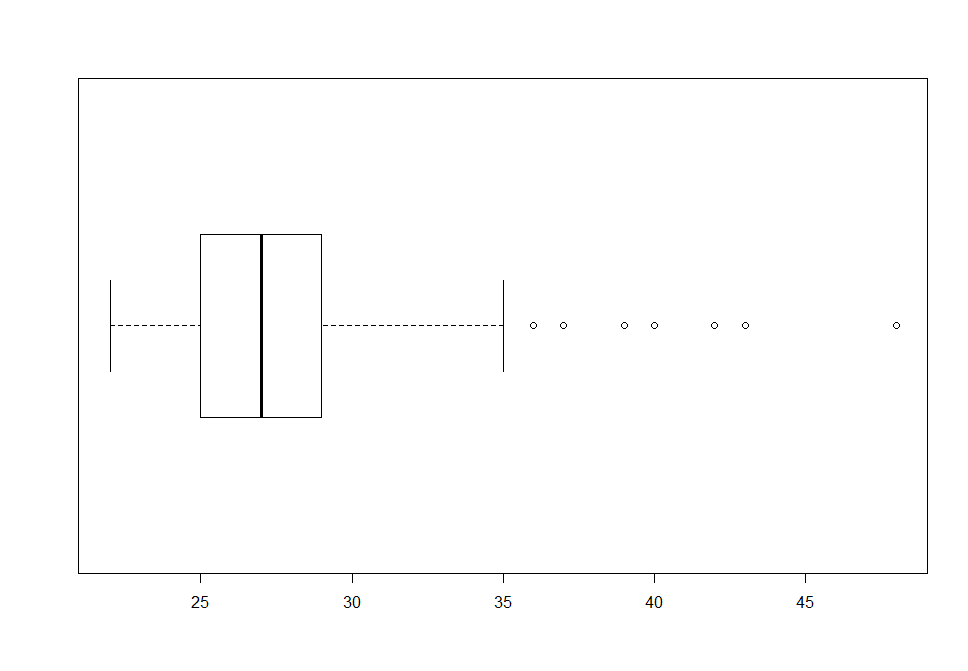
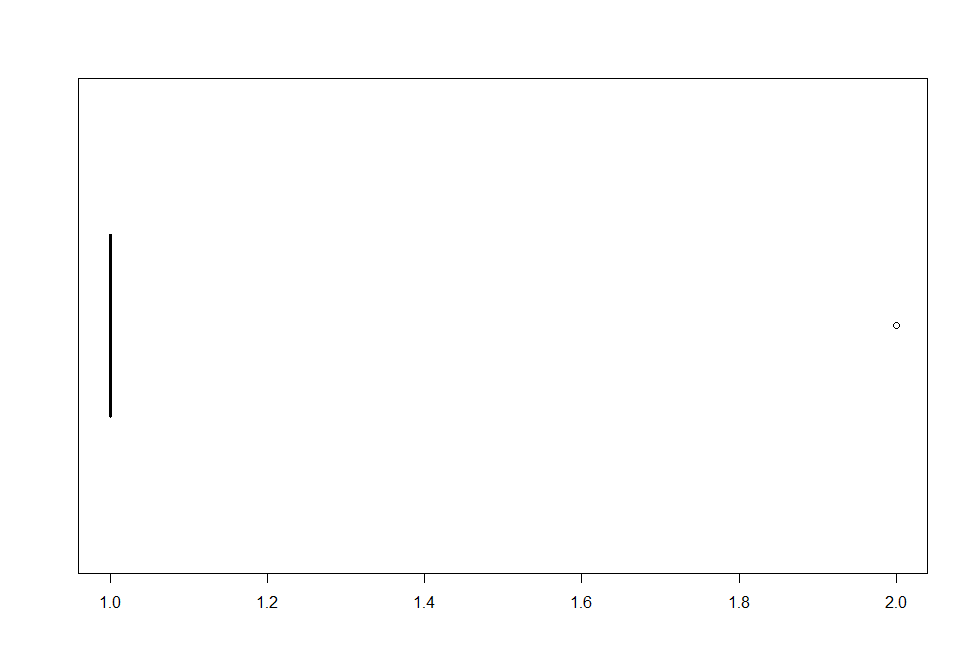
Analysis of MBA Salaries

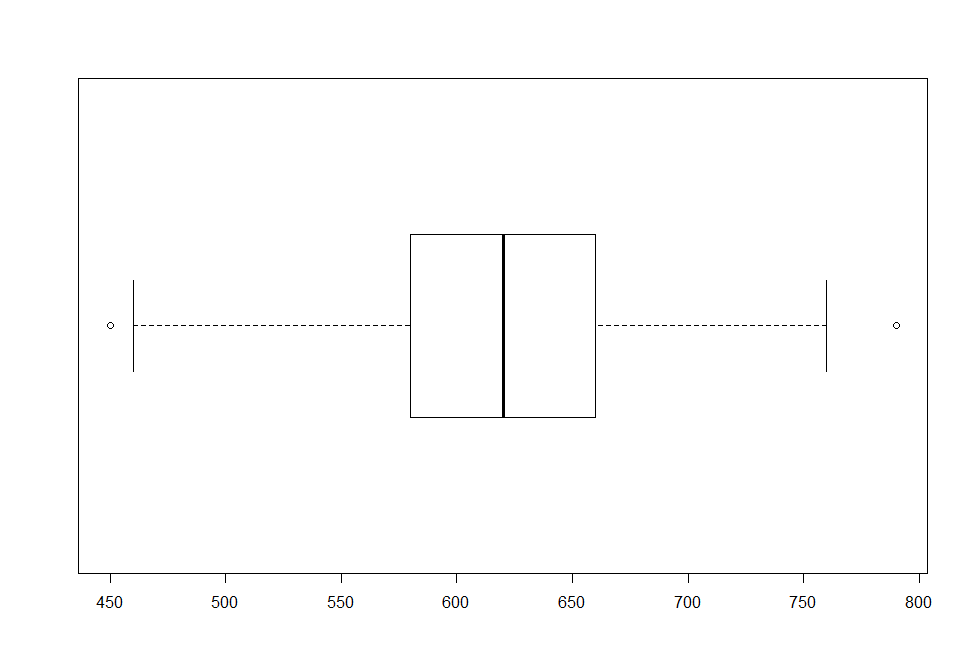
NAME: James Rohan Gangavarapu

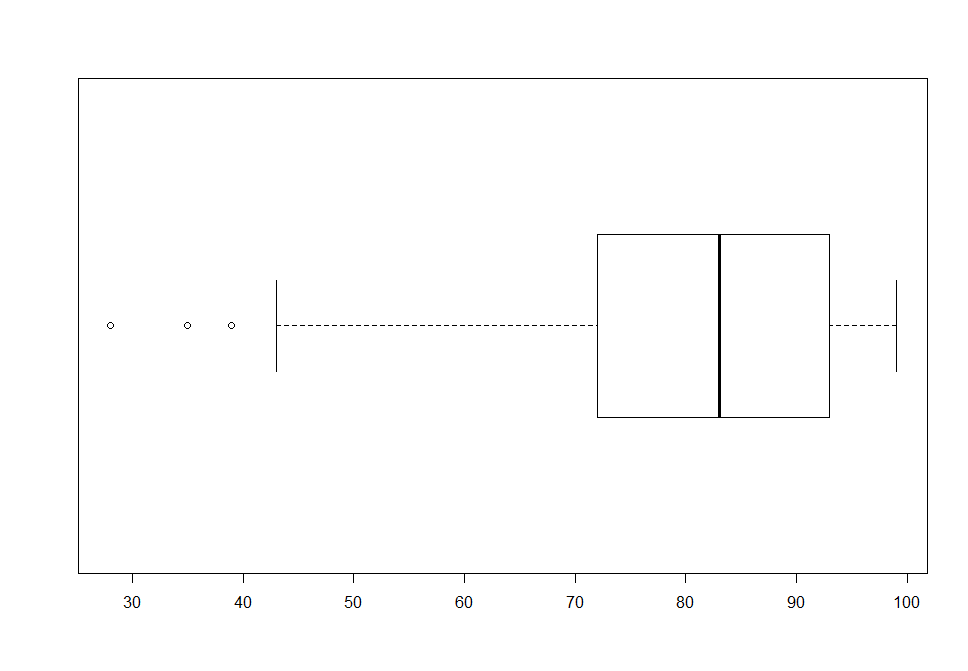
EMAIL: james.reckon@gmail.com

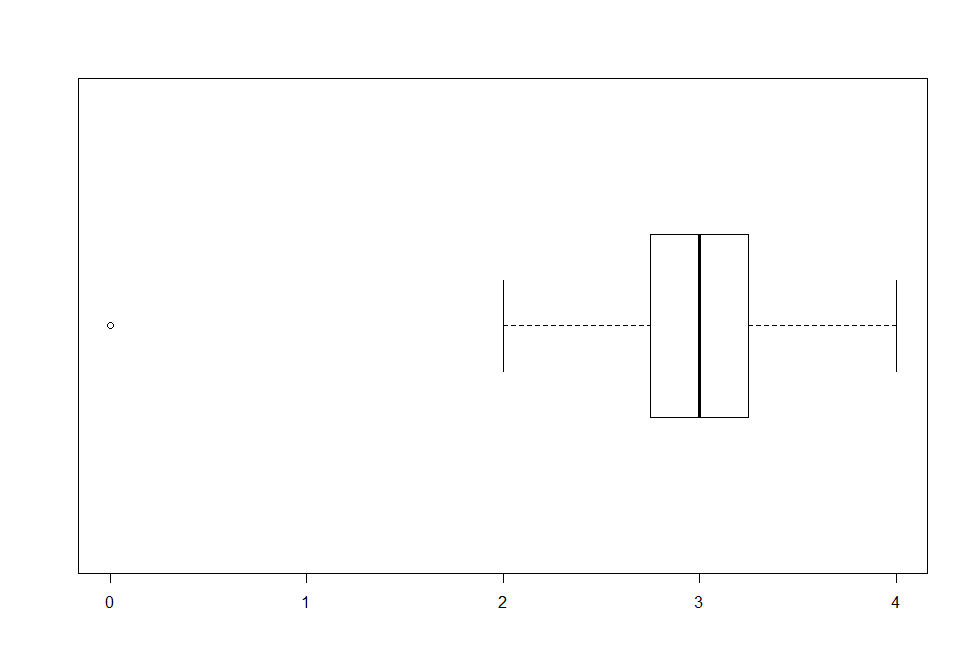
COLLEGE / COMPANY: Georgia State Univiersity

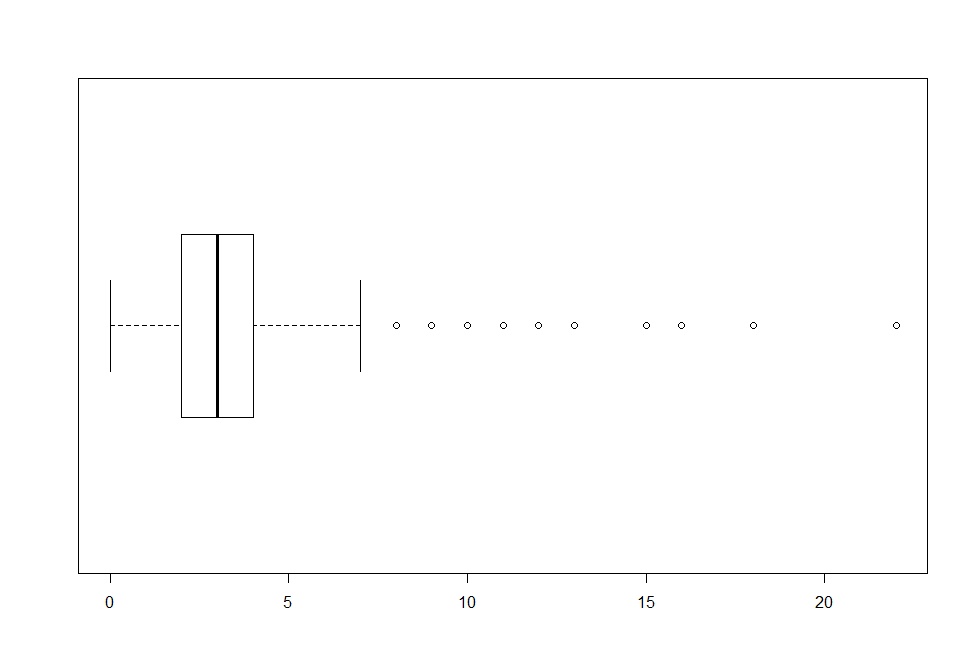


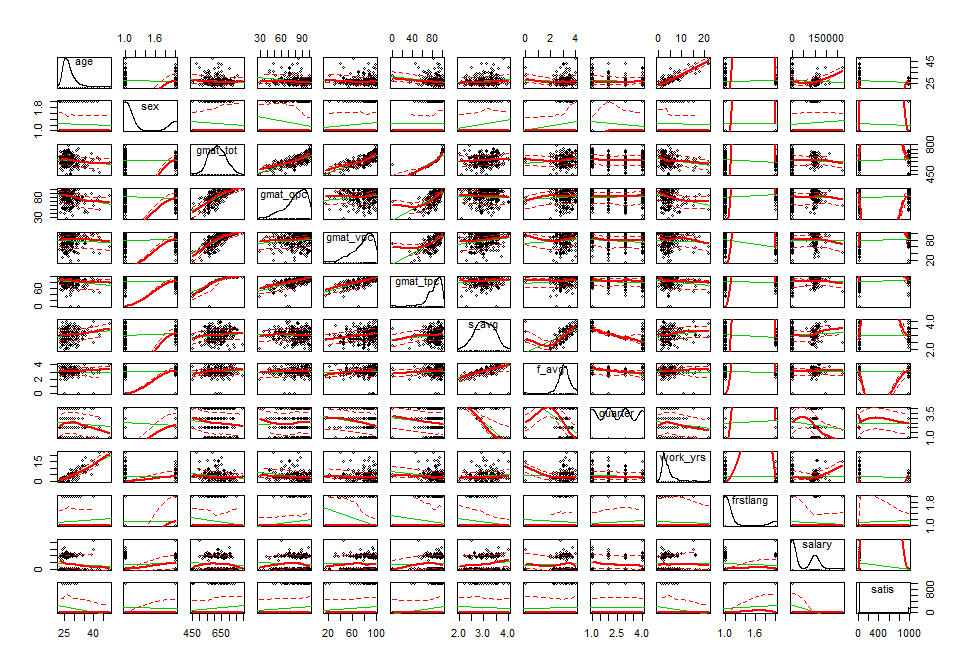


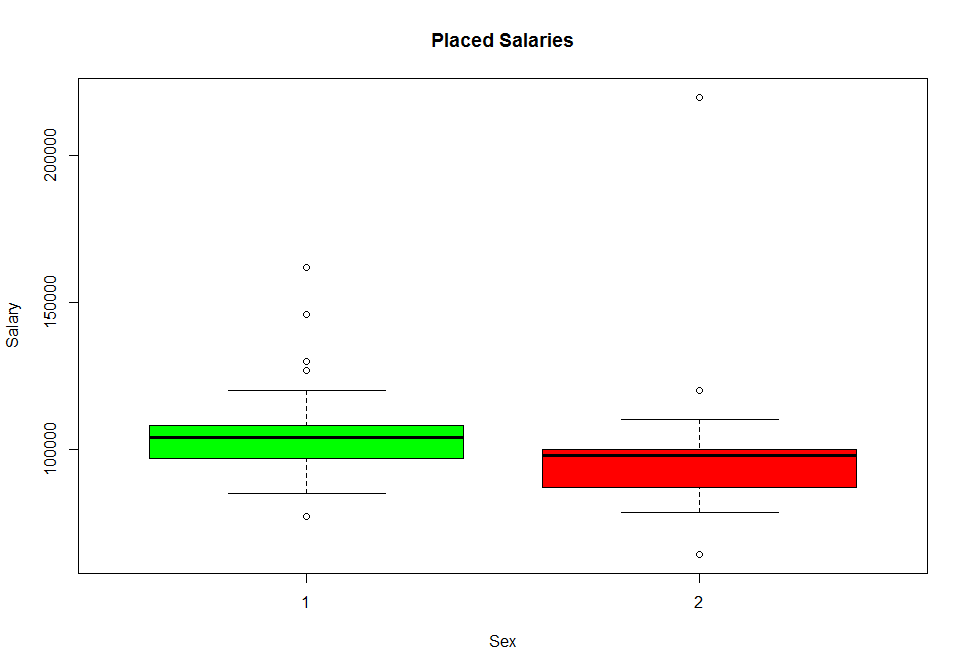


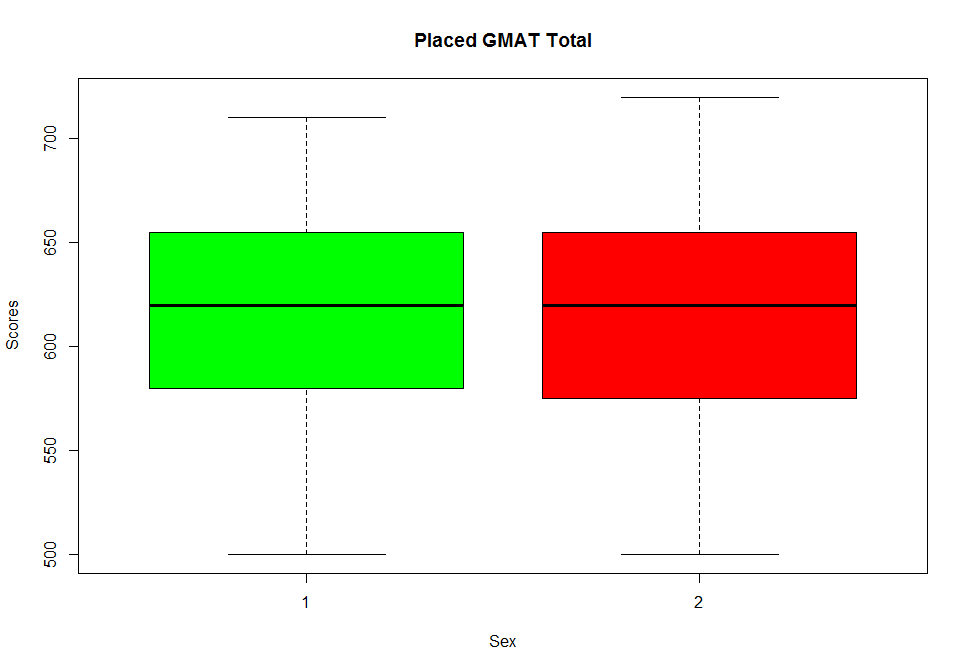


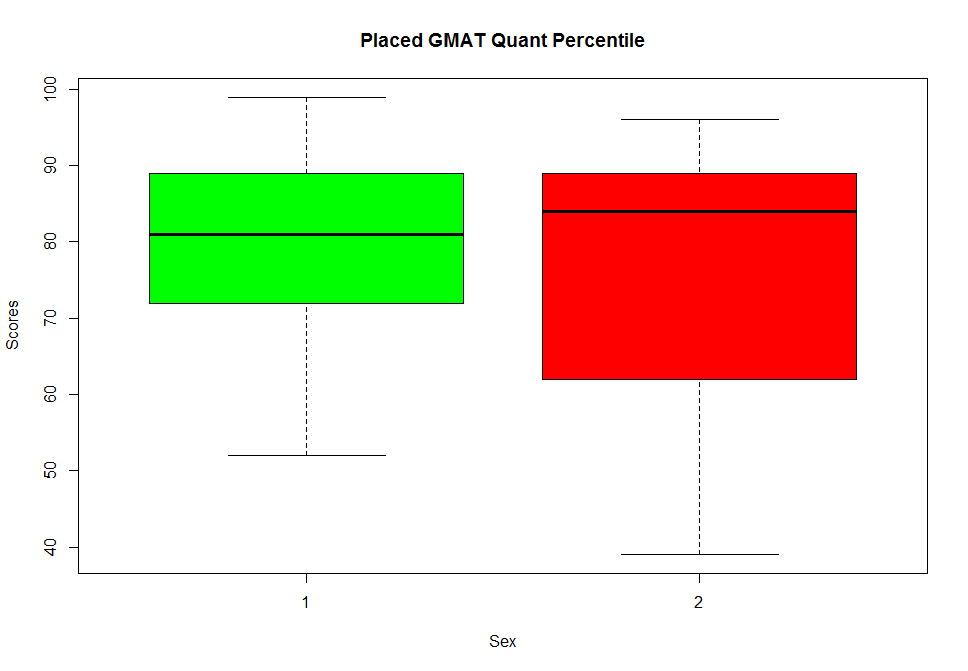


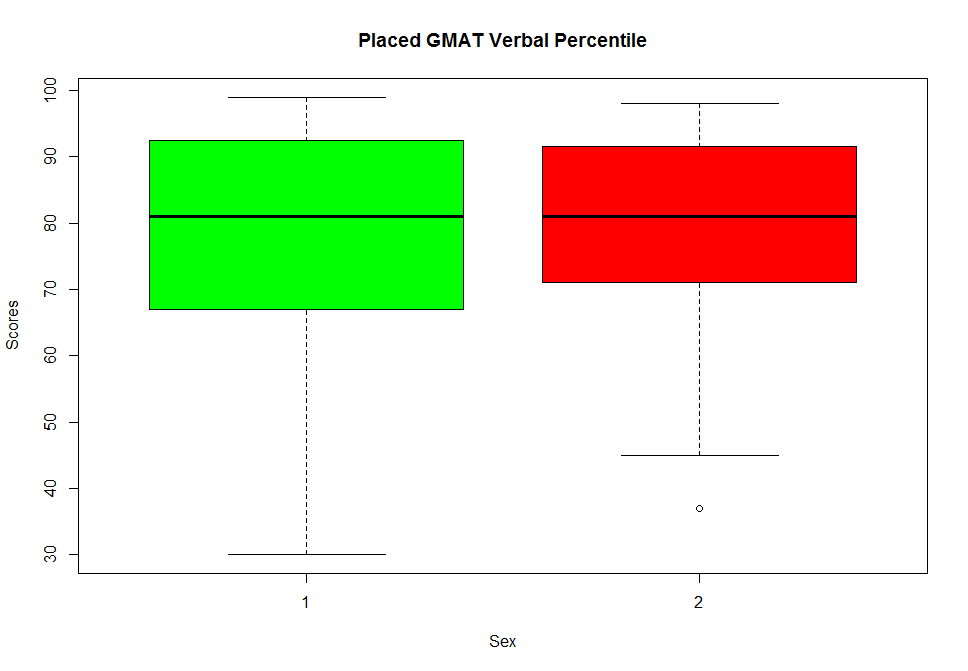


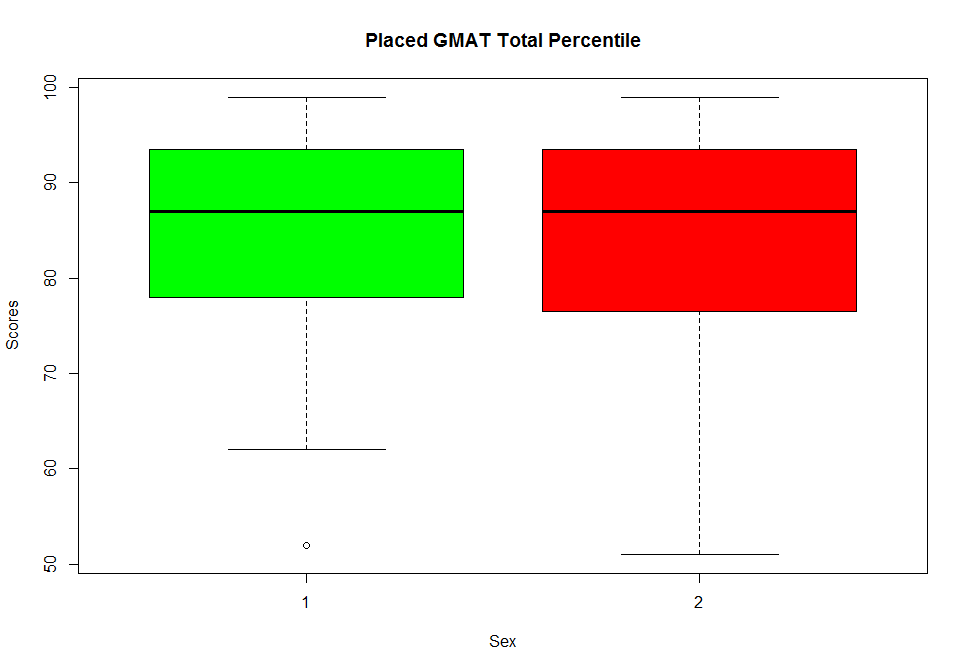


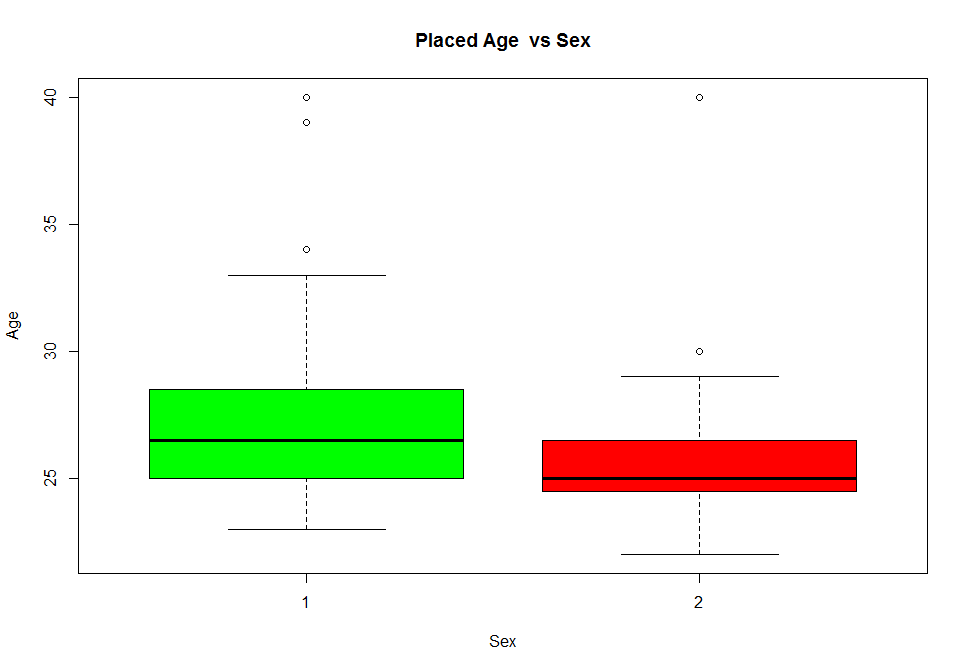


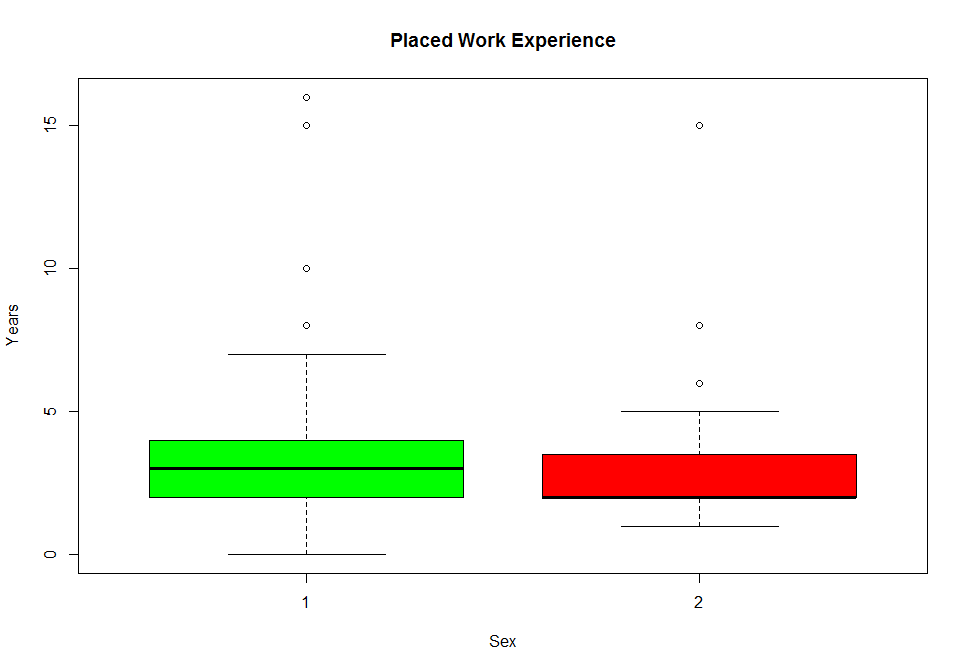












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| --- |
| > meanSalary.tab  sex salary  1 1 104970.97  2 2 98524.39 |
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| --- |
| > CrossTable(placed.df$sex, placed.df$satis)    Cell Contents  |-------------------------|  | N |  | Chi-square contribution |  | N / Row Total |  | N / Col Total |  | N / Table Total |  |-------------------------|    Total Observations in Table: 103    | placed.df$satis  placed.df$sex | 3 | 4 | 5 | 6 | 7 | Row Total |  --------------|-----------|-----------|-----------|-----------|-----------|-----------|  1 | 0 | 1 | 17 | 40 | 14 | 72 |  | 0.699 | 0.130 | 0.528 | 0.729 | 0.124 | |  | 0.000 | 0.014 | 0.236 | 0.556 | 0.194 | 0.699 |  | 0.000 | 1.000 | 0.586 | 0.800 | 0.636 | |  | 0.000 | 0.010 | 0.165 | 0.388 | 0.136 | |  --------------|-----------|-----------|-----------|-----------|-----------|-----------|  2 | 1 | 0 | 12 | 10 | 8 | 31 |  | 1.624 | 0.301 | 1.226 | 1.694 | 0.287 | |  | 0.032 | 0.000 | 0.387 | 0.323 | 0.258 | 0.301 |  | 1.000 | 0.000 | 0.414 | 0.200 | 0.364 | |  | 0.010 | 0.000 | 0.117 | 0.097 | 0.078 | |  --------------|-----------|-----------|-----------|-----------|-----------|-----------|  Column Total | 1 | 1 | 29 | 50 | 22 | 103 |  | 0.010 | 0.010 | 0.282 | 0.485 | 0.214 | |  --------------|-----------|-----------|-----------|-----------|-----------|-----------|    > CrossTable(placed.df$sex, placed.df$frstlang)    Cell Contents  |-------------------------|  | N |  | Chi-square contribution |  | N / Row Total |  | N / Col Total |  | N / Table Total |  |-------------------------|    Total Observations in Table: 103    | placed.df$frstlang  placed.df$sex | 1 | 2 | Row Total |  --------------|-----------|-----------|-----------|  1 | 68 | 4 | 72 |  | 0.012 | 0.163 | |  | 0.944 | 0.056 | 0.699 |  | 0.708 | 0.571 | |  | 0.660 | 0.039 | |  --------------|-----------|-----------|-----------|  2 | 28 | 3 | 31 |  | 0.028 | 0.379 | |  | 0.903 | 0.097 | 0.301 |  | 0.292 | 0.429 | |  | 0.272 | 0.029 | |  --------------|-----------|-----------|-----------|  Column Total | 96 | 7 | 103 |  | 0.932 | 0.068 | |  --------------|-----------|-----------|-----------| |
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| |  | | --- | | > | |

> meanGMAT\_TPC.tab <- aggregate(gmat\_tpc~ sex, data=placed.df, mean)

> meanGMAT\_TPC.tab

sex gmat\_tpc

1 1 84.86111

2 2 83.74194

> meanGMAT\_VPC.tab <- aggregate(gmat\_vpc~ sex, data=placed.df, mean)

> meanGMAT\_VPC.tab

sex gmat\_vpc

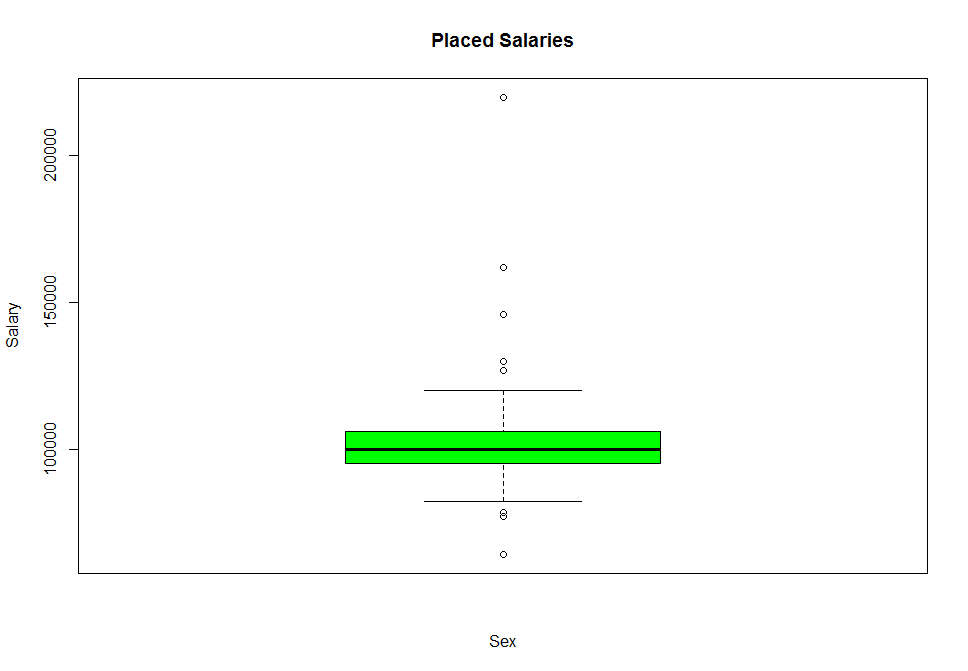
1 1 78.00000

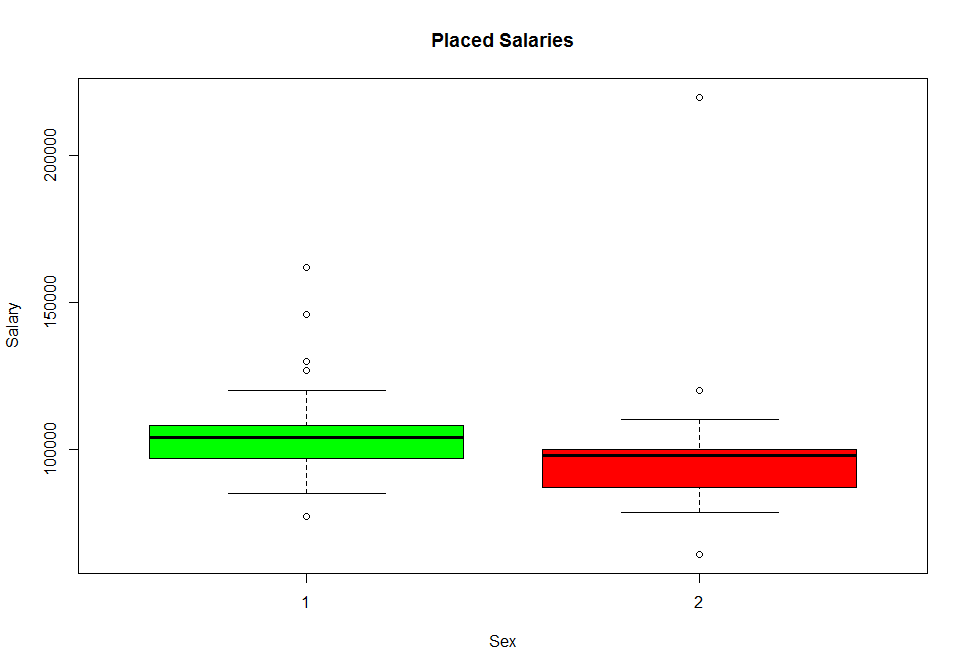
2 2 79.87097

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| > meanQuarter.tab <- aggregate(quarter~ sex, data=placed.df, mean)  > meanQuarter.tab  sex quarter  1 1 2.277778  2 2 2.225806  > CrossTable(placed.df$sex, placed.df$quarter)    Cell Contents  |-------------------------|  | N |  | Chi-square contribution |  | N / Row Total |  | N / Col Total |  | N / Table Total |  |-------------------------|    Total Observations in Table: 103    | placed.df$quarter  placed.df$sex | 1 | 2 | 3 | 4 | Row Total |  --------------|-----------|-----------|-----------|-----------|-----------|  1 | 23 | 19 | 17 | 13 | 72 |  | 0.088 | 0.133 | 0.003 | 0.006 | |  | 0.319 | 0.264 | 0.236 | 0.181 | 0.699 |  | 0.657 | 0.760 | 0.708 | 0.684 | |  | 0.223 | 0.184 | 0.165 | 0.126 | |  --------------|-----------|-----------|-----------|-----------|-----------|  2 | 12 | 6 | 7 | 6 | 31 |  | 0.204 | 0.309 | 0.007 | 0.014 | |  | 0.387 | 0.194 | 0.226 | 0.194 | 0.301 |  | 0.343 | 0.240 | 0.292 | 0.316 | |  | 0.117 | 0.058 | 0.068 | 0.058 | |  --------------|-----------|-----------|-----------|-----------|-----------|  Column Total | 35 | 25 | 24 | 19 | 103 |  | 0.340 | 0.243 | 0.233 | 0.184 | |  --------------|-----------|-----------|-----------|-----------|-----------|    >  > meanWorkYrs.tab <- aggregate(work\_yrs~ sex, data=placed.df, mean)  > meanWorkYrs.tab  sex work\_yrs  1 1 3.861111  2 2 3.258065 |
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| --- |
| > #LinearRegression Model. StartSal=  > StartSalLM <- lm(salary~sex+gmat\_qpc+gmat\_tot+gmat\_tpc+gmat\_vpc+s\_avg+f\_avg  + +quarter+work\_yrs+frstlang+satis, data = MBASal.df)  > StartSalLM  Call:  lm(formula = salary ~ sex + gmat\_qpc + gmat\_tot + gmat\_tpc +  gmat\_vpc + s\_avg + f\_avg + quarter + work\_yrs + frstlang +  satis, data = MBASal.df)  Coefficients:  (Intercept) sex gmat\_qpc gmat\_tot gmat\_tpc gmat\_vpc s\_avg f\_avg quarter  158688.16 2804.40 399.37 -311.02 625.23 258.93 7203.61 -6267.05 -7141.31  work\_yrs frstlang satis  -825.02 -8508.61 -45.57  >  > ###Second Linear Model(StartSalLM\_2) is based on the findings from CrossTable and aggregate functions.  > StartSalLM\_2 <- lm(salary~sex+gmat\_qpc+gmat\_tot+gmat\_tpc+gmat\_vpc  + +quarter+work\_yrs+frstlang, data = MBASal.df)  > StartSalLM\_2  Call:  lm(formula = salary ~ sex + gmat\_qpc + gmat\_tot + gmat\_tpc +  gmat\_vpc + quarter + work\_yrs + frstlang, data = MBASal.df)  Coefficients:  (Intercept) sex gmat\_qpc gmat\_tot gmat\_tpc gmat\_vpc quarter work\_yrs frstlang  166995.3 5309.3 463.5 -324.8 548.1 237.6 -7459.7 -166.2 -14706.1  >  >  >  > #Checking the Accuracy of Linear Models 1 and 2  > confint(StartSalLM)  2.5 % 97.5 %  (Intercept) 17582.81637 299793.51276  sex -10792.10457 16400.90088  gmat\_qpc -749.45304 1548.19504  gmat\_tot -726.39777 104.36642  gmat\_tpc -198.48076 1448.94869  gmat\_vpc -834.55347 1352.41755  s\_avg -18058.88926 32466.09952  f\_avg -19457.44095 6923.33711  quarter -15072.12838 789.50440  work\_yrs -2673.60082 1023.56030  frstlang -28623.85601 11606.63929  satis -61.09229 -30.03907  > summary(StartSalLM)  Call:  lm(formula = salary ~ sex + gmat\_qpc + gmat\_tot + gmat\_tpc +  gmat\_vpc + s\_avg + f\_avg + quarter + work\_yrs + frstlang +  satis, data = MBASal.df)  Residuals:  Min 1Q Median 3Q Max  -68179 -41842 -3627 43625 201166  Coefficients:  Estimate Std. Error t value Pr(>|t|)  (Intercept) 158688.165 71661.284 2.214 0.0277 \*  sex 2804.398 6905.074 0.406 0.6850  gmat\_qpc 399.371 583.438 0.685 0.4943  gmat\_tot -311.016 210.955 -1.474 0.1416  gmat\_tpc 625.234 418.329 1.495 0.1362  gmat\_vpc 258.932 555.334 0.466 0.6414  s\_avg 7203.605 12829.725 0.561 0.5750  f\_avg -6267.052 6698.826 -0.936 0.3504  quarter -7141.312 4027.718 -1.773 0.0774 .  work\_yrs -825.020 938.814 -0.879 0.3803  frstlang -8508.608 10215.662 -0.833 0.4057  satis -45.566 7.885 -5.779 2.13e-08 \*\*\*  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  Residual standard error: 47580 on 262 degrees of freedom  Multiple R-squared: 0.1633, Adjusted R-squared: 0.1281  F-statistic: 4.647 on 11 and 262 DF, p-value: 1.765e-06  > confint(StartSalLM\_2)  2.5 % 97.5 %  (Intercept) 46585.8413 287404.7087  sex -9021.5484 19640.1793  gmat\_qpc -751.9397 1678.9211  gmat\_tot -763.6115 114.0911  gmat\_tpc -321.0631 1417.2201  gmat\_vpc -917.1712 1392.3007  quarter -13022.8716 -1896.4483  work\_yrs -2089.6254 1757.2271  frstlang -35848.8672 6436.7263  > summary(StartSalLM\_2)  Call:  lm(formula = salary ~ sex + gmat\_qpc + gmat\_tot + gmat\_tpc +  gmat\_vpc + quarter + work\_yrs + frstlang, data = MBASal.df)  Residuals:  Min 1Q Median 3Q Max  -61512 -38737 -26400 51291 200058  Coefficients:  Estimate Std. Error t value Pr(>|t|)  (Intercept) 166995.3 61153.9 2.731 0.00674 \*\*  sex 5309.3 7278.4 0.729 0.46636  gmat\_qpc 463.5 617.3 0.751 0.45342  gmat\_tot -324.8 222.9 -1.457 0.14628  gmat\_tpc 548.1 441.4 1.242 0.21548  gmat\_vpc 237.6 586.5 0.405 0.68575  quarter -7459.7 2825.5 -2.640 0.00878 \*\*  work\_yrs -166.2 976.9 -0.170 0.86504  frstlang -14706.1 10738.1 -1.370 0.17199  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  Residual standard error: 50350 on 265 degrees of freedom  Multiple R-squared: 0.05223, Adjusted R-squared: 0.02362  F-statistic: 1.825 on 8 and 265 DF, p-value: 0.0725 |
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| > boxplot(placed.df$salary,main = "Placed Salaries", xlab = "Sex"  + ,col = (c("green")), ylab = "Salary")  > boxplot(placed.df$salary~placed.df$sex,main = "Placed Salaries", xlab = "Sex"  + ,col = (c("green","red")), ylab = "Salary")  > library(psych)  > describe(placed.df)  vars n mean sd median trimmed mad min max range skew kurtosis se  age 1 103 26.78 3.27 2.60e+01 26.30 2.97 22.0 40 18.0 1.92 4.90 0.32  sex 2 103 1.30 0.46 1.00e+00 1.25 0.00 1.0 2 1.0 0.86 -1.28 0.05  gmat\_tot 3 103 616.02 50.69 6.20e+02 615.90 59.30 500.0 720 220.0 0.01 -0.69 4.99  gmat\_qpc 4 103 79.73 13.39 8.20e+01 81.05 13.34 39.0 99 60.0 -0.81 0.17 1.32  gmat\_vpc 5 103 78.56 16.14 8.10e+01 80.33 16.31 30.0 99 69.0 -0.87 0.21 1.59  gmat\_tpc 6 103 84.52 11.01 8.70e+01 85.60 11.86 51.0 99 48.0 -0.84 0.19 1.08  s\_avg 7 103 3.09 0.38 3.10e+00 3.10 0.44 2.2 4 1.8 -0.13 -0.61 0.04  f\_avg 8 103 3.09 0.49 3.25e+00 3.13 0.37 0.0 4 4.0 -2.52 13.86 0.05  quarter 9 103 2.26 1.12 2.00e+00 2.20 1.48 1.0 4 3.0 0.27 -1.34 0.11  work\_yrs 10 103 3.68 3.01 3.00e+00 3.11 1.48 0.0 16 16.0 2.48 6.83 0.30  frstlang 11 103 1.07 0.25 1.00e+00 1.00 0.00 1.0 2 1.0 3.38 9.54 0.02  salary 12 103 103030.74 17868.80 1.00e+05 101065.06 7413.00 64000.0 220000 156000.0 3.18 17.16 1760.67  satis 13 103 5.88 0.78 6.00e+00 5.89 1.48 3.0 7 4.0 -0.40 0.44 0.08 |
|  |
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> StartSalLM\_3 <-lm(salary~sex+gmat\_tot+gmat\_tpc

+ +quarter+work\_yrs+frstlang, data = MBASal.df)

> StartSalLM\_3

Call:

lm(formula = salary ~ sex + gmat\_tot + gmat\_tpc + quarter + work\_yrs +

frstlang, data = MBASal.df)

Coefficients:

(Intercept) sex gmat\_tot gmat\_tpc quarter work\_yrs frstlang

141371.6 4295.8 -206.5 646.1 -7317.9 -289.0 -13366.9

>

> summary(StartSalLM\_3)

Call:

lm(formula = salary ~ sex + gmat\_tot + gmat\_tpc + quarter + work\_yrs +

frstlang, data = MBASal.df)

Residuals:

Min 1Q Median 3Q Max

-59160 -39289 -27343 51485 200683

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 141371.6 44869.7 3.151 0.00181 \*\*

sex 4295.8 7125.5 0.603 0.54710

gmat\_tot -206.5 100.8 -2.048 0.04154 \*

gmat\_tpc 646.1 410.2 1.575 0.11639

quarter -7317.9 2803.8 -2.610 0.00957 \*\*

work\_yrs -289.0 964.0 -0.300 0.76456

frstlang -13366.9 9584.4 -1.395 0.16428

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 50230 on 267 degrees of freedom

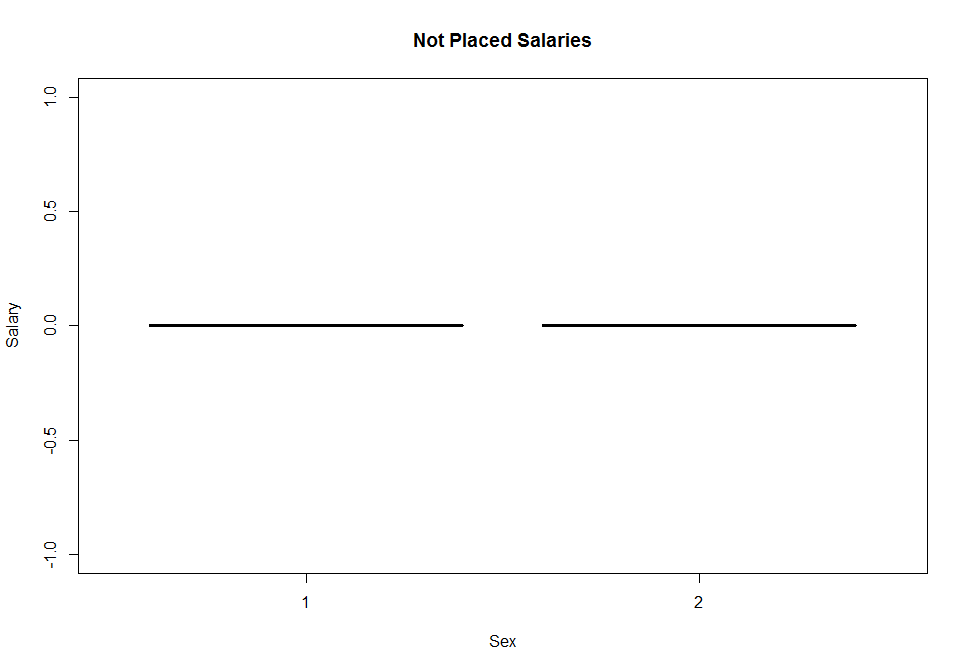
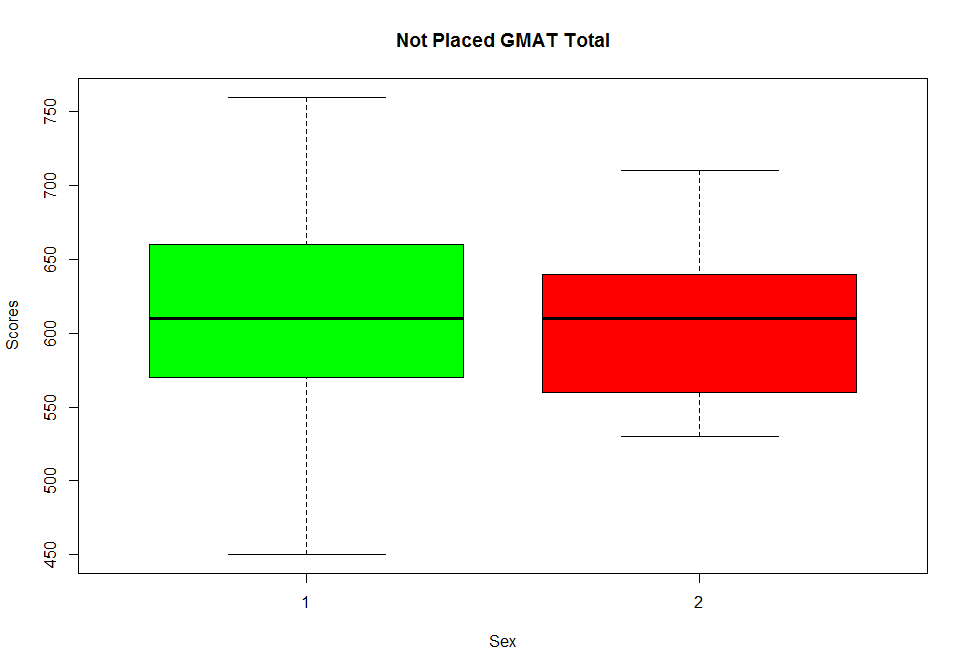
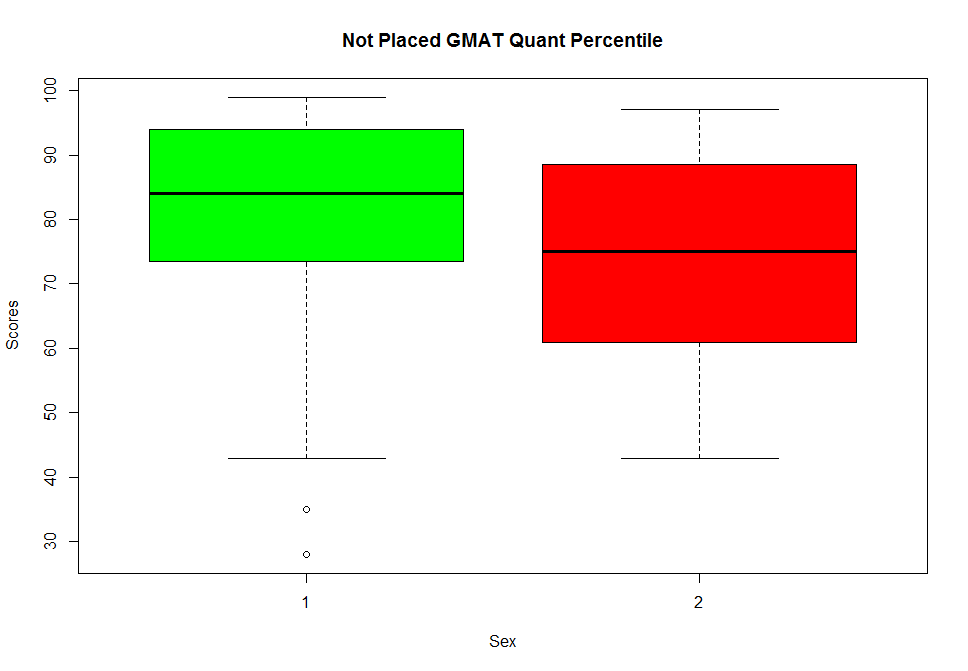
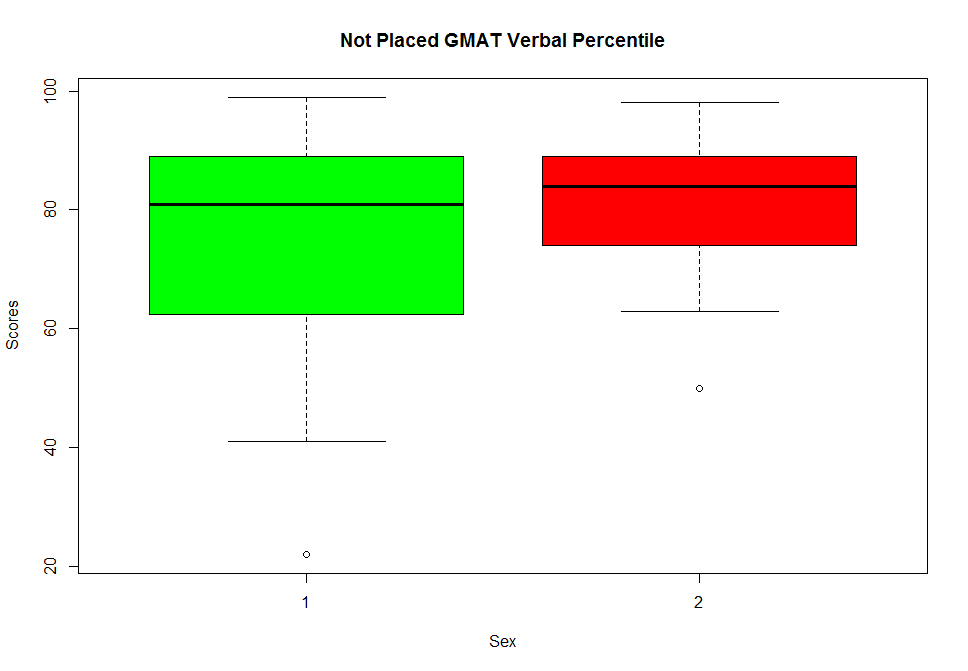
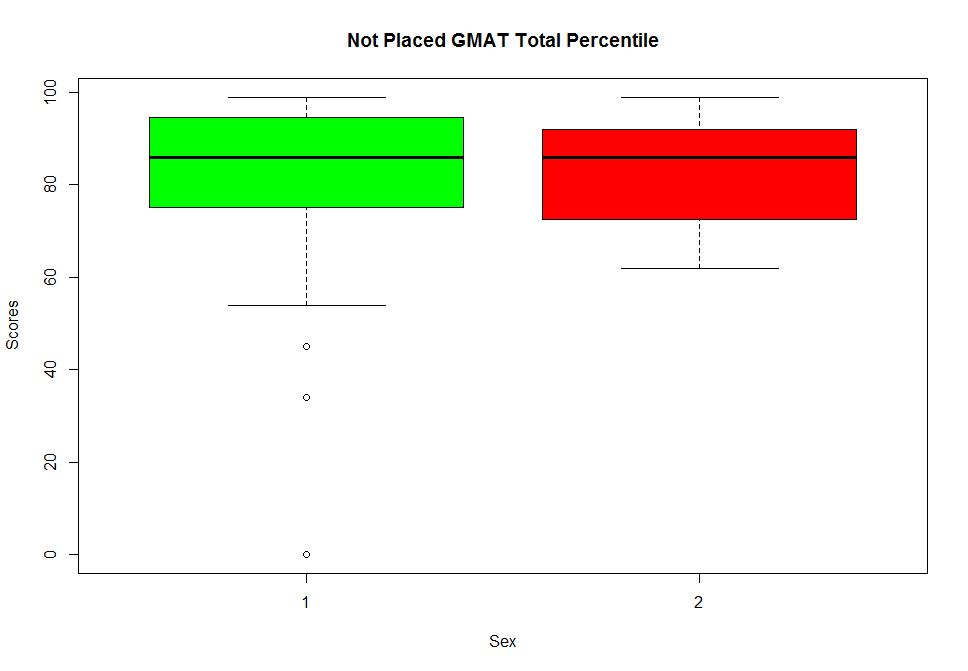
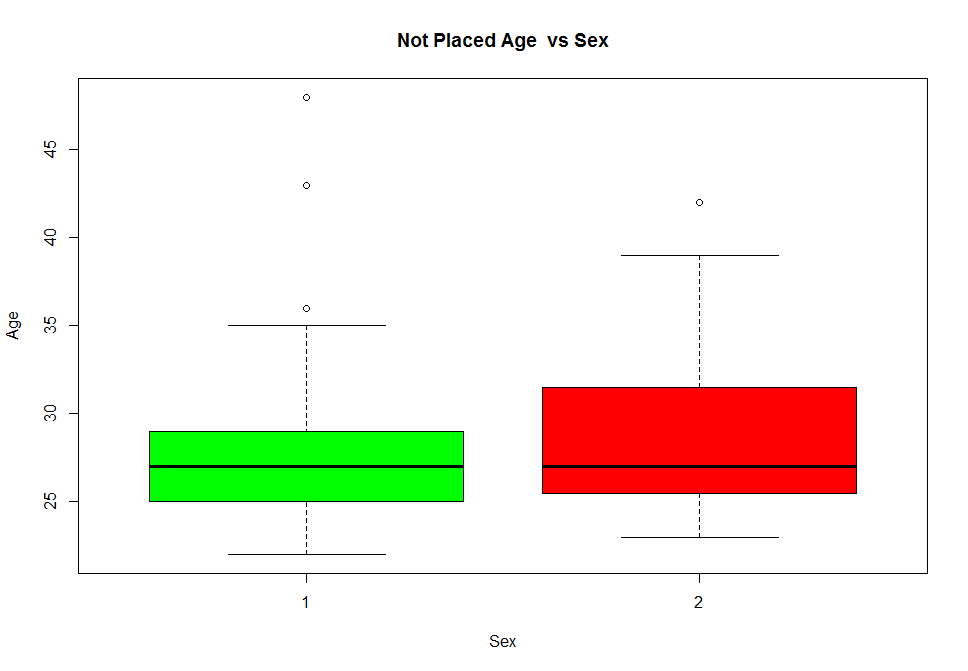
Multiple R-squared: 0.04956, Adjusted R-squared: 0.0282

F-statistic: 2.32 on 6 and 267 DF, p-value: 0.03352

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| --- |
| > fitted(StartSalLM)  1 2 3 4 5 6 7 8 9  67213.43182 63066.97504 58074.33736 64689.41357 52169.34641 62151.45437 65903.13129 60544.99264 53724.78017  10 11 12 13 14 15 16 17 18  9613.43557 -4045.68903 19043.73530 4161.55659 -35.62635 14405.87936 15873.35335 8133.31467 8080.15346  19 20 21 22 23 24 25 26 27  13163.67112 17838.18427 66624.29684 42513.89035 32388.23498 60750.05089 61762.61326 64453.00783 55355.35607  28 29 30 31 32 33 34 35 36  37879.06355 55185.02264 15098.81474 62132.65779 54054.14689 54555.71220 46469.94683 62572.14889 56605.75292  37 38 39 40 41 42 43 44 45  63383.31427 62275.16524 49405.31293 52993.19095 58485.72097 62020.26086 58291.48032 58153.43519 61077.53879  46 47 48 49 50 51 52 53 54  66470.70906 60929.87020 57011.90353 64521.48851 60329.46716 64465.01590 65196.17004 57658.21394 61369.92198  55 56 57 58 59 60 61 62 63  55720.35403 56913.98093 64061.55187 65133.29276 61831.15929 51334.87557 59998.47817 52555.47349 45408.10689  64 65 66 67 68 69 70 71 72  63344.37684 49895.94817 63924.15550 55538.00667 75918.66428 54002.32007 57665.72956 56084.58791 51044.23666  73 74 75 76 77 78 79 80 81  54482.44587 54109.32467 55665.27357 49670.61698 48198.29846 45600.82942 304.33781 4764.69378 14456.46733  82 83 84 85 86 87 88 89 90  -4051.66386 4484.74061 992.82633 4269.20440 17619.32726 48970.20973 56232.87673 54972.09229 44123.15316  91 92 93 94 95 96 97 98 99  33925.15201 38414.80596 53963.34756 10378.59679 7371.58324 -4128.85401 57847.27387 58831.04563 51929.39189  100 101 102 103 104 105 106 107 108  53982.18324 51227.51323 48076.83487 59218.39307 48476.56121 53105.62187 53648.66437 47780.95554 47036.50535  109 110 111 112 113 114 115 116 117  68178.51642 44618.35204 41680.65432 52926.12395 38910.61838 43784.65406 52184.18562 56294.97915 48065.58316  118 119 120 121 122 123 124 125 126  49896.67032 56320.75560 52004.80157 57077.54535 56334.42262 56841.60541 51006.25371 49298.88700 56388.79989  127 128 129 130 131 132 133 134 135  53939.58056 56294.97915 57445.83105 53675.98845 45572.93354 56500.34266 43938.12920 53328.54334 48447.99891  136 137 138 139 140 141 142 143 144  54932.10733 52437.43831 51823.58264 56179.17028 36292.09453 40755.10589 37059.77566 42467.37902 38696.78183  145 146 147 148 149 150 151 152 153  42869.86410 49433.72171 50793.13456 -1249.97713 1469.84202 46756.15436 34536.48294 42652.32408 -9144.03836  154 155 156 157 158 159 160 161 162  -6857.45739 -2078.06724 -8515.16297 265.04859 41769.10276 41975.05669 43695.13402 35802.45486 48136.43529  163 164 165 166 167 168 169 170 171  50240.10108 45006.76217 48550.11808 29784.59747 37747.09164 44547.05642 44763.99927 40616.92992 -897.72581  172 173 174 175 176 177 178 179 180  -5172.35370 -760.37541 -7970.32651 1894.29685 -2864.66276 -11796.90363 -917.05505 36875.22807 42189.11465  181 182 183 184 185 186 187 188 189  42799.46603 42023.80405 40154.70254 39076.20433 22737.67668 46024.44775 46498.78797 48242.56365 47203.70483  190 191 192 193 194 195 196 197 198  49582.66648 46801.63999 47865.30556 45698.54577 43083.04260 44471.06660 47761.20120 35983.94258 45532.57957  199 200 201 202 203 204 205 206 207  29673.45933 35337.37141 51156.88159 53237.86723 39828.92552 39223.92818 50814.38939 34142.18336 31286.16582  208 209 210 211 212 213 214 215 216  43804.52144 42596.02331 -4158.78676 -5075.37964 33469.71412 21402.08372 41065.12859 10830.01017 -6760.49679  217 218 219 220 221 222 223 224 225  31352.31737 30774.60416 42531.57753 27832.86033 30471.84310 39676.87348 39824.96355 -1915.97729 -6536.18430  226 227 228 229 230 231 232 233 234  36491.87400 41163.41862 3834.03269 38645.35456 42525.57790 47108.46065 35708.82870 41852.44384 41812.56943  235 236 237 238 239 240 241 242 243  38906.95567 24179.24952 -10371.72339 34564.80669 28994.85534 41305.60734 36042.09535 27615.62875 33997.42907  244 245 246 247 248 249 250 251 252  38297.86523 27301.94599 33560.36833 -6410.50972 -5262.43622 -33949.59758 40309.45380 34565.75703 31308.90777  253 254 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34170.982 33114.581  265 266 267 268 269 270 271 272 273 274  32910.870 38138.104 34747.058 27381.323 33899.702 19699.189 30722.837 34822.054 33610.673 19941.896  > fitted(StartSalLM\_3)  1 2 3 4 5 6 7 8 9 10  56872.014 54641.374 47419.299 55437.801 45392.808 51030.336 54641.374 53907.070 38436.387 46000.255  11 12 13 14 15 16 17 18 19 20  35547.715 58291.058 40808.034 39677.988 52556.124 55972.206 53202.217 41112.334 51803.287 53544.143  21 22 23 24 25 26 27 28 29 30  60158.771 35258.717 20404.676 58312.067 54732.949 51709.244 57259.456 30550.448 49585.348 6113.828  31 32 33 34 35 36 37 38 39 40  55427.026 57548.454 51374.188 49115.135 53423.117 47457.945 50296.032 54264.165 41097.031 56005.021  41 42 43 44 45 46 47 48 49 50  47997.294 59860.436 58370.827 50546.384 58612.870 54553.163 54629.568 52839.290 50257.386 54467.428  51 52 53 54 55 56 57 58 59 60  54859.806 55021.946 53255.145 53992.813 50842.251 49140.041 52806.475 53833.141 54170.122 50076.170  61 62 63 64 65 66 67 68 69 70  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45103.329678 38679.244401 43995.198433  121 122 123 124 125 126 127 128  39422.454648 41665.577381 41158.394587 46993.746294 49701.112995 43611.200107 46060.419437 44705.020846  129 130 131 132 133 134 135 136  45554.168949 50324.011545 59427.066457 48499.657341 61061.870803 53671.456658 63552.001091 60067.892668  137 138 139 140 141 142 143 144  62562.561686 78176.417359 89620.829718 -36292.094529 -40755.105894 -37059.775660 -42467.379022 -38696.781833  145 146 147 148 149 150 151 152  -41870.864099 -49433.721710 -50793.134561 2247.977131 -471.842021 -46756.154357 -34536.482935 -41653.324076  153 154 155 156 157 158 159 160  10142.038355 7855.457388 3076.067241 9513.162973 732.951415 -40770.102761 -41975.056688 -43695.134018  161 162 163 164 165 166 167 168  -34803.454860 -48136.435291 -50240.101083 -45006.762169 -48550.118081 -28785.597475 -37747.091635 -44547.056425  169 170 171 172 173 174 175 176  -44763.999266 -39617.929921 1895.725814 6170.353702 1758.375409 8968.326508 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-20166.255 -31353.728 -34039.847 -34078.549 -30715.553 -27475.071 -35806.557 6800.216 -34005.984 -34694.860  231 232 233 234 235 236 237 238 239 240  -33612.055 -24276.070 -32578.332 -35288.051 -32565.518 -17292.184 9336.474 -24085.564 -21230.273 -30721.471  241 242 243 244 245 246 247 248 249 250  -25535.450 -14831.485 -28239.885 -29947.789 -17729.298 -25459.117 -28452.915 -35088.535 -8536.433 -33077.070  251 252 253 254 255 256 257 258 259 260  -26645.900 -18373.411 -18033.539 -32661.286 -23149.768 30193.304 51022.702 64220.524 53324.450 50061.811  261 262 263 264 265 266 267 268 269 270  60800.012 64094.119 60829.018 62885.419 65089.130 61861.896 65252.942 73018.677 67700.298 84300.811  271 272 273 274  74277.163 80177.946 93099.327 200058.104  > residuals(StartSalLM\_3)  1 2 3 4 5 6 7 8 9 10  -56872.014 -54641.374 -47419.299 -55437.801 -44393.808 -51030.336 -54641.374 -53907.070 -37437.387 -45002.255  11 12 13 14 15 16 17 18 19 20  -34549.715 -57293.058 -39810.034 -38679.988 -51558.124 -54974.206 -52204.217 -40114.334 -50805.287 -52546.143  21 22 23 24 25 26 27 28 29 30  -59159.771 -35258.717 -20404.676 -58312.067 -54732.949 -50710.244 -57259.456 -30550.448 -49585.348 -5114.828  31 32 33 34 35 36 37 38 39 40  -55427.026 -57548.454 -51374.188 -49115.135 31576.883 37542.055 35703.968 33735.835 50902.969 36994.979  41 42 43 44 45 46 47 48 49 50  47002.706 35139.564 36629.173 45453.616 37387.130 45446.837 45370.432 47160.710 54742.614 50532.572  51 52 53 54 55 56 57 58 59 60  50140.194 49978.054 51744.855 51007.187 55157.749 56859.959 54693.525 54166.859 55829.878 61923.830  61 62 63 64 65 66 67 68 69 70  60429.192 73613.971 81102.644 66166.859 77704.825 66098.762 70018.911 96661.497 118548.834 -47093.250  71 72 73 74 75 76 77 78 79 80  -44358.543 -35295.728 -47830.918 -45547.349 -52483.790 -41520.456 -39328.462 -36621.421 -30678.383 -36911.419  81 82 83 84 85 86 87 88 89 90  -48140.273 -26382.606 -38330.462 -35976.328 -39103.413 -46706.060 -38040.465 -51964.554 -47668.777 -33747.359  91 92 93 94 95 96 97 98 99 100  -27230.829 -31493.109 -47288.205 -42909.405 -46381.780 -41936.554 -45972.542 -50106.179 -41235.647 -41809.454  101 102 103 104 105 106 107 108 109 110  -34052.351 -46432.883 -48365.323 -45232.406 -45422.212 -47126.065 -38104.374 -39170.510 -48372.192 -45831.411  111 112 113 114 115 116 117 118 119 120  -42241.517 -50543.043 -38315.536 -40439.433 37313.813 42445.872 47168.589 54898.587 48611.603 48042.225  121 122 123 124 125 126 127 128 129 130  49073.266 50422.797 50169.082 59529.203 60587.963 48000.163 52620.220 51445.872 57384.553 56620.220  131 132 133 134 135 136 137 138 139 140  66606.629 58738.460 60961.335 60195.748 73054.578 69452.651 71092.595 87638.496 100541.649 -25331.214  141 142 143 144 145 146 147 148 149 150  -27969.534 -27107.352 -33429.620 -31403.129 -34911.612 -39775.364 -40690.341 -37910.371 -36169.515 -40477.749  151 152 153 154 155 156 157 158 159 160  -26750.257 -32914.573 -22513.617 -26274.989 -31853.624 -19548.673 -36526.610 -34817.569 -40061.894 -40247.511  161 162 163 164 165 166 167 168 169 170  -24542.471 -44519.811 -39070.511 -35621.614 -44773.526 -22556.075 -25414.614 -40596.299 -44714.766 -27870.342  171 172 173 174 175 176 177 178 179 180  -38199.369 -34334.616 -39641.889 -37783.514 -38845.462 -37102.003 -20678.719 -42079.291 -37086.864 -26603.419  181 182 183 184 185 186 187 188 189 190  -39708.987 -40613.944 -36758.530 -36469.532 -33936.515 33816.092 50848.532 48321.640 52832.485 53572.393  191 192 193 194 195 196 197 198 199 200  50931.327 58991.437 56902.823 60274.603 53064.334 53318.049 79356.324 59218.486 72337.636 73181.645  201 202 203 204 205 206 207 208 209 210  58536.708 55925.670 67985.323 70226.371 64613.826 75791.508 86464.330 68064.964 79989.424 -31043.623  211 212 213 214 215 216 217 218 219 220  -28367.676 -31815.574 -15659.193 -31311.507 -28367.676 -31654.433 -18575.531 -21497.508 -27530.777 -30908.974  221 222 223 224 225 226 227 228 229 230  -18667.106 -32168.480 -31907.148 -31654.433 -28474.420 -25307.689 -38263.873 -1691.378 -30563.820 -33357.286  231 232 233 234 235 236 237 238 239 240  -31204.763 -24598.648 -32779.291 -33101.103 -29334.582 -18633.476 16128.827 -31900.492 -20183.565 -28561.631  241 242 243 244 245 246 247 248 249 250  -25176.643 -16771.727 -27764.379 -28303.728 -18215.968 -22880.646 -27406.640 -31560.391 -10862.070 -33484.144  251 252 253 254 255 256 257 258 259 260  -27278.783 -18251.250 -17784.118 -31461.160 -24637.294 27028.313 49469.223 63268.891 53085.234 51497.499  261 262 263 264 265 266 267 268 269 270  62563.265 64469.223 62958.377 63831.520 64804.854 62889.650 67400.495 70839.369 70747.183 84888.413  271 272 273 274  71931.712 82359.373 93550.137 200683.225  >  > mean(residuals(StartSalLM))  [1] -1.305117e-12  > mean(residuals(StartSalLM\_2))  [1] 1.145997e-12  > mean(residuals(StartSalLM\_3))  [1] -3.268393e-12 |
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| > t.test(placed.df$salary~placed.df$sex)  Welch Two Sample t-test  data: placed.df$salary by placed.df$sex  t = 1.3628, df = 38.115, p-value = 0.1809  alternative hypothesis: true difference in means is not equal to 0  95 percent confidence interval:  -3128.55 16021.72  sample estimates:  mean in group 1 mean in group 2  104970.97 98524.39  > t.test(placed.df$age~placed.df$sex)  Welch Two Sample t-test  data: placed.df$age by placed.df$sex  t = 1.4625, df = 57.378, p-value = 0.1491  alternative hypothesis: true difference in means is not equal to 0  95 percent confidence interval:  -0.3759495 2.4135840  sample estimates:  mean in group 1 mean in group 2  27.08333 26.06452  > t.test(placed.df$work\_yrs~placed.df$sex)  Welch Two Sample t-test  data: placed.df$work\_yrs by placed.df$sex  t = 0.97853, df = 63.885, p-value = 0.3315  alternative hypothesis: true difference in means is not equal to 0  95 percent confidence interval:  -0.6281501 1.8342433  sample estimates:  mean in group 1 mean in group 2  3.861111 3.258065 |
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| --- |
| > NotPlaced.df <- MBASal.df[ which(MBASal.df$salary!= '998' & MBASal.df$salary != '999'  + & MBASal.df$salary == '0') , ]  > head(NotPlaced.df)  age sex gmat\_tot gmat\_qpc gmat\_vpc gmat\_tpc s\_avg f\_avg quarter work\_yrs frstlang salary satis  1 23 2 620 77 87 87 3.4 3.00 1 2 1 0 7  2 24 1 610 90 71 87 3.5 4.00 1 2 1 0 6  3 24 1 670 99 78 95 3.3 3.25 1 2 1 0 6  4 24 1 570 56 81 75 3.3 2.67 1 1 1 0 7  6 24 1 640 82 89 91 3.9 3.75 1 2 1 0 6  7 25 1 610 89 74 87 3.4 3.50 1 2 1 0 5  >  >  > boxplot(NotPlaced.df$salary~NotPlaced.df$sex,main = "Not Placed Salaries", xlab = "Sex"  + ,col = (c("green","red")), ylab = "Salary")  > boxplot(NotPlaced.df$gmat\_tot~NotPlaced.df$sex,main = "Not Placed GMAT Total", xlab = "Sex"  + ,col = (c("green","red")), ylab = "Scores")  > boxplot(NotPlaced.df$gmat\_qpc~NotPlaced.df$sex,main = "Not Placed GMAT Quant Percentile", xlab = "Sex"  + ,col = (c("green","red")), ylab = "Scores")  > boxplot(NotPlaced.df$gmat\_vpc~NotPlaced.df$sex,main = "Not Placed GMAT Verbal Percentile", xlab = "Sex"  + ,col = (c("green","red")), ylab = "Scores")  > boxplot(NotPlaced.df$gmat\_tpc~NotPlaced.df$sex,main = "Not Placed GMAT Total Percentile", xlab = "Sex"  + ,col = (c("green","red")), ylab = "Scores")  > boxplot(NotPlaced.df$age~NotPlaced.df$sex,main = "Not Placed Age vs Sex", xlab = "Sex"  + ,col = (c("green","red")), ylab = "Age")  > boxplot(NotPlaced.df$work\_yrs~NotPlaced.df$sex,main = "Not Placed Work Experience", xlab = "Sex"  + ,col = (c("green","red")), ylab = "Years") |
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| |  | | --- | | > | |

> library(lattice)

> histogram(~frstlang | sex, data=NotPlaced.df)

> histogram(~frstlang | sex, data=placed.df)

>

> ### This data set does not allow us to investigate what role the first language plays since an overwhelming

> ### majority in this data set have English as their first language. Hence this is data set is biased.

>

>

>

> #Chi Square Test

> mytable <- xtabs(~ sex, data=NotPlaced.df)

> mytable

sex

1 2

67 23

> chisq.test(mytable)

Chi-squared test for given probabilities

data: mytable

X-squared = 21.511, df = 1, p-value = 3.518e-06

>

> mytable <- xtabs(~ sex, data=placed.df)

> mytable

sex

1 2

72 31

> chisq.test(mytable)

Chi-squared test for given probabilities

data: mytable

X-squared = 16.32, df = 1, p-value = 5.349e-05

