HW3_Yun_Young

Problem 4 Key take away is that by keeping your code correctly formatted and aligned, one can avoid simple mistakes such typos and blank spaces and make it easy to read and fix. Thus, by conforming to good coding formats, one can effectively work as codes get complicated.

Problem 5

```
library(lintr)

#I deactivated following line because it lists all the corrections
#lint(filename = "C:/Users/young/Desktop/R/STAT_5014_homework/02_data_munging_summarizing_R_git/HW2_Yun_Young.Rmd")

print(c("lintr told me that: ",  "put spaces around all infix operators", "Commas should always have a space after", "Trailing whitespace is superfluous"))
```

```
## [1] "lintr told me that: "
## [2] "put spaces around all infix operators"
## [3] "Commas should always have a space after"
## [4] "Trailing whitespace is superfluous"
```

Problem 6

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:data.table':
##
##     between, first, last
```

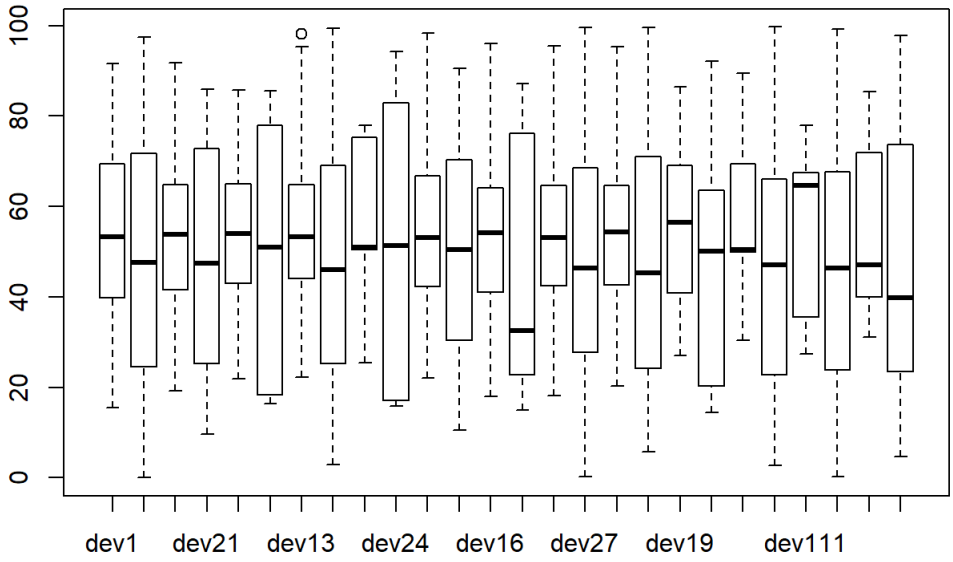
```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

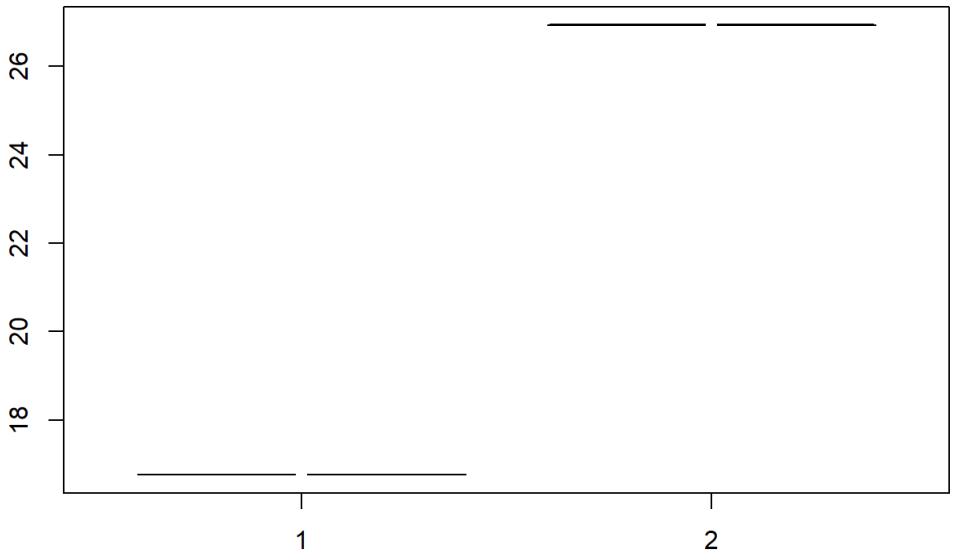
```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
## Loading required package: sm
```

```
## Package 'sm', version 2.2-5.4: type help(sm) for summary information
```

```
##       mean_dev1 mean_dev2  sd_dev1  sd_dev2    corr_dev
## Ob_1   54.26610  47.83472 16.76982 26.93974 -0.06412835
## Ob_2   54.26873  47.83082 16.76924 26.93573 -0.06858639
## Ob_3   54.26732  47.83772 16.76001 26.93004 -0.06834336
## Ob_4   54.26327  47.83225 16.76514 26.93540 -0.06447185
## Ob_5   54.26030  47.83983 16.76774 26.93019 -0.06034144
## Ob_6   54.26144  47.83025 16.76590 26.93988 -0.06171484
## Ob_7   54.26881  47.83545 16.76670 26.94000 -0.06850422
## Ob_8   54.26785  47.83590 16.76676 26.93610 -0.06897974
## Ob_9   54.26588  47.83150 16.76885 26.93861 -0.06860921
## Ob_10  54.26734  47.83955 16.76896 26.93027 -0.06296110
## Ob_11  54.26993  47.83699 16.76996 26.93768 -0.06944557
## Ob_12  54.26692  47.83160 16.77000 26.93790 -0.06657523
## Ob_13  54.26015  47.83972 16.76996 26.93000 -0.06558334
```





Problem 7

```
## [1] "Data read by device: "
```

```
##    Day Device_1 Device_2 Device_3
## 1    1   133.34   133.36   133.45
## 2    2   110.94   110.85   110.92
## 3    3   118.54   118.56   118.67
## 4    4   137.94   137.80   137.77
## 5    5   139.52   139.62   139.59
## 6    6   139.23   139.11   139.36
## 7    7   117.96   117.81   117.85
## 8    8   119.59   119.42   119.48
## 9    9   116.12   116.00   115.93
## 10  10   128.38   128.48   128.41
## 11  11   125.17   125.25   125.34
## 12  12   134.62   134.41   134.55
## 13  13   136.14   136.07   136.22
## 14  14   131.21   131.03   130.96
## 15  15   132.51   132.86   132.65
```

```
## [1] "Data read by Doctor: "
```

```
##    Day Doctor_1 Doctor_2 Doctor_3
## 1    1   126.54   127.36   131.88
## 2    2   124.69   128.86   132.39
## 3    3   125.46   129.43   134.43
## 4    4   125.95   130.72   134.28
## 5    5   125.90   130.13   134.44
## 6    6   127.85   132.03   137.37
## 7    7   125.55   132.05   132.17
## 8    8   125.80   129.87   134.97
## 9    9   125.11   128.09   133.97
## 10  10   125.75   131.94   132.68
## 11  11   128.77   130.05   134.75
## 12  12   125.26   131.13   134.29
## 13  13   126.26   130.91   133.38
## 14  14   125.68   128.83   135.67
## 15  15   124.47   129.46   134.39
```

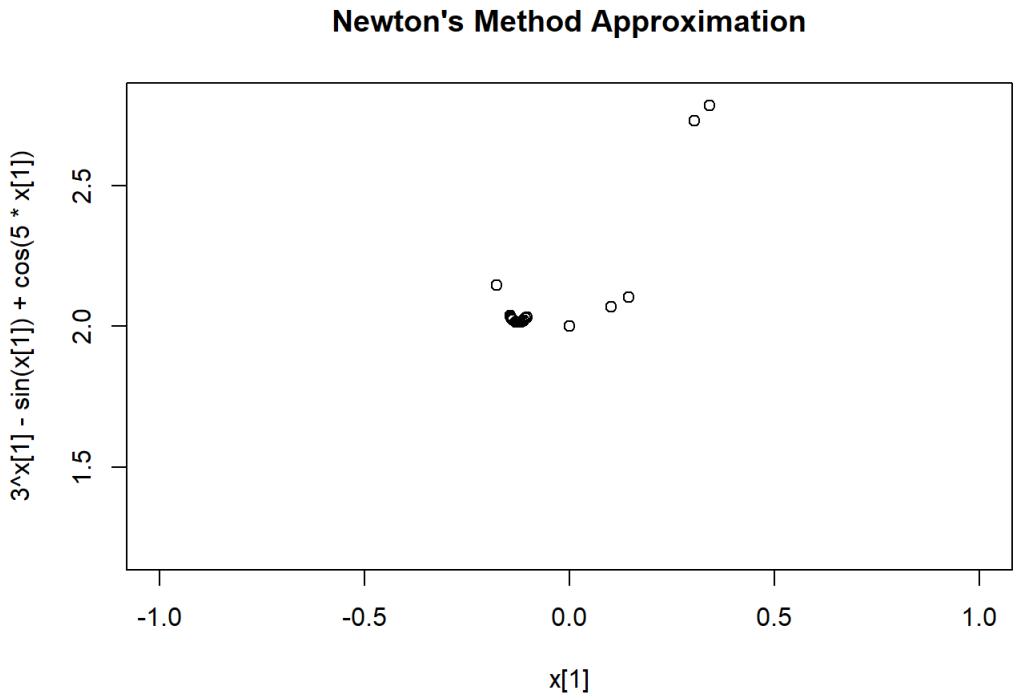
Reading by Device

Day	Device_1	Device_2	Device_3
Min. : 1.0	Min. :110.9	Min. :110.8	Min. :110.9
1st Qu.: 4.5	1st Qu.:119.1	1st Qu.:119.0	1st Qu.:119.1
Median : 8.0	Median :131.2	Median :131.0	Median :131.0
Mean : 8.0	Mean :128.1	Mean :128.0	Mean :128.1
3rd Qu.:11.5	3rd Qu.:135.4	3rd Qu.:135.2	3rd Qu.:135.4
Max. :15.0	Max. :139.5	Max. :139.6	Max. :139.6

Reading by Doctor

Day	Doctor_1	Doctor_2	Doctor_3
Min. : 1.0	Min. :124.5	Min. :127.4	Min. :131.9
1st Qu.: 4.5	1st Qu.:125.4	1st Qu.:129.1	1st Qu.:133.0
Median : 8.0	Median :125.8	Median :130.1	Median :134.3
Mean : 8.0	Mean :125.9	Mean :130.1	Mean :134.1
3rd Qu.:11.5	3rd Qu.:126.1	3rd Qu.:131.0	3rd Qu.:134.6
Max. :15.0	Max. :128.8	Max. :132.1	Max. :137.4

Problem 8




```
## [1] "Estimated values of x[1] through x[20] are :"
```

```
##  [1]  0.0000000  2.0000000  1.5209097 -0.7120498 -0.5566723 -0.6299360
##  [7] -0.8921677 -0.5986423 -0.6923111 -0.5193343 -0.6008079 -0.6978559
## [13] -0.5323489 -0.6097115 -0.7264948 -0.5736469 -0.6486618  1.7063547
## [19]  0.7213950  0.5069659
```

Problem 9

```
## [1] "Unique number of Car makes is " "503"
```

```
## [1] "Unique number of Car models is " "33470"
```

```
## [1] "5 most frequent defects are : "
```

```
## [1] "Mechanische delen van het remsysteem vertonen slijtage"
## [2] "Band onvoldoende profiel"
## [3] "Overmatige olielekkage"
## [4] "Werking/toestand verplicht licht/retroreflector 5.*.55"
## [5] "Band(en) aanwezig met een profieldiepte van 1,6 t/m 2,5 mm"
```

```
## [1] "5 Most frequent defects translated: "
## [2] "1. Tire(s) present with a profile depth of 1.6 to 2.5 mm"
## [3] "2. Operation / Condition Required Light / Retroreflector 5. *. 55"
## [4] "3. Excessive oil leakage"
## [5] "4. Band onvoldoende profiel"
## [6] "5. Mechanische delen van het remsysteem vertonen slijtage"
```

```
## [1] "The following are Frequent Defect and Associated Top Make and Model: "
```

```
## [1] "Mechanische delen van het remsysteem vertonen slijtage"
## [2] "VOLKSWAGEN"
## [3] "POLO"
```

```
## [1] "Band onvoldoende profiel" "PEUGEOT"
## [3] "POLO"
```

```
## [1] "Overmatige olielekkage" "OPEL"
## [3] "206; 1.4 3DRS"
```

```
## [1] "Werking/toestand verplicht licht/retroreflector 5.*.55"
## [2] "VOLKSWAGEN"
## [3] "POLO"
```

```
## [1] "Band(en) aanwezig met een profieldiepte van 1,6 t/m 2,5 mm"
## [2] "VOLKSWAGEN"
## [3] "GOLF"
```