R Notebook

```
library(dplyr)
```

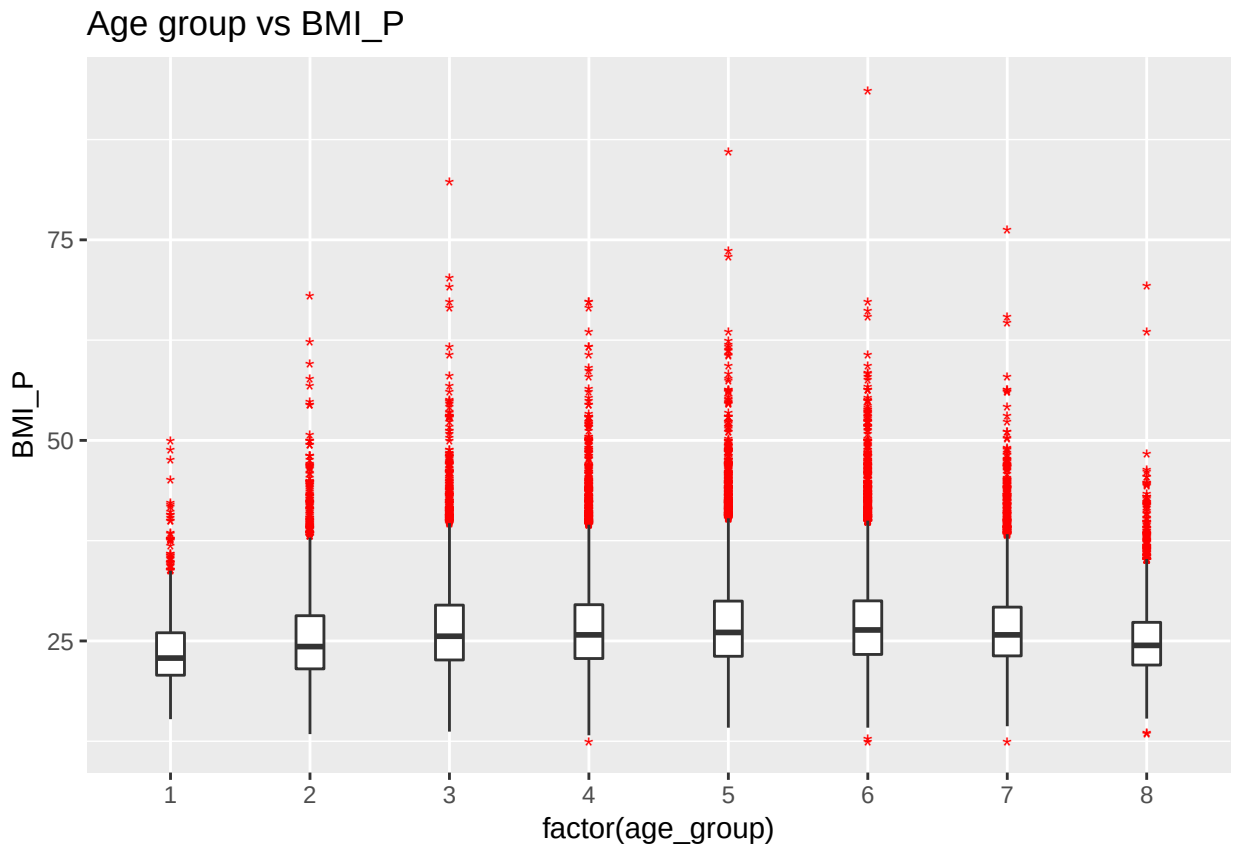
```
##
## Attaching package: 'dplyr'
```

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

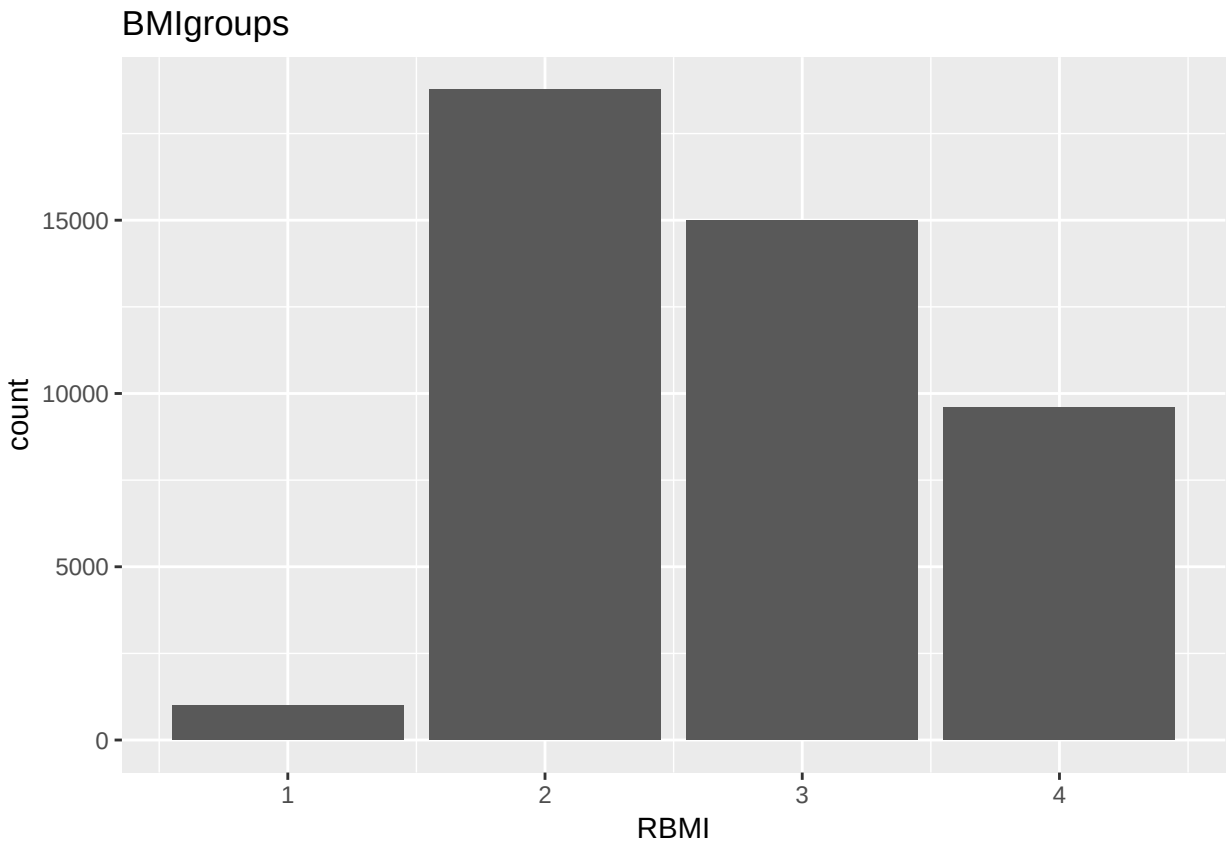
```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(ggplot2)

load("CHIS2009_reduced_2.Rdata")
```

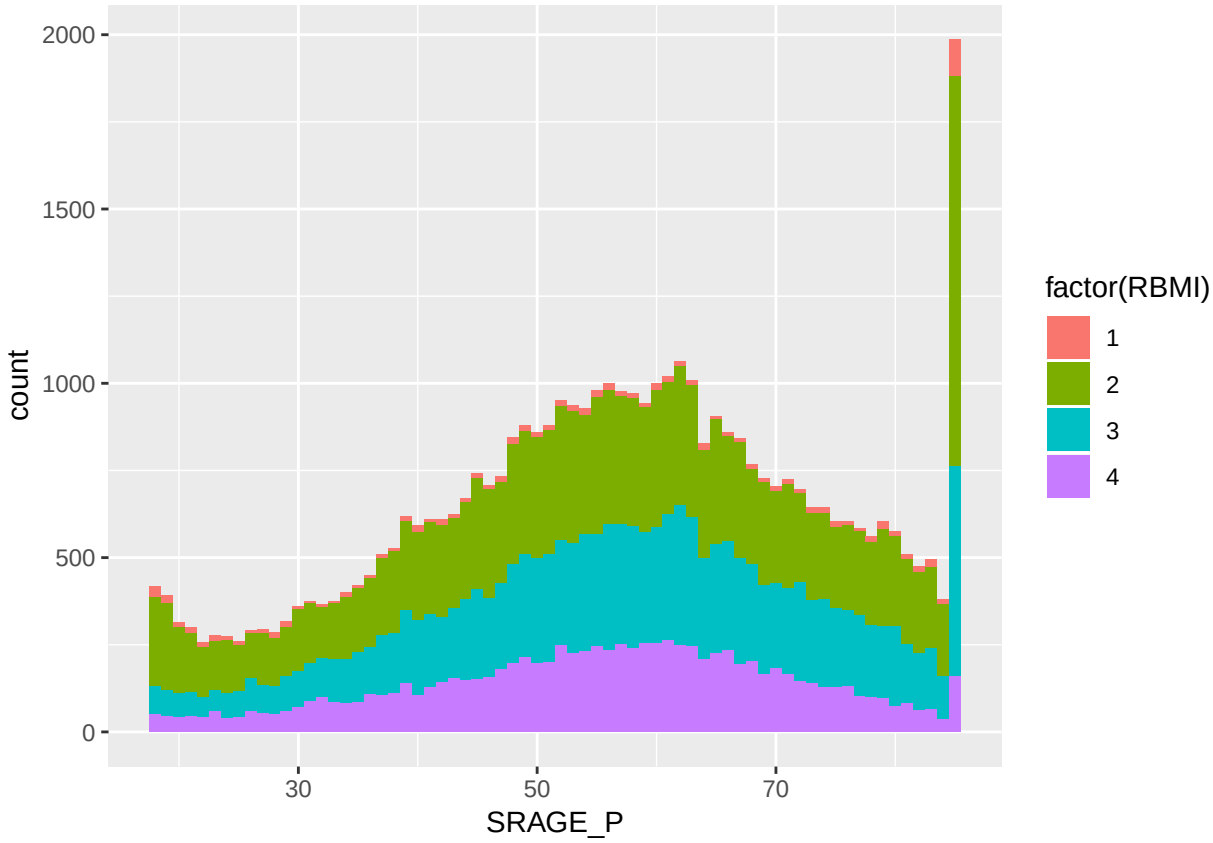
```
df <- adult %>%
  mutate(age_group = SRAGE_P %/% 10)

ggplot(df, aes(x = factor(age_group), y = BMI_P)) +
  geom_boxplot(outlier.color = "red", outlier.shape = "*", outlier.size =3, width = 0.2) +
  ggtitle("Age group vs BMI_P")
```




```
ggplot(df, aes(x = RBMI)) +
  geom_bar() +
  ggtitle("BMIgroups")
```



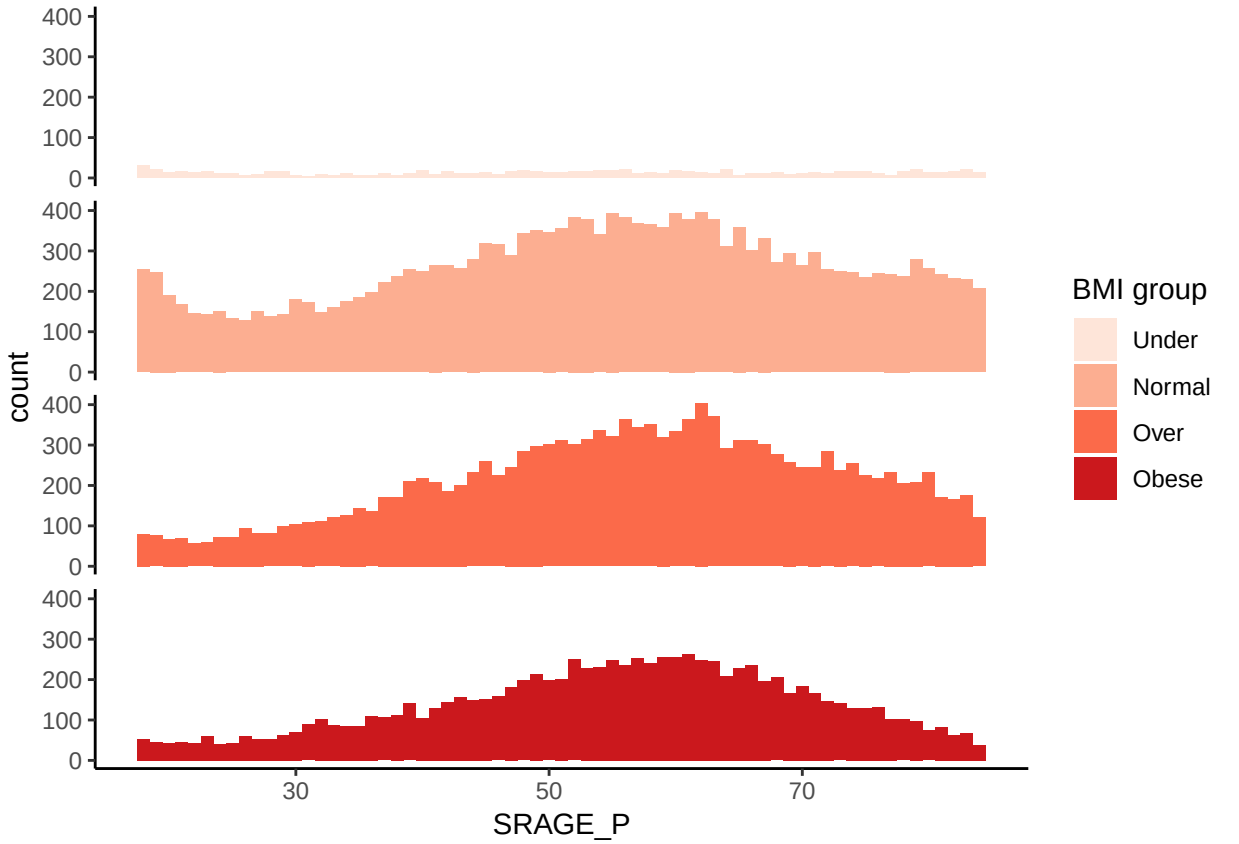

```
ggplot(df, aes(x = SRAGE_P, fill= factor(RBMI))) +
  geom_histogram(bins = length(levels(factor(df$SRAGE_P))))
```



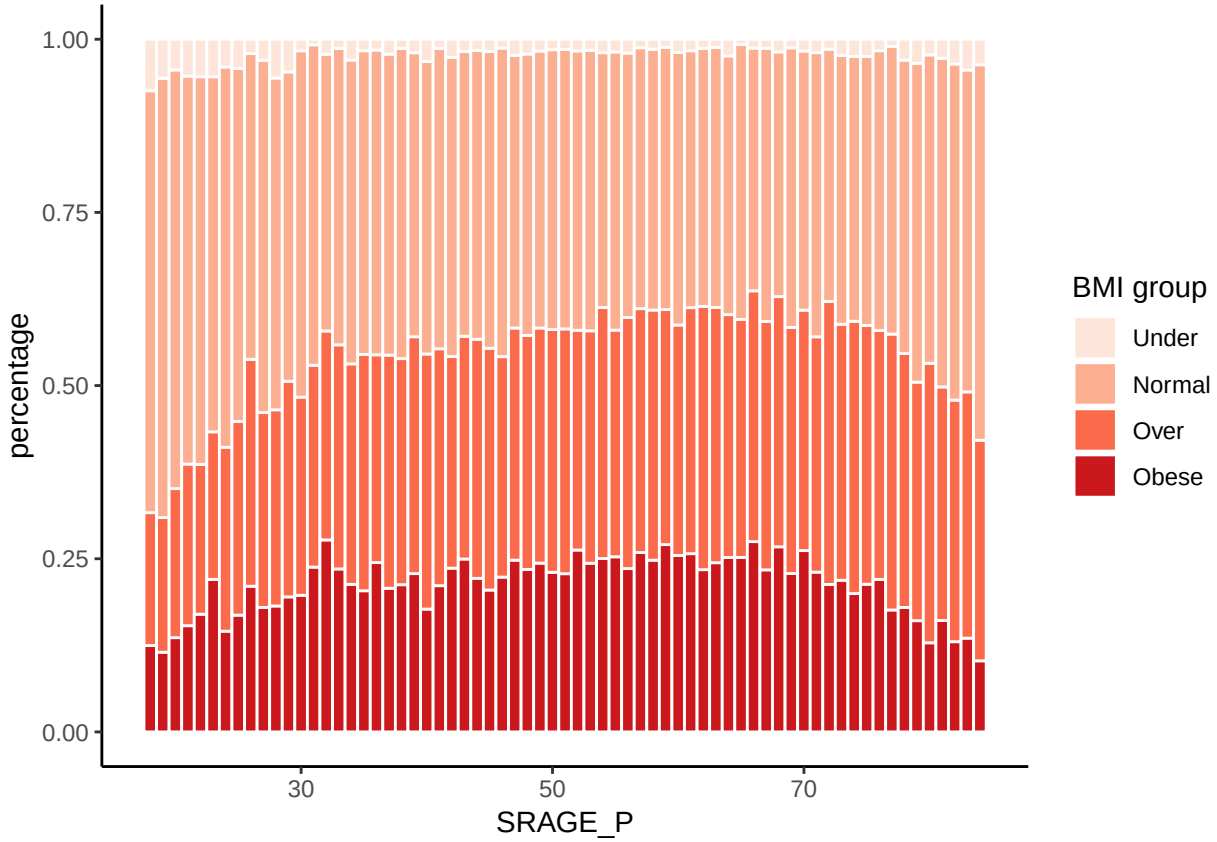

```
  # stat_bin(bins = length(levels(factor(df$SRAGE_P))))
```

```
df <- df %>%
  filter(SRAGE_P < 85) %>%
  filter(BMI_P >= 16 && BMI_P <= 52)
df$RACEHPR2 <- factor(df$RACEHPR2, labels = c("Latino", "Asian", "African American", "White"))
df$RBMI <- factor(df$RBMI, labels = c("Under", "Normal", "Over", "Obese"))
```

```
ggplot(df, aes(x = SRAGE_P, fill= factor(RBMI))) +
  geom_histogram(bins = length(levels(factor(df$SRAGE_P)))) +
  facet_grid(rows = vars(RBMI)) +
  scale_fill_brewer("BMI group", palette = "Reds") +
  theme_classic() +
  theme(strip.text.y = element_blank())
```




```
ggplot(df, aes(x = SRAGE_P, fill= factor(RBMI))) +
  geom_histogram(color = "white", position = "fill", bins = length(levels(factor(df$SRAGE_P)))) +
  scale_fill_brewer("BMI group", palette = "Reds") +
  theme_classic() +
  scale_y_continuous(name = "percentage") +
  theme(strip.text.y = element_blank())
```


1.00
0.75
0.50
0.25
0.00
percentage
30
50
70
SRAGE_P
BMI group
Under
Normal
Over
Obese