# HW2_R_code_output

## Group 5

## 11/12/2019

```
# Import dataset
enrollment_use = read.csv("~/Desktop/Brandeis/Healthcare Analytics/HW2/enrollment_use_fi
ll.csv")

# Calculate the the total enrollment by state
Total_Marketshare_t = enrollment_use %>% group_by(State) %>% summarise(enrollment_by_sta
te = sum(Enrollment))
Total_Marketshare_t
```

```
## # A tibble: 8 x 2
##   State enrollment_by_state
##   <fct>               <int>
## 1 CT                286351
## 2 HI                126636
## 3 IN                402015
## 4 MS                120377
## 5 NJ                485403
## 6 PA               1246280
## 7 SC                321711
## 8 SD                 35220
```

```
# Calculate the total enrollment by firms in each state
Total_Marketshare_t2 = enrollment_use %>% group_by(State) %>% mutate(enrollment_by_state
= sum(Enrollment)) %>% select(unique(c("State", "my_organization", "Enrollment", "enroll
ment_by_state")))
Total_Marketshare_t2
```

```
## # A tibble: 8,415 x 4
## # Groups:   State [8]
##    State my_organization                        Enrollment enrollment_by_st…
##    <fct> <fct>                                       <int>             <int>
##  1 CT    TEAMStar Medicare Part D Prescriptio…          94            286351
##  2 CT    TEAMStar Medicare Part D Prescriptio…          70            286351
##  3 CT    TEAMStar Medicare Part D Prescriptio…          31            286351
##  4 CT    TEAMStar Medicare Part D Prescriptio…          16            286351
##  5 CT    TEAMStar Medicare Part D Prescriptio…         129            286351
##  6 CT    TEAMStar Medicare Part D Prescriptio…          40            286351
##  7 CT    TEAMStar Medicare Part D Prescriptio…          21            286351
##  8 CT    TEAMStar Medicare Part D Prescriptio…          27            286351
##  9 IN    TEAMStar Medicare Part D Prescriptio…          14            402015
## 10 IN    TEAMStar Medicare Part D Prescriptio…          15            402015
## # … with 8,405 more rows
```

```
# Calculate the market share by firms in each state
Total_Marketshare_t3 = Total_Marketshare_t2 %>% group_by(State, my_organization) %>% mut
ate(enrollment_by_firm = sum(Enrollment)) %>% mutate(marketshare = enrollment_by_firm /
 enrollment_by_state) %>% arrange(desc(marketshare))
Total_Marketshare_t3
```

```
## # A tibble: 8,415 x 6
## # Groups:   State, my_organization [139]
##    State my_organization Enrollment enrollment_by_s… enrollment_by_f…
##    <fct> <fct>                <int>            <int>            <int>
##  1 SD    Medica                  11            35220            22485
##  2 SD    Medica                  15            35220            22485
##  3 SD    Medica                  23            35220            22485
##  4 SD    Medica                  13            35220            22485
##  5 SD    Medica                  63            35220            22485
##  6 SD    Medica                 459            35220            22485
##  7 SD    Medica                  12            35220            22485
##  8 SD    Medica                 115            35220            22485
##  9 SD    Medica                 435            35220            22485
## 10 SD    Medica                 506            35220            22485
## # … with 8,405 more rows, and 1 more variable: marketshare <dbl>
```

```
MarketShare = Total_Marketshare_t3[!duplicated(Total_Marketshare_t3$marketshare), ] %>%
arrange(desc(State)) %>% select(1,2,6)
MarketShare
```

```
## # A tibble: 139 x 3
## # Groups:   State, my_organization [139]
##    State my_organization                marketshare
##    <fct> <fct>                                <dbl>
##  1 SD    Medica                             0.638
##  2 SD    Humana                             0.256
##  3 SD    Aetna Health Inc.                  0.0707
##  4 SD    UnitedHealthcare                   0.0210
##  5 SD    Great Plains Medicare Advantage    0.00670
##  6 SD    BlueCrossBlueShield                0.00389
##  7 SD    HealthPartners                     0.00281
##  8 SD    Lasso Healthcare                   0.000369
##  9 SD    Kaiser                             0.000341
## 10 SC    UnitedHealthcare                   0.410
## # … with 129 more rows
```

```
# Calculate the HHI by firms in each state
MarketShare_HHI = MarketShare %>% mutate(HHI = (marketshare*100)^2) %>% group_by(State)
 %>% summarise(HHI = sum(HHI)) %>% arrange(desc(HHI)) %>% top_n(4, HHI)
MarketShare_HHI
```

```
## # A tibble: 4 x 2
##   State   HHI
##   <fct> <dbl>
## 1 SD    4785.
## 2 MS    4116.
## 3 NJ    3295.
## 4 SC    2866.
```

```
# Calculate lion-share firms in the four state from prior analysis
Lion_company = Total_Marketshare_t3[!duplicated(Total_Marketshare_t3$marketshare), ] %>%
arrange(desc(State)) %>% select(1,2,6) %>% group_by(State) %>% top_n(1, marketshare) %>%
filter(State %in% c("SD", "MS", "NJ", "SC"))
Lion_company
```

```
## # A tibble: 4 x 3
## # Groups:   State [4]
##   State my_organization   marketshare
##   <fct> <fct>                   <dbl>
## 1 SD    Medica                  0.638
## 2 SC    UnitedHealthcare        0.410
## 3 NJ    Aetna Health Inc.       0.453
## 4 MS    Humana                  0.589
```

```
# export data
write.table(MarketShare, "MarketShare.csv", sep = ",")
write.table(MarketShare_HHI, "MarketShare_HHI.csv", sep = ",")
```