DATA_607_Project_1_MJU

Md Jalal Uddin

September 28, 2016

```r
library(stringr)
library(knitr)


Data_Source_Chess <- readLines("/Users/sql_ent_svc/Google Drive/DATA_607/Project1/Chessfile.txt")


Data_Source_Chess
```

```
##   [1] "-----------------------------------------------------------------------------"
##   [2] " Pair | Player Name                     |Total|Round|Round|Round|Round|Round|Round|Round| "
##   [3] " Num  | USCF ID / Rtg (Pre->Post)       | Pts |  1  |  2  |  3  |  4  |  5  |  6  |  7  | "
##   [4] "-----------------------------------------------------------------------------"
##   [5] "    1 | GARY HUA                        |6.0  |W  39|W  21|W  18|W  14|W   7|D  12|D   4|"
##   [6] "   ON | 15445895 / R: 1794   ->1817     |N:2  |W    |B    |W    |B    |W    |B    |W    |"
##   [7] "-----------------------------------------------------------------------------"
##   [8] "    2 | DAKSHESH DARURI                 |6.0  |W  63|W  58|L   4|W  17|W  16|W  20|W   7|"
##   [9] "   MI | 14598900 / R: 1553   ->1663     |N:2  |B    |W    |B    |W    |B    |W    |B    |"
##  [10] "-----------------------------------------------------------------------------"
##  [11] "    3 | ADITYA BAJAJ                    |6.0  |L   8|W  61|W  25|W  21|W  11|W  13|W  12|"
##  [12] "   MI | 14959604 / R: 1384   ->1640     |N:2  |W    |B    |W    |B    |W    |B    |W    |"
##  [13] "-----------------------------------------------------------------------------"
##  [14] "    4 | PATRICK H SCHILLING             |5.5  |W  23|D  28|W   2|W  26|D   5|W  19|D   1|"
##  [15] "   MI | 12616049 / R: 1716   ->1744     |N:2  |W    |B    |W    |B    |W    |B    |B    |"
##  [16] "-----------------------------------------------------------------------------"
##  [17] "    5 | HANSHI ZUO                      |5.5  |W  45|W  37|D  12|D  13|D   4|W  14|W  17|"
##  [18] "   MI | 14601533 / R: 1655   ->1690     |N:2  |B    |W    |B    |W    |B    |W    |B    |"
##  [19] "-----------------------------------------------------------------------------"
##  [20] "    6 | HANSEN SONG                     |5.0  |W  34|D  29|L  11|W  35|D  10|W  27|W  21|"
##  [21] "   OH | 15055204 / R: 1686   ->1687     |N:3  |W    |B    |W    |B    |B    |W    |B    |"
##  [22] "-----------------------------------------------------------------------------"
##  [23] "    7 | GARY DEE SWATHELL               |5.0  |W  57|W  46|W  13|W  11|L   1|W   9|L   2|"
##  [24] "   MI | 11146376 / R: 1649   ->1673     |N:3  |W    |B    |W    |B    |B    |W    |W    |"
##  [25] "-----------------------------------------------------------------------------"
##  [26] "    8 | EZEKIEL HOUGHTON                |5.0  |W   3|W  32|L  14|L   9|W  47|W  28|W  19|"
##  [27] "   MI | 15142253 / R: 1641P17->1657P24  |N:3  |B    |W    |B    |W    |B    |W    |W    |"
##  [28] "-----------------------------------------------------------------------------"
##  [29] "    9 | STEFANO LEE                     |5.0  |W  25|L  18|W  59|W   8|W  26|L   7|W  20|"
##  [30] "   ON | 14954524 / R: 1411   ->1564     |N:2  |W    |B    |W    |B    |W    |B    |B    |"
##  [31] "-----------------------------------------------------------------------------"
##  [32] "   10 | ANVIT RAO                       |5.0  |D  16|L  19|W  55|W  31|D   6|W  25|W  18|"
##  [33] "   MI | 14150362 / R: 1365   ->1544     |N:3  |W    |W    |B    |B    |W    |B    |W    |"
##  [34] "-----------------------------------------------------------------------------"
##  [35] "   11 | CAMERON WILLIAM MC LEMAN        |4.5  |D  38|W  56|W   6|L   7|L   3|W  34|W  26|"
##  [36] "   MI | 12581589 / R: 1712   ->1696     |N:3  |B    |W    |B    |W    |B    |W    |B    |"
##  [37] "-----------------------------------------------------------------------------"
##  [38] "   12 | KENNETH J TACK                  |4.5  |W  42|W  33|D   5|W  38|H    |D   1|L   3|"
##  [39] "   MI | 12681257 / R: 1663   ->1670     |N:3  |W    |B    |W    |B    |     |W    |B    |"
```

```
## [40] "-----------------------------------------------------------------------------------"
## [41] "   13 | TORRANCE HENRY JR                |4.5  |W  36|W  27|L   7|D   5|W  33|L   3|W  32|"
## [42] "   MI | 15082995 / R: 1666   ->1662     |N:3  |B    |W    |B    |B    |W    |W    |B    |"
## [43] "-----------------------------------------------------------------------------------"
## [44] "   14 | BRADLEY SHAW                     |4.5  |W  54|W  44|W   8|L   1|D  27|L   5|W  31|"
## [45] "   MI | 10131499 / R: 1610   ->1618     |N:3  |W    |B    |W    |W    |B    |B    |W    |"
## [46] "-----------------------------------------------------------------------------------"
## [47] "   15 | ZACHARY JAMES HOUGHTON           |4.5  |D  19|L  16|W  30|L  22|W  54|W  33|W  38|"
## [48] "   MI | 15619130 / R: 1220P13->1416P20  |N:3  |B    |B    |W    |W    |B    |B    |W    |"
## [49] "-----------------------------------------------------------------------------------"
## [50] "   16 | MIKE NIKITIN                     |4.0  |D  10|W  15|H    |W  39|L   2|W  36|U    |"
## [51] "   MI | 10295068 / R: 1604   ->1613     |N:3  |B    |W    |     |B    |W    |B    |     |"
## [52] "-----------------------------------------------------------------------------------"
## [53] "   17 | RONALD GRZEGORCZYK               |4.0  |W  48|W  41|L  26|L   2|W  23|W  22|L   5|"
## [54] "   MI | 10297702 / R: 1629   ->1610     |N:3  |W    |B    |W    |B    |W    |B    |W    |"
## [55] "-----------------------------------------------------------------------------------"
## [56] "   18 | DAVID SUNDEEN                    |4.0  |W  47|W   9|L   1|W  32|L  19|W  38|L  10|"
## [57] "   MI | 11342094 / R: 1600   ->1600     |N:3  |B    |W    |B    |W    |B    |W    |B    |"
## [58] "-----------------------------------------------------------------------------------"
## [59] "   19 | DIPANKAR ROY                     |4.0  |D  15|W  10|W  52|D  28|W  18|L   4|L   8|"
## [60] "   MI | 14862333 / R: 1564   ->1570     |N:3  |W    |B    |W    |B    |W    |W    |B    |"
## [61] "-----------------------------------------------------------------------------------"
## [62] "   20 | JASON ZHENG                      |4.0  |L  40|W  49|W  23|W  41|W  28|L   2|L   9|"
## [63] "   MI | 14529060 / R: 1595   ->1569     |N:4  |W    |B    |W    |B    |W    |B    |W    |"
## [64] "-----------------------------------------------------------------------------------"
## [65] "   21 | DINH DANG BUI                    |4.0  |W  43|L   1|W  47|L   3|W  40|W  39|L   6|"
## [66] "   ON | 15495066 / R: 1563P22->1562     |N:3  |B    |W    |B    |W    |W    |B    |W    |"
## [67] "-----------------------------------------------------------------------------------"
## [68] "   22 | EUGENE L MCCLURE                 |4.0  |W  64|D  52|L  28|W  15|H    |L  17|W  40|"
## [69] "   MI | 12405534 / R: 1555   ->1529     |N:4  |W    |B    |W    |B    |     |W    |B    |"
## [70] "-----------------------------------------------------------------------------------"
## [71] "   23 | ALAN BUI                         |4.0  |L   4|W  43|L  20|W  58|L  17|W  37|W  46|"
## [72] "   ON | 15030142 / R: 1363   ->1371     |     |B    |W    |B    |W    |B    |W    |B    |"
## [73] "-----------------------------------------------------------------------------------"
## [74] "   24 | MICHAEL R ALDRICH                |4.0  |L  28|L  47|W  43|L  25|W  60|W  44|W  39|"
## [75] "   MI | 13469010 / R: 1229   ->1300     |N:4  |B    |W    |B    |B    |W    |W    |B    |"
## [76] "-----------------------------------------------------------------------------------"
## [77] "   25 | LOREN SCHWIEBERT                 |3.5  |L   9|W  53|L   3|W  24|D  34|L  10|W  47|"
## [78] "   MI | 12486656 / R: 1745   ->1681     |N:4  |B    |W    |B    |W    |B    |W    |B    |"
## [79] "-----------------------------------------------------------------------------------"
## [80] "   26 | MAX ZHU                          |3.5  |W  49|W  40|W  17|L   4|L   9|D  32|L  11|"
## [81] "   ON | 15131520 / R: 1579   ->1564     |N:4  |B    |W    |B    |W    |B    |W    |W    |"
## [82] "-----------------------------------------------------------------------------------"
## [83] "   27 | GAURAV GIDWANI                   |3.5  |W  51|L  13|W  46|W  37|D  14|L   6|U    |"
## [84] "   MI | 14476567 / R: 1552   ->1539     |N:4  |W    |B    |W    |B    |W    |B    |     |"
## [85] "-----------------------------------------------------------------------------------"
## [86] "   28 | SOFIA ADINA STANESCU-BELLU       |3.5  |W  24|D   4|W  22|D  19|L  20|L   8|D  36|"
## [87] "   MI | 14882954 / R: 1507   ->1513     |N:3  |W    |W    |B    |W    |B    |B    |W    |"
## [88] "-----------------------------------------------------------------------------------"
## [89] "   29 | CHIEDOZIE OKORIE                 |3.5  |W  50|D   6|L  38|L  34|W  52|W  48|U    |"
## [90] "   MI | 15323285 / R: 1602P6 ->1508P12  |N:4  |B    |W    |B    |W    |W    |B    |     |"
## [91] "-----------------------------------------------------------------------------------"
## [92] "   30 | GEORGE AVERY JONES               |3.5  |L  52|D  64|L  15|W  55|L  31|W  61|W  50|"
## [93] "   ON | 12577178 / R: 1522   ->1444     |     |W    |B    |B    |W    |W    |B    |B    |"
```

```
## [94] "-----------------------------------------------------------------"
## [95] "  31 | RISHI SHETTY                    |3.5  |L  58|D  55|W  64|L  10|W  30|W  50|L  14|"
## [96] "  MI | 15131618 / R: 1494   ->1444    |     |B    |W    |B    |W    |B    |W    |B    |"
## [97] "-----------------------------------------------------------------"
## [98] "  32 | JOSHUA PHILIP MATHEWS           |3.5  |W  61|L   8|W  44|L  18|W  51|D  26|L  13|"
## [99] "  ON | 14073750 / R: 1441   ->1433    |N:4  |W    |B    |W    |B    |W    |B    |W    |"
## [100] "-----------------------------------------------------------------"
## [101] "  33 | JADE GE                        |3.5  |W  60|L  12|W  50|D  36|L  13|L  15|W  51|"
## [102] "  MI | 14691842 / R: 1449   ->1421    |     |B    |W    |B    |W    |B    |W    |B    |"
## [103] "-----------------------------------------------------------------"
## [104] "  34 | MICHAEL JEFFERY THOMAS         |3.5  |L   6|W  60|L  37|W  29|D  25|L  11|W  52|"
## [105] "  MI | 15051807 / R: 1399   ->1400    |     |B    |W    |B    |B    |W    |B    |W    |"
## [106] "-----------------------------------------------------------------"
## [107] "  35 | JOSHUA DAVID LEE                |3.5  |L  46|L  38|W  56|L   6|W  57|D  52|W  48|"
## [108] "  MI | 14601397 / R: 1438   ->1392    |     |W    |W    |B    |W    |B    |B    |W    |"
## [109] "-----------------------------------------------------------------"
## [110] "  36 | SIDDHARTH JHA                   |3.5  |L  13|W  57|W  51|D  33|H    |L  16|D  28|"
## [111] "  MI | 14773163 / R: 1355   ->1367    |N:4  |W    |B    |W    |B    |     |W    |B    |"
## [112] "-----------------------------------------------------------------"
## [113] "  37 | AMIYATOSH PWNANANDAM            |3.5  |B    |L   5|W  34|L  27|H    |L  23|W  61|"
## [114] "  MI | 15489571 / R:  980P12->1077P17 |     |     |B    |W    |W    |     |B    |W    |"
## [115] "-----------------------------------------------------------------"
## [116] "  38 | BRIAN LIU                       |3.0  |D  11|W  35|W  29|L  12|H    |L  18|L  15|"
## [117] "  MI | 15108523 / R: 1423   ->1439    |N:4  |W    |B    |W    |W    |     |B    |B    |"
## [118] "-----------------------------------------------------------------"
## [119] "  39 | JOEL R HENDON                   |3.0  |L   1|W  54|W  40|L  16|W  44|L  21|L  24|"
## [120] "  MI | 12923035 / R: 1436P23->1413    |N:4  |B    |W    |B    |W    |B    |W    |W    |"
## [121] "-----------------------------------------------------------------"
## [122] "  40 | FOREST ZHANG                    |3.0  |W  20|L  26|L  39|W  59|L  21|W  56|L  22|"
## [123] "  MI | 14892710 / R: 1348   ->1346    |     |B    |B    |W    |W    |B    |W    |W    |"
## [124] "-----------------------------------------------------------------"
## [125] "  41 | KYLE WILLIAM MURPHY             |3.0  |W  59|L  17|W  58|L  20|X    |U    |U    |"
## [126] "  MI | 15761443 / R: 1403P5 ->1341P9  |     |B    |W    |B    |W    |     |     |     |"
## [127] "-----------------------------------------------------------------"
## [128] "  42 | JARED GE                        |3.0  |L  12|L  50|L  57|D  60|D  61|W  64|W  56|"
## [129] "  MI | 14462326 / R: 1332   ->1256    |     |B    |W    |B    |B    |W    |W    |B    |"
## [130] "-----------------------------------------------------------------"
## [131] "  43 | ROBERT GLEN VASEY               |3.0  |L  21|L  23|L  24|W  63|W  59|L  46|W  55|"
## [132] "  MI | 14101068 / R: 1283   ->1244    |     |W    |B    |W    |W    |B    |B    |W    |"
## [133] "-----------------------------------------------------------------"
## [134] "  44 | JUSTIN D SCHILLING              |3.0  |B    |L  14|L  32|W  53|L  39|L  24|W  59|"
## [135] "  MI | 15323504 / R: 1199   ->1199    |     |     |W    |B    |B    |W    |B    |W    |"
## [136] "-----------------------------------------------------------------"
## [137] "  45 | DEREK YAN                       |3.0  |L   5|L  51|D  60|L  56|W  63|D  55|W  58|"
## [138] "  MI | 15372807 / R: 1242   ->1191    |     |W    |B    |W    |B    |W    |B    |W    |"
## [139] "-----------------------------------------------------------------"
## [140] "  46 | JACOB ALEXANDER LAVALLEY        |3.0  |W  35|L   7|L  27|L  50|W  64|W  43|L  23|"
## [141] "  MI | 15490981 / R:  377P3 ->1076P10 |     |B    |W    |B    |W    |B    |W    |W    |"
## [142] "-----------------------------------------------------------------"
## [143] "  47 | ERIC WRIGHT                     |2.5  |L  18|W  24|L  21|W  61|L   8|D  51|L  25|"
## [144] "  MI | 12533115 / R: 1362   ->1341    |     |W    |B    |W    |B    |W    |B    |W    |"
## [145] "-----------------------------------------------------------------"
## [146] "  48 | DANIEL KHAIN                    |2.5  |L  17|W  63|H    |D  52|H    |L  29|L  35|"
## [147] "  MI | 14369165 / R: 1382   ->1335    |     |B    |W    |     |B    |     |W    |B    |"
```

3

```
## [148] "-----------------------------------------------------------------------"
## [149] "   49 | MICHAEL J MARTIN                |2.5  |L   26|L  20|D  63|D  64|W  58|H    |U    |"
## [150] "    MI | 12531685 / R: 1291P12->1259P17 |     |W     |W   |B   |W   |B   |     |     |"
## [151] "-----------------------------------------------------------------------"
## [152] "   50 | SHIVAM JHA                      |2.5  |L   29|W  42|L  33|W  46|H    |L  31|L  30|"
## [153] "    MI | 14773178 / R: 1056   ->1111    |     |W     |B   |W   |B   |     |B   |W   |"
## [154] "-----------------------------------------------------------------------"
## [155] "   51 | TEJAS AYYAGARI                  |2.5  |L   27|W  45|L  36|W  57|L  32|D  47|L  33|"
## [156] "    MI | 15205474 / R: 1011   ->1097    |     |B     |W   |B   |W   |B   |W   |W   |"
## [157] "-----------------------------------------------------------------------"
## [158] "   52 | ETHAN GUO                       |2.5  |W   30|D  22|L  19|D  48|L  29|D  35|L  34|"
## [159] "    MI | 14918803 / R:  935   ->1092    |N:4  |B     |W   |B   |W   |B   |W   |B   |"
## [160] "-----------------------------------------------------------------------"
## [161] "   53 | JOSE C YBARRA                   |2.0  |H     |L  25|H    |L  44|U    |W  57|U    |"
## [162] "    MI | 12578849 / R: 1393   ->1359    |     |      |B   |    |W   |    |W   |     |"
## [163] "-----------------------------------------------------------------------"
## [164] "   54 | LARRY HODGE                     |2.0  |L   14|L  39|L  61|B    |L  15|L  59|W  64|"
## [165] "    MI | 12836773 / R: 1270   ->1200    |     |B     |B   |W   |    |W   |B   |W   |"
## [166] "-----------------------------------------------------------------------"
## [167] "   55 | ALEX KONG                       |2.0  |L   62|D  31|L  10|L  30|B    |D  45|L  43|"
## [168] "    MI | 15412571 / R: 1186   ->1163    |     |W     |B   |W   |B   |    |W   |B   |"
## [169] "-----------------------------------------------------------------------"
## [170] "   56 | MARISA RICCI                    |2.0  |H     |L  11|L  35|W  45|H    |L  40|L  42|"
## [171] "    MI | 14679887 / R: 1153   ->1140    |     |      |B   |W   |W   |    |B   |W   |"
## [172] "-----------------------------------------------------------------------"
## [173] "   57 | MICHAEL LU                      |2.0  |L    7|L  36|W  42|L  51|L  35|L  53|B    |"
## [174] "    MI | 15113330 / R: 1092   ->1079    |     |B     |W   |W   |B   |W   |B   |     |"
## [175] "-----------------------------------------------------------------------"
## [176] "   58 | VIRAJ MOHILE                    |2.0  |W   31|L   2|L  41|L  23|L  49|B    |L  45|"
## [177] "    MI | 14700365 / R:  917   -> 941    |     |W     |B   |W   |B   |W   |    |B   |"
## [178] "-----------------------------------------------------------------------"
## [179] "   59 | SEAN M MC CORMICK               |2.0  |L   41|B    |L   9|L  40|L  43|W  54|L  44|"
## [180] "    MI | 12841036 / R:  853   -> 878    |     |W     |    |B   |B   |W   |W   |B   |"
## [181] "-----------------------------------------------------------------------"
## [182] "   60 | JULIA SHEN                      |1.5  |L   33|L  34|D  45|D  42|L  24|H    |U    |"
## [183] "    MI | 14579262 / R:  967   -> 984    |     |W     |B   |B   |W   |B   |     |     |"
## [184] "-----------------------------------------------------------------------"
## [185] "   61 | JEZZEL FARKAS                   |1.5  |L   32|L   3|W  54|L  47|D  42|L  30|L  37|"
## [186] "    ON | 15771592 / R:  955P11-> 979P18 |     |B     |W   |B   |W   |B   |W   |B   |"
## [187] "-----------------------------------------------------------------------"
## [188] "   62 | ASHWIN BALAJI                   |1.0  |W   55|U    |U    |U    |U    |U    |U    |"
## [189] "    MI | 15219542 / R: 1530   ->1535    |     |B     |    |    |    |    |    |    |"
## [190] "-----------------------------------------------------------------------"
## [191] "   63 | THOMAS JOSEPH HOSMER            |1.0  |L    2|L  48|D  49|L  43|L  45|H    |U    |"
## [192] "    MI | 15057092 / R: 1175   ->1125    |     |W     |B   |W   |B   |B   |     |     |"
## [193] "-----------------------------------------------------------------------"
## [194] "   64 | BEN LI                          |1.0  |L   22|D  30|L  31|D  49|L  46|L  42|L  54|"
## [195] "    MI | 15006561 / R: 1163   ->1112    |     |B     |W   |W   |B   |W   |B   |B   |"
## [196] "-----------------------------------------------------------------------"
```

```r
head(Data_Source_Chess)
```

```
## [1] "-----------------------------------------------------------------------"
## [2] " Pair | Player Name                     |Total|Round|Round|Round|Round|Round|Round|Round| "
```

```
## [3] "  Num  | USCF ID / Rtg (Pre->Post)       | Pts |  1  |  2  |  3  |  4  |  5  |  6  |  7  | "
## [4] "-----------------------------------------------------------------------------------------"
## [5] "    1 | GARY HUA                          |6.0  |W  39|W  21|W  18|W  14|W   7|D  12|D   4|"
## [6] "   ON | 15445895 / R: 1794   ->1817       |N:2  |W    |B    |W    |B    |W    |B    |W    |"
```

```r
#beginnig from the 5th row and remove the first 4th row
data <- Data_Source_Chess[c(5:length(Data_Source_Chess))]
#deleting --+ and replace them with @
data <- str_replace_all(data, "--+", "@")
#make the data a long string and split it at @
data <- unlist(strsplit(paste(data, collapse = ""), split = "@")) #source: https://stat.ethz.ch/R-manua
#delet other symbols and replace them with commas
data <- str_replace_all(data, "([:space:]|-|\\/|\\||\\>)+",",")
head(data)
```

```
## [1] ",1,GARY,HUA,6.0,W,39,W,21,W,18,W,14,W,7,D,12,D,4,ON,15445895,R:,1794,1817,N:2,W,B,W,B,W,B,W,"
## [2] ",2,DAKSHESH,DARURI,6.0,W,63,W,58,L,4,W,17,W,16,W,20,W,7,MI,14598900,R:,1553,1663,N:2,B,W,B,W,B,W
## [3] ",3,ADITYA,BAJAJ,6.0,L,8,W,61,W,25,W,21,W,11,W,13,W,12,MI,14959604,R:,1384,1640,N:2,W,B,W,B,W,B,W
## [4] ",4,PATRICK,H,SCHILLING,5.5,W,23,D,28,W,2,W,26,D,5,W,19,D,1,MI,12616049,R:,1716,1744,N:2,W,B,W,B
## [5] ",5,HANSHI,ZUO,5.5,W,45,W,37,D,12,D,13,D,4,W,14,W,17,MI,14601533,R:,1655,1690,N:2,B,W,B,W,B,W,
## [6] ",6,HANSEN,SONG,5.0,W,34,D,29,L,11,W,35,D,10,W,27,W,21,OH,15055204,R:,1686,1687,N:3,W,B,W,B,W,
```

```r
#making player_id the 1st digits
player_id <- str_sub(str_extract(data, "^,\\d+"), start = 2)

# then place the player name and separated by commas. source: https://cran.r-project.org/web/packages/s
player_name <- str_trim(str_replace_all(str_extract(data, ",([:alpha:]|,)+"), ",", " "))

#player_state is a 2 letter group that comes after a B or U or digit
player_state <- str_sub(str_extract(data, "(B|U|\\d),[:alpha:][:alpha:],\\d"), start = 3, end = 4)

#total_points is 2 digits separted by a .
total_points <- as.numeric(str_extract(data, "\\d\\.\\d"))

#rating_A is the first group of digits after :,
rating_A <- as.numeric(str_sub(str_extract(data, ":,\\d+"), start = 3))
#source:http://stackoverflow.com/questions/36147539/string-extraction-and-manipulation-in-r-with-string

#creating rating_B  after rating_A
rating_B <- as.numeric(str_replace_all(str_extract(data, ":,.*,\\d+"), pattern = ":,.*,", replacement =
#source:http://stackoverflow.com/questions/36147539/string-extraction-and-manipulation-in-r-with-string

#creating final data with all the information
data_final <- data.frame(player_id, player_name, player_state, total_points, rating_A , rating_B , strin
head (data_final)
```

```
##   player_id       player_name player_state total_points rating_A
## 1         1          GARY HUA           ON          6.0     1794
## 2         2    DAKSHESH DARURI           MI          6.0     1553
## 3         3      ADITYA BAJAJ           MI          6.0     1384
## 4         4 PATRICK H SCHILLING          MI          5.5     1716
## 5         5        HANSHI ZUO           MI          5.5     1655
## 6         6       HANSEN SONG           OH          5.0     1686
```

```
##   rating_B
## 1    1817
## 2    1663
## 3    1640
## 4    1744
## 5    1690
## 6    1687
```

```r
# Store a csv
write.csv(data_final, "C:/Users/sql_ent_svc/Google Drive/DATA_607/Project1/project_1_result.csv")
```