.5)     0.567
##   hepato = 1 (%)            73 (46.2)        87 (56.5)     0.088
##   spiders = 1 (%)           45 (28.5)        45 (29.2)     0.985
##   edema (%)                                                 0.877
##      0                     132 (83.5)       131 (85.1)
##      0.5                    16 (10.1)        13 ( 8.4)
##      1                      10 ( 6.3)        10 ( 6.5)
##   bili (mean (sd))        2.87 (3.63)      3.65 (5.28)     0.131
##   chol (mean (sd))      365.01 (209.54)  373.88 (252.48)   0.748
##   albumin (mean (sd))     3.52 (0.44)      3.52 (0.40)     0.874
##   copper (mean (sd))     97.64 (90.59)    97.65 (80.49)    0.999
##   alk.phos (mean (sd)) 2021.30 (2183.44) 1943.01 (2101.69)  0.747
##   ast (mean (sd))       120.21 (54.52)   124.97 (58.93)    0.460
```

```
##   trig (mean (sd))      124.14 (71.54)    125.25 (58.52)    0.886
##   platelet (mean (sd))  258.75 (100.32)   265.20 (90.73)    0.555
##   protime (mean (sd))    10.65 (0.85)      10.80 (1.14)     0.197
##   stage (%)                                                 0.201
##      1                      12 ( 7.6)          4 ( 2.6)
##      2                      35 (22.2)         32 (20.8)
##      3                      56 (35.4)         64 (41.6)
##      4                      55 (34.8)         54 (35.1)
```

```
#Just like that, we're done!
#Now, likely the table will be a bit confusing. I prefer to change the names of the categorical variabl
    ##In order to do that please reference the epi_stats_guide_Rmd code template.
```

The next set of code helps you identify specific variables types and also a few tricks for dealing with non-normal data in a table!

```
## Specifying nonnormal variables will show the variables appropriately,
## and show nonparametric test p-values. Specify variables in the exact
## argument to obtain the exact test p-values. cramVars can be used to
## show both levels for a 2-level categorical variables.

print(tableOne, nonnormal = c("bili","chol","copper","alk.phos","trig"),
exact = c("status","stage"), cramVars = "hepato", smd = TRUE)
```

```
##                           Stratified by trt
##                            1
##   n                           158
##   time (mean (sd))         2015.62 (1094.12)
##   status (%)
##      0                         83 (52.5)
##      1                         10 ( 6.3)
##      2                         65 (41.1)
##   age (mean (sd))            51.42 (11.01)
##   sex = f (%)                  137 (86.7)
##   ascites = 1 (%)               14 ( 8.9)
##   hepato = 0/1 (%)           85/73 (53.8/46.2)
##   spiders = 1 (%)               45 (28.5)
##   edema (%)
##      0                        132 (83.5)
##      0.5                       16 (10.1)
##      1                         10 ( 6.3)
##   bili (median [IQR])          1.40 [0.80, 3.20]
##   chol (median [IQR])        315.50 [247.75, 417.00]
##   albumin (mean (sd))          3.52 (0.44)
##   copper (median [IQR])       73.00 [40.00, 121.00]
##   alk.phos (median [IQR]) 1214.50 [840.75, 2028.00]
##   ast (mean (sd))            120.21 (54.52)
##   trig (median [IQR])        106.00 [84.50, 146.00]
##   platelet (mean (sd))       258.75 (100.32)
##   protime (mean (sd))         10.65 (0.85)
##   stage (%)
##      1                         12 ( 7.6)
##      2                         35 (22.2)
##      3                         56 (35.4)
##      4                         55 (34.8)
```

```
##                          Stratified by trt
##                           2                        p      test    SMD
##   n                           154
##   time (mean (sd))         1996.86 (1155.93)          0.883          0.017
##   status (%)                                          0.884 exact    0.054
##      0                       85 (55.2)
##      1                        9 ( 5.8)
##      2                       60 (39.0)
##   age (mean (sd))           48.58 (9.96)              0.018          0.270
##   sex = f (%)                 139 (90.3)              0.421          0.111
##   ascites = 1 (%)              10 ( 6.5)              0.567          0.089
##   hepato = 0/1 (%)          67/87 (43.5/56.5)         0.088          0.207
##   spiders = 1 (%)              45 (29.2)              0.985          0.016
##   edema (%)                                           0.877          0.058
##      0                       131 (85.1)
##      0.5                      13 ( 8.4)
##      1                        10 ( 6.5)
##   bili (median [IQR])         1.30 [0.72, 3.60]       0.842 nonnorm  0.171
##   chol (median [IQR])       303.50 [254.25, 377.00]   0.544 nonnorm  0.038
##   albumin (mean (sd))         3.52 (0.40)             0.874          0.018
##   copper (median [IQR])      73.00 [43.00, 139.00]    0.717 nonnorm <0.001
##   alk.phos (median [IQR]) 1283.00 [922.50, 1949.75]   0.812 nonnorm  0.037
##   ast (mean (sd))           124.97 (58.93)            0.460          0.084
##   trig (median [IQR])       113.00 [84.50, 155.00]    0.370 nonnorm  0.017
##   platelet (mean (sd))      265.20 (90.73)            0.555          0.067
##   protime (mean (sd))        10.80 (1.14)             0.197          0.146
##   stage (%)                                           0.205 exact    0.246
##      1                        4 ( 2.6)
##      2                       32 (20.8)
##      3                       64 (41.6)
##      4                       54 (35.1)
```

```
## Use the summary.TableOne method for detailed summary
summary(tableOne)
```

```
##
##      ### Summary of continuous variables ###
##
## trt: 1
##            n miss p.miss mean    sd median   p25  p75   min   max  skew
## time     158    0    0.0 2016 1e+03   1895 1e+03 2632  41.0  4556  0.41
## age      158    0    0.0   51 1e+01     52 4e+01   59  26.3    78  0.06
## bili     158    0    0.0    3 4e+00      1 8e-01    3   0.3    20  2.67
## chol     158   18   11.4  365 2e+02    316 2e+02  417 127.0  1712  3.83
## albumin  158    0    0.0    4 4e-01      4 3e+00    4   2.1     5 -0.40
## copper   158    1    0.6   98 9e+01     73 4e+01  121   9.0   588  2.50
## alk.phos 158    0    0.0 2021 2e+03   1214 8e+02 2028 369.0 11552  2.71
## ast      158    0    0.0  120 5e+01    112 8e+01  152  26.4   338  1.09
## trig     158   19   12.0  124 7e+01    106 8e+01  146  33.0   598  2.95
## platelet 158    2    1.3  259 1e+02    255 2e+02  322  62.0   563  0.50
## protime  158    0    0.0   11 9e-01     11 1e+01   11   9.0    14  1.10
##          kurt
## time     -0.4
## age      -0.5
## bili      7.6
```

```
## chol     20.2
## albumin   0.3
## copper    8.2
## alk.phos  7.4
## ast       1.6
## trig     14.3
## platelet  0.2
## protime   1.6
## ------------------------------------------------------
## trt: 2
##            n miss p.miss mean    sd median   p25  p75   min   max skew
## time     154    0    0.0 1997 1e+03   1811 1e+03 2771  51.0  4523  0.4
## age      154    0    0.0   49 1e+01     48 4e+01   56  30.6    75  0.2
## bili     154    0    0.0    4 5e+00      1 7e-01    4   0.3    28  2.7
## chol     154   10    6.5  374 3e+02    304 3e+02  377 120.0  1775  3.1
## albumin  154    0    0.0    4 4e-01      4 3e+00    4   2.0     4 -0.8
## copper   154    1    0.6   98 8e+01     73 4e+01  139   4.0   558  2.0
## alk.phos 154    0    0.0 1943 2e+03   1283 9e+02 1950 289.0 13862  3.3
## ast      154    0    0.0  125 6e+01    117 8e+01  152  28.4   457  1.7
## trig     154   11    7.1  125 6e+01    113 8e+01  155  44.0   432  1.7
## platelet 154    2    1.3  265 9e+01    260 2e+02  322  71.0   487  0.2
## protime  154    0    0.0   11 1e+00     11 1e+01   11   9.2    17  1.9
##          kurt
## time     -0.7
## age      -0.5
## bili      7.3
## chol     11.1
## albumin   2.0
## copper    6.6
## alk.phos 12.8
## ast       6.3
## trig      5.5
## platelet -0.3
## protime   6.4
##
## p-values
##              pNormal pNonNormal
## time     0.88304691 0.82661809
## age      0.01767247 0.01962155
## bili     0.13093942 0.84168460
## chol     0.74799072 0.54433899
## albumin  0.87388074 0.95045176
## copper   0.99915849 0.71745444
## alk.phos 0.74726165 0.81198200
## ast      0.45969842 0.45892358
## trig     0.88604213 0.36980434
## platelet 0.55451136 0.45482564
## protime  0.19714026 0.58802048
##
## Standardize mean differences
##                1 vs 2
## time     0.0166658751
## age      0.2702619258
## bili     0.1710905651
```

```
## chol     0.0382210537
## albumin  0.0180021838
## copper   0.0001200022
## alk.phos 0.0365323630
## ast      0.0837836058
## trig     0.0170615337
## platelet 0.0674763888
## protime  0.1460939117
##
## ============================================================================================
##
##      ### Summary of categorical variables ###
##
## trt: 1
##      var   n miss p.miss level freq percent cum.percent
##   status 158    0    0.0     0   83    52.5        52.5
##                              1   10     6.3        58.9
##                              2   65    41.1       100.0
##
##      sex 158    0    0.0     m   21    13.3        13.3
##                              f  137    86.7       100.0
##
##  ascites 158    0    0.0     0  144    91.1        91.1
##                              1   14     8.9       100.0
##
##   hepato 158    0    0.0     0   85    53.8        53.8
##                              1   73    46.2       100.0
##
##  spiders 158    0    0.0     0  113    71.5        71.5
##                              1   45    28.5       100.0
##
##    edema 158    0    0.0     0  132    83.5        83.5
##                            0.5   16    10.1        93.7
##                              1   10     6.3       100.0
##
##    stage 158    0    0.0     1   12     7.6         7.6
##                              2   35    22.2        29.7
##                              3   56    35.4        65.2
##                              4   55    34.8       100.0
##
## ------------------------------------------------------
## trt: 2
##      var   n miss p.miss level freq percent cum.percent
##   status 154    0    0.0     0   85    55.2        55.2
##                              1    9     5.8        61.0
##                              2   60    39.0       100.0
##
##      sex 154    0    0.0     m   15     9.7         9.7
##                              f  139    90.3       100.0
##
##  ascites 154    0    0.0     0  144    93.5        93.5
##                              1   10     6.5       100.0
##
##   hepato 154    0    0.0     0   67    43.5        43.5
```

```
##                              1   87    56.5       100.0
##
##  spiders 154    0    0.0     0  109    70.8        70.8
##                              1   45    29.2       100.0
##
##    edema 154    0    0.0     0  131    85.1        85.1
##                            0.5   13     8.4        93.5
##                              1   10     6.5       100.0
##
##    stage 154    0    0.0     1    4     2.6         2.6
##                              2   32    20.8        23.4
##                              3   64    41.6        64.9
##                              4   54    35.1       100.0
##
##
## p-values
##            pApprox     pExact
## status  0.89350975 0.88422188
## sex     0.42122610 0.37743235
## ascites 0.56728647 0.52558267
## hepato  0.08820884 0.07137522
## spiders 0.98466036 0.90113734
## edema   0.87681949 0.89370131
## stage   0.20129629 0.20455558
##
## Standardize mean differences
##             1 vs 2
## status  0.05375763
## sex     0.11141161
## ascites 0.08900618
## hepato  0.20699413
## spiders 0.01632844
## edema   0.05811659
## stage   0.24600834
```

```
## See the categorical part only using $ operator
tableOne$CatTable
```

```
##                  Stratified by trt
##                   1           2           p      test
##   n                158         154
##   status (%)                                    0.894
##      0              83 (52.5)   85 (55.2)
##      1              10 ( 6.3)    9 ( 5.8)
##      2              65 (41.1)   60 (39.0)
##   sex = f (%)      137 (86.7)  139 (90.3)   0.421
##   ascites = 1 (%)   14 ( 8.9)   10 ( 6.5)   0.567
##   hepato = 1 (%)    73 (46.2)   87 (56.5)   0.088
##   spiders = 1 (%)   45 (28.5)   45 (29.2)   0.985
##   edema (%)                                   0.877
##      0             132 (83.5)  131 (85.1)
##      0.5            16 (10.1)   13 ( 8.4)
##      1              10 ( 6.3)   10 ( 6.5)
##   stage (%)                                   0.201
##      1              12 ( 7.6)    4 ( 2.6)
```

```
##      2             35 (22.2)   32 (20.8)
##      3             56 (35.4)   64 (41.6)
##      4             55 (34.8)   54 (35.1)
```

```
summary(tableOne$CatTable)
```

```
## trt: 1
##      var   n miss p.miss level freq percent cum.percent
##   status 158    0    0.0     0   83    52.5        52.5
##                              1   10     6.3        58.9
##                              2   65    41.1       100.0
##
##      sex 158    0    0.0     m   21    13.3        13.3
##                              f  137    86.7       100.0
##
##  ascites 158    0    0.0     0  144    91.1        91.1
##                              1   14     8.9       100.0
##
##   hepato 158    0    0.0     0   85    53.8        53.8
##                              1   73    46.2       100.0
##
##  spiders 158    0    0.0     0  113    71.5        71.5
##                              1   45    28.5       100.0
##
##    edema 158    0    0.0     0  132    83.5        83.5
##                            0.5   16    10.1        93.7
##                              1   10     6.3       100.0
##
##    stage 158    0    0.0     1   12     7.6         7.6
##                              2   35    22.2        29.7
##                              3   56    35.4        65.2
##                              4   55    34.8       100.0
##
## ------------------------------------------------------------
## trt: 2
##      var   n miss p.miss level freq percent cum.percent
##   status 154    0    0.0     0   85    55.2        55.2
##                              1    9     5.8        61.0
##                              2   60    39.0       100.0
##
##      sex 154    0    0.0     m   15     9.7         9.7
##                              f  139    90.3       100.0
##
##  ascites 154    0    0.0     0  144    93.5        93.5
##                              1   10     6.5       100.0
##
##   hepato 154    0    0.0     0   67    43.5        43.5
##                              1   87    56.5       100.0
##
##  spiders 154    0    0.0     0  109    70.8        70.8
##                              1   45    29.2       100.0
##
##    edema 154    0    0.0     0  131    85.1        85.1
##                            0.5   13     8.4        93.5
##                              1   10     6.5       100.0
```

```
##
##    stage 154    0    0.0     1    4     2.6         2.6
##                              2   32    20.8        23.4
##                              3   64    41.6        64.9
##                              4   54    35.1       100.0
##
##
## p-values
##            pApprox     pExact
## status  0.89350975 0.88422188
## sex     0.42122610 0.37743235
## ascites 0.56728647 0.52558267
## hepato  0.08820884 0.07137522
## spiders 0.98466036 0.90113734
## edema   0.87681949 0.89370131
## stage   0.20129629 0.20455558
##
## Standardize mean differences
##             1 vs 2
## status  0.05375763
## sex     0.11141161
## ascites 0.08900618
## hepato  0.20699413
## spiders 0.01632844
## edema   0.05811659
## stage   0.24600834
```

```
## See the continuous part only using $ operator
tableOne$ContTable
```

```
##                       Stratified by trt
##                        1                 2                 p      test
##   n                    158               154
##   time (mean (sd))     2015.62 (1094.12) 1996.86 (1155.93)  0.883
##   age (mean (sd))        51.42 (11.01)     48.58 (9.96)     0.018
##   bili (mean (sd))        2.87 (3.63)       3.65 (5.28)     0.131
##   chol (mean (sd))      365.01 (209.54)   373.88 (252.48)   0.748
##   albumin (mean (sd))     3.52 (0.44)       3.52 (0.40)     0.874
##   copper (mean (sd))     97.64 (90.59)     97.65 (80.49)    0.999
##   alk.phos (mean (sd)) 2021.30 (2183.44) 1943.01 (2101.69)  0.747
##   ast (mean (sd))       120.21 (54.52)    124.97 (58.93)    0.460
##   trig (mean (sd))      124.14 (71.54)    125.25 (58.52)    0.886
##   platelet (mean (sd))  258.75 (100.32)   265.20 (90.73)    0.555
##   protime (mean (sd))    10.65 (0.85)      10.80 (1.14)     0.197
```

```
summary(tableOne$ContTable)
```

```
## trt: 1
##            n miss p.miss   mean      sd median    p25    p75   min     max
## time     158    0   0.00 2015.6 1094.12 1895.0 1231.0 2632.5  41.0  4556.0
## age      158    0   0.00   51.4   11.01   51.9   43.0   58.9  26.3    78.4
## bili     158    0   0.00    2.9    3.63    1.4    0.8    3.2   0.3    20.0
## chol     158   18  11.39  365.0  209.54  315.5  247.8  417.0 127.0  1712.0
## albumin  158    0   0.00    3.5    0.44    3.6    3.2    3.8   2.1     4.6
## copper   158    1   0.63   97.6   90.59   73.0   40.0  121.0   9.0   588.0
```

```
## alk.phos 158    0   0.00 2021.3 2183.44 1214.5  840.8 2028.0 369.0 11552.0
## ast      158    0   0.00  120.2   54.52  111.6   76.7  151.5  26.4   338.0
## trig     158   19  12.03  124.1   71.54  106.0   84.5  146.0  33.0   598.0
## platelet 158    2   1.27  258.8  100.32  255.0  189.5  322.0  62.0   563.0
## protime  158    0   0.00   10.7    0.85   10.6   10.0   11.0   9.0    14.1
##            skew  kurt
## time      0.412 -0.44
## age       0.056 -0.53
## bili      2.675  7.61
## chol      3.831 20.21
## albumin  -0.395  0.30
## copper    2.503  8.21
## alk.phos  2.707  7.36
## ast       1.095  1.60
## trig      2.947 14.29
## platelet  0.498  0.25
## protime   1.103  1.62
## ------------------------------------------------------------
## trt: 2
##            n miss p.miss   mean     sd median     p25    p75   min     max
## time     154    0   0.00 1996.9 1155.9 1811.0 1153.00 2771.2  51.0  4523.0
## age      154    0   0.00   48.6   10.0   48.1   41.43   55.8  30.6    74.5
## bili     154    0   0.00    3.6    5.3    1.3    0.72    3.6   0.3    28.0
## chol     154   10   6.49  373.9  252.5  303.5  254.25  377.0 120.0  1775.0
## albumin  154    0   0.00    3.5    0.4    3.5    3.34    3.8   2.0     4.4
## copper   154    1   0.65   97.7   80.5   73.0   43.00  139.0   4.0   558.0
## alk.phos 154    0   0.00 1943.0 2101.7 1283.0  922.50 1949.8 289.0 13862.4
## ast      154    0   0.00  125.0   58.9  117.4   83.78  151.9  28.4   457.2
## trig     154   11   7.14  125.3   58.5  113.0   84.50  155.0  44.0   432.0
## platelet 154    2   1.30  265.2   90.7  259.5  206.75  322.5  71.0   487.0
## protime  154    0   0.00   10.8    1.1   10.6   10.00   11.4   9.2    17.1
##            skew  kurt
## time       0.35 -0.72
## age        0.24 -0.53
## bili       2.67  7.27
## chol       3.12 11.14
## albumin  -0.85  1.96
## copper     2.01  6.65
## alk.phos   3.35 12.81
## ast        1.73  6.31
## trig       1.72  5.51
## platelet   0.23 -0.35
## protime    1.87  6.39
##
## p-values
##              pNormal pNonNormal
## time     0.88304691 0.82661809
## age      0.01767247 0.01962155
## bili     0.13093942 0.84168460
## chol     0.74799072 0.54433899
## albumin  0.87388074 0.95045176
## copper   0.99915849 0.71745444
## alk.phos 0.74726165 0.81198200
## ast      0.45969842 0.45892358
```

```
## trig     0.88604213 0.36980434
## platelet 0.55451136 0.45482564
## protime  0.19714026 0.58802048
##
## Standardize mean differences
##                1 vs 2
## time     0.0166658751
## age      0.2702619258
## bili     0.1710905651
## chol     0.0382210537
## albumin  0.0180021838
## copper   0.0001200022
## alk.phos 0.0365323630
## ast      0.0837836058
## trig     0.0170615337
## platelet 0.0674763888
## protime  0.1460939117
```

Important!

Most of you will transfer your code from R to excel. Now this really isn't necessary, I use RMD to generate my reports, but that is kind of a pain to get into and requires some additional steps, so if you want to learn how to do that schedule time with me and we can discuss it.

For everyone else, please see the code below to make your data copy/pastable

```
## If your work flow includes copying to Excel and Word when writing manuscripts,
## you may benefit from the quote argument. This will quote everything so that
## Excel does not mess up the cells.
csv1 <- print(tableOne, nonnormal = c("bili","chol","copper","alk.phos","trig"),
exact = c("status","stage"), quote = TRUE)
```

```
##                            "Stratified by trt"
##  ""                         "1"
##   "n"                       "    158"
##   "time (mean (sd))"        "2015.62 (1094.12)"
##   "status (%)"              "    "
##   "   0"                    "     83 (52.5) "
##   "   1"                    "     10 ( 6.3) "
##   "   2"                    "     65 (41.1) "
##   "age (mean (sd))"         "  51.42 (11.01)"
##   "sex = f (%)"             "    137 (86.7) "
##   "ascites = 1 (%)"         "     14 ( 8.9) "
##   "hepato = 1 (%)"          "     73 (46.2) "
##   "spiders = 1 (%)"         "     45 (28.5) "
##   "edema (%)"               "    "
##   "   0"                    "    132 (83.5) "
##   "   0.5"                  "     16 (10.1) "
##   "   1"                    "     10 ( 6.3) "
##   "bili (median [IQR])"     "   1.40 [0.80, 3.20]"
##   "chol (median [IQR])"     " 315.50 [247.75, 417.00]"
##   "albumin (mean (sd))"     "   3.52 (0.44)"
##   "copper (median [IQR])"   "  73.00 [40.00, 121.00]"
##   "alk.phos (median [IQR])" "1214.50 [840.75, 2028.00]"
##   "ast (mean (sd))"         " 120.21 (54.52)"
##   "trig (median [IQR])"     " 106.00 [84.50, 146.00]"
```

```
##   "platelet (mean (sd))"    " 258.75 (100.32)"
##   "protime (mean (sd))"     "  10.65 (0.85)"
##   "stage (%)"               "    "
##   "   1"                    "     12 ( 7.6) "
##   "   2"                    "     35 (22.2) "
##   "   3"                    "     56 (35.4) "
##   "   4"                    "     55 (34.8) "
##                            "Stratified by trt"
##  ""                        "2"                          "p"      "test"
##   "n"                      "    154"                    ""       ""
##   "time (mean (sd))"       "1996.86 (1155.93)"          " 0.883" ""
##   "status (%)"             "    "                       " 0.884" "exact"
##   "   0"                   "     85 (55.2) "            ""       ""
##   "   1"                   "      9 ( 5.8) "            ""       ""
##   "   2"                   "     60 (39.0) "            ""       ""
##   "age (mean (sd))"        "  48.58 (9.96)"             " 0.018" ""
##   "sex = f (%)"            "    139 (90.3) "            " 0.421" ""
##   "ascites = 1 (%)"        "     10 ( 6.5) "            " 0.567" ""
##   "hepato = 1 (%)"         "     87 (56.5) "            " 0.088" ""
##   "spiders = 1 (%)"        "     45 (29.2) "            " 0.985" ""
##   "edema (%)"              "    "                       " 0.877" ""
##   "   0"                   "    131 (85.1) "            ""       ""
##   "   0.5"                 "     13 ( 8.4) "            ""       ""
##   "   1"                   "     10 ( 6.5) "            ""       ""
##   "bili (median [IQR])"    "   1.30 [0.72, 3.60]"       " 0.842" "nonnorm"
##   "chol (median [IQR])"    " 303.50 [254.25, 377.00]"   " 0.544" "nonnorm"
##   "albumin (mean (sd))"    "   3.52 (0.40)"             " 0.874" ""
##   "copper (median [IQR])"  "  73.00 [43.00, 139.00]"    " 0.717" "nonnorm"
##   "alk.phos (median [IQR])" "1283.00 [922.50, 1949.75]" " 0.812" "nonnorm"
##   "ast (mean (sd))"        " 124.97 (58.93)"            " 0.460" ""
##   "trig (median [IQR])"    " 113.00 [84.50, 155.00]"    " 0.370" "nonnorm"
##   "platelet (mean (sd))"   " 265.20 (90.73)"            " 0.555" ""
##   "protime (mean (sd))"    "  10.80 (1.14)"             " 0.197" ""
##   "stage (%)"              "    "                       " 0.205" "exact"
##   "   1"                   "      4 ( 2.6) "            ""       ""
##   "   2"                   "     32 (20.8) "            ""       ""
##   "   3"                   "     64 (41.6) "            ""       ""
##   "   4"                   "     54 (35.1) "            ""       ""
```

```r
#this creates the csv file
write.csv(as.data.frame(csv1), "bwt1.csv")

## If you want to center-align values in Word, use noSpaces option.
print(tableOne, nonnormal = c("bili","chol","copper","alk.phos","trig"),
exact = c("status","stage"), quote = TRUE, noSpaces = TRUE)
```

```
##                           "Stratified by trt"
##  ""                       "1"
##   "n"                     "158"
##   "time (mean (sd))"      "2015.62 (1094.12)"
##   "status (%)"            ""
##   "   0"                  "83 (52.5)"
##   "   1"                  "10 (6.3)"
##   "   2"                  "65 (41.1)"
##   "age (mean (sd))"       "51.42 (11.01)"
```

```
##   "sex = f (%)"             "137 (86.7)"
##   "ascites = 1 (%)"         "14 (8.9)"
##   "hepato = 1 (%)"          "73 (46.2)"
##   "spiders = 1 (%)"         "45 (28.5)"
##   "edema (%)"               ""
##   "   0"                    "132 (83.5)"
##   "   0.5"                  "16 (10.1)"
##   "   1"                    "10 (6.3)"
##   "bili (median [IQR])"     "1.40 [0.80, 3.20]"
##   "chol (median [IQR])"     "315.50 [247.75, 417.00]"
##   "albumin (mean (sd))"     "3.52 (0.44)"
##   "copper (median [IQR])"   "73.00 [40.00, 121.00]"
##   "alk.phos (median [IQR])" "1214.50 [840.75, 2028.00]"
##   "ast (mean (sd))"         "120.21 (54.52)"
##   "trig (median [IQR])"     "106.00 [84.50, 146.00]"
##   "platelet (mean (sd))"    "258.75 (100.32)"
##   "protime (mean (sd))"     "10.65 (0.85)"
##   "stage (%)"               ""
##   "   1"                    "12 (7.6)"
##   "   2"                    "35 (22.2)"
##   "   3"                    "56 (35.4)"
##   "   4"                    "55 (34.8)"
##                            "Stratified by trt"
##  ""                        "2"                          "p"     "test"
##   "n"                      "154"                        ""      ""
##   "time (mean (sd))"       "1996.86 (1155.93)"          "0.883" ""
##   "status (%)"             ""                           "0.884" "exact"
##   "   0"                   "85 (55.2)"                  ""      ""
##   "   1"                   "9 (5.8)"                    ""      ""
##   "   2"                   "60 (39.0)"                  ""      ""
##   "age (mean (sd))"        "48.58 (9.96)"               "0.018" ""
##   "sex = f (%)"            "139 (90.3)"                 "0.421" ""
##   "ascites = 1 (%)"        "10 (6.5)"                   "0.567" ""
##   "hepato = 1 (%)"         "87 (56.5)"                  "0.088" ""
##   "spiders = 1 (%)"        "45 (29.2)"                  "0.985" ""
##   "edema (%)"              ""                           "0.877" ""
##   "   0"                   "131 (85.1)"                 ""      ""
##   "   0.5"                 "13 (8.4)"                   ""      ""
##   "   1"                   "10 (6.5)"                   ""      ""
##   "bili (median [IQR])"    "1.30 [0.72, 3.60]"          "0.842" "nonnorm"
##   "chol (median [IQR])"    "303.50 [254.25, 377.00]"    "0.544" "nonnorm"
##   "albumin (mean (sd))"    "3.52 (0.40)"                "0.874" ""
##   "copper (median [IQR])"  "73.00 [43.00, 139.00]"      "0.717" "nonnorm"
##   "alk.phos (median [IQR])" "1283.00 [922.50, 1949.75]" "0.812" "nonnorm"
##   "ast (mean (sd))"        "124.97 (58.93)"             "0.460" ""
##   "trig (median [IQR])"    "113.00 [84.50, 155.00]"     "0.370" "nonnorm"
##   "platelet (mean (sd))"   "265.20 (90.73)"             "0.555" ""
##   "protime (mean (sd))"    "10.80 (1.14)"               "0.197" ""
##   "stage (%)"              ""                           "0.205" "exact"
##   "   1"                   "4 (2.6)"                    ""      ""
##   "   2"                   "32 (20.8)"                  ""      ""
##   "   3"                   "64 (41.6)"                  ""      ""
##   "   4"                   "54 (35.1)"                  ""      ""
```

```
## If SMDs are needed as numericals, use ExtractSmd()
ExtractSmd(tableOne)
```

```
##                1 vs 2
## time     0.0166658751
## status   0.0537576290
## age      0.2702619258
## sex      0.1114116116
## ascites  0.0890061759
## hepato   0.2069941350
## spiders  0.0163284440
## edema    0.0581165880
## bili     0.1710905651
## chol     0.0382210537
## albumin  0.0180021838
## copper   0.0001200022
## alk.phos 0.0365323630
## ast      0.0837836058
## trig     0.0170615337
## platelet 0.0674763888
## protime  0.1460939117
## stage    0.2460083410
```