Data Visualization with ggplot2

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Mine Dogucu

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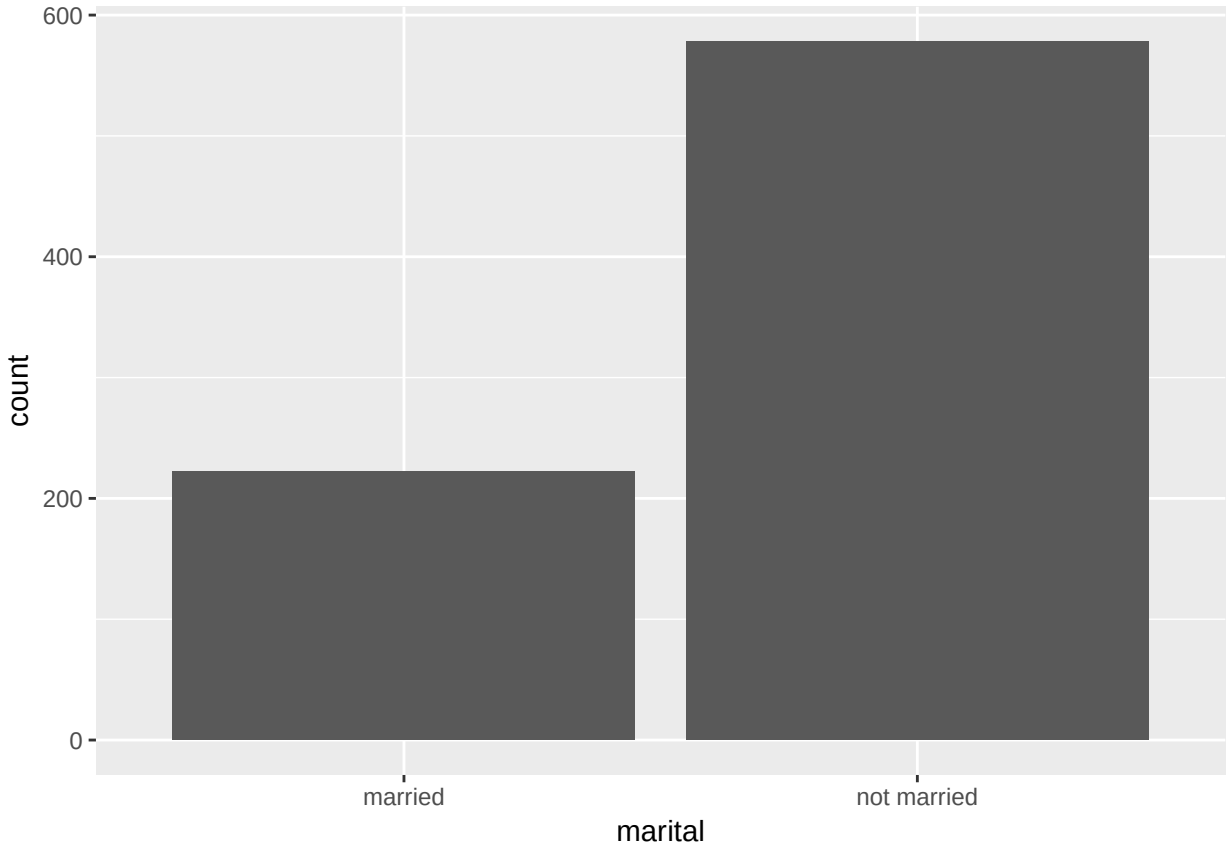
Setup

```
library(tidyverse)
nc<-read_csv("nc.csv")
nc<-drop_na(nc)
```

One Categorical Variable

Plot 1

What kind of a graph is this?



Step by Step Barplot

```
ggplot(nc)
```


Step by Step Barplot

```
ggplot(nc,aes(x=marital))
```

Step by Step Barplot

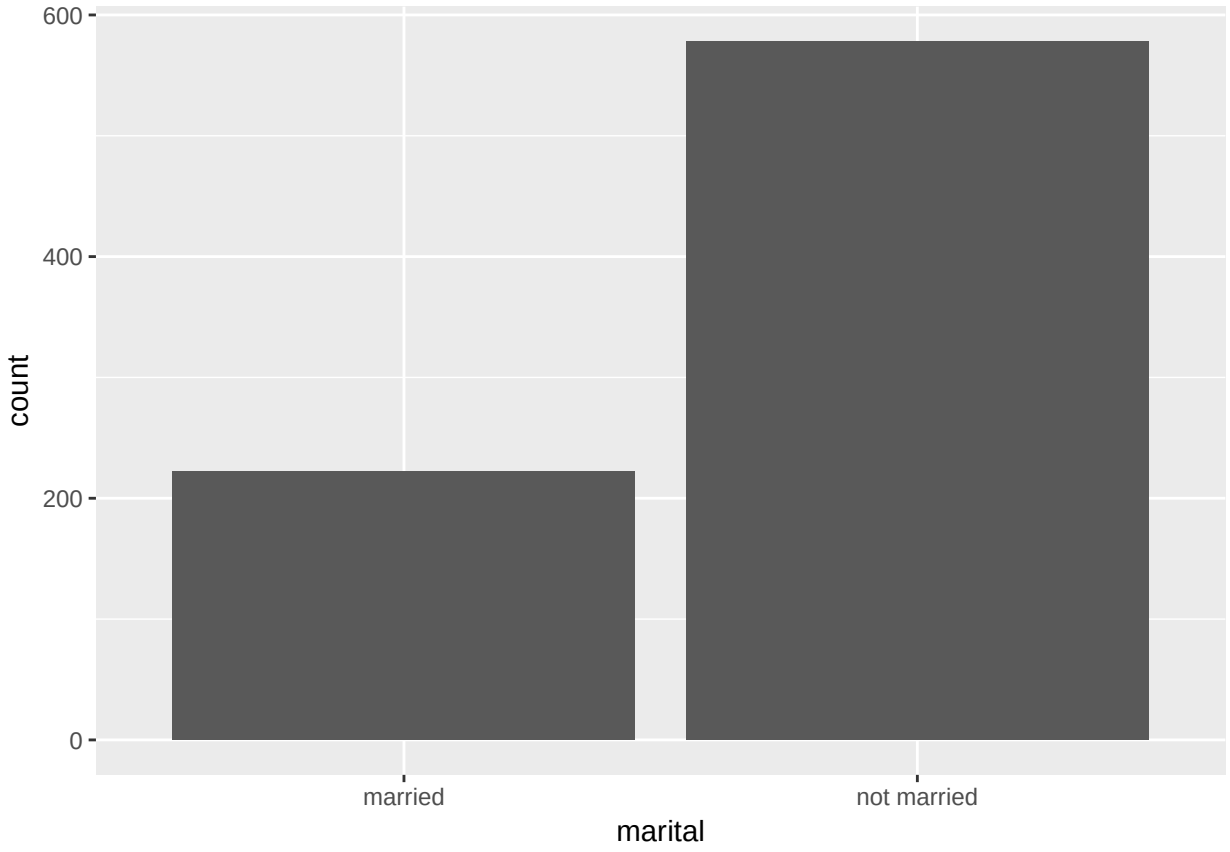
```
ggplot(nc)
```

Step by Step Barplot

```
ggplot(nc, aes(x=marital))
```

Step by Step Barplot

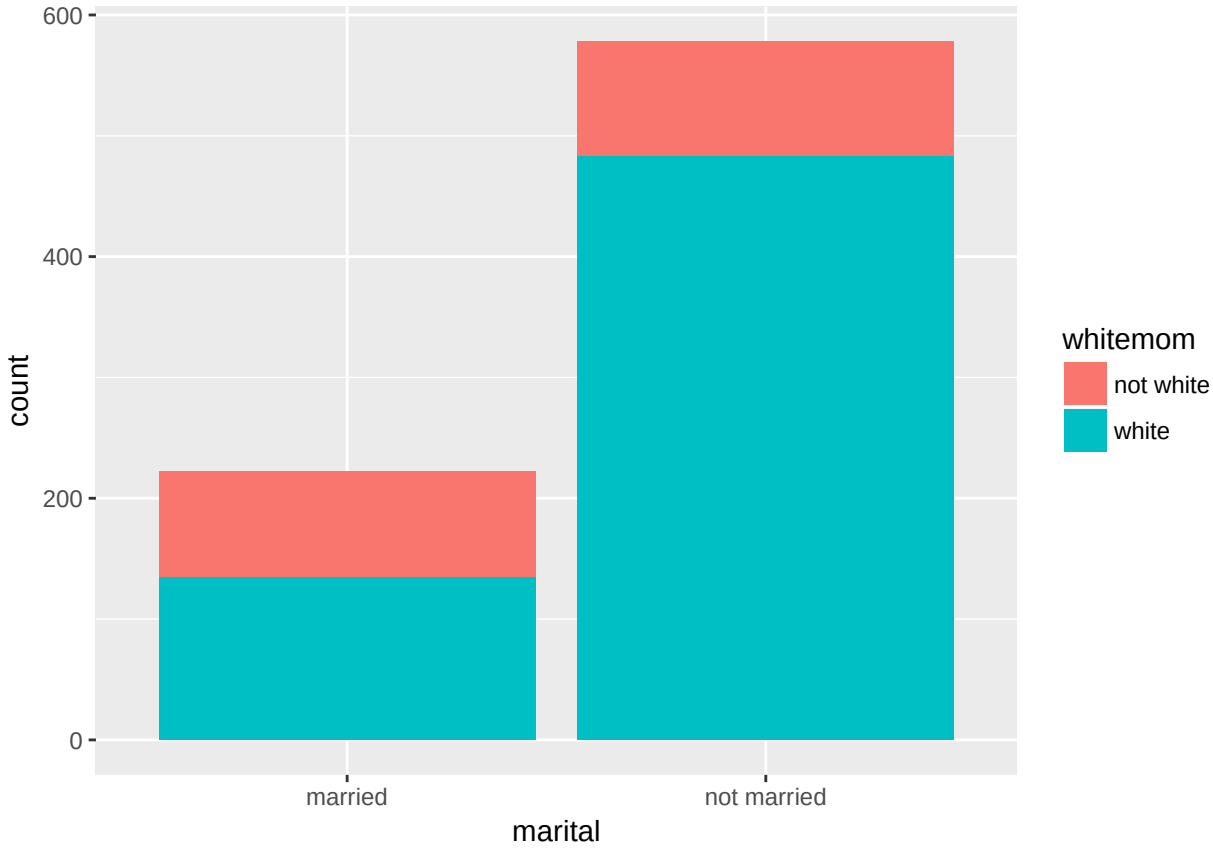
```
ggplot(nc,aes(x=marital))+
  geom_bar()
```



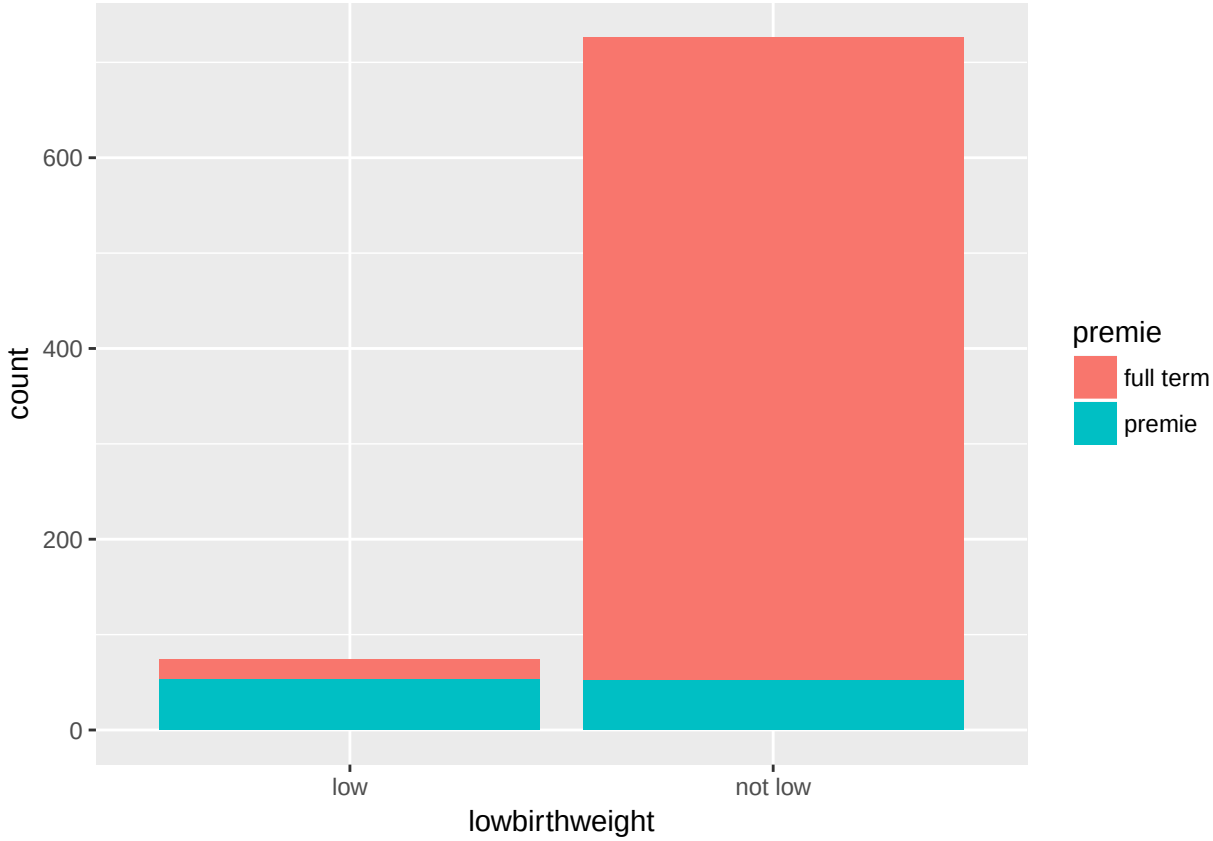
Two Categorical Variables

Step by Step Barplot

```
ggplot(nc,aes(x=marital, fill=whitemom))+
  geom_bar()
```

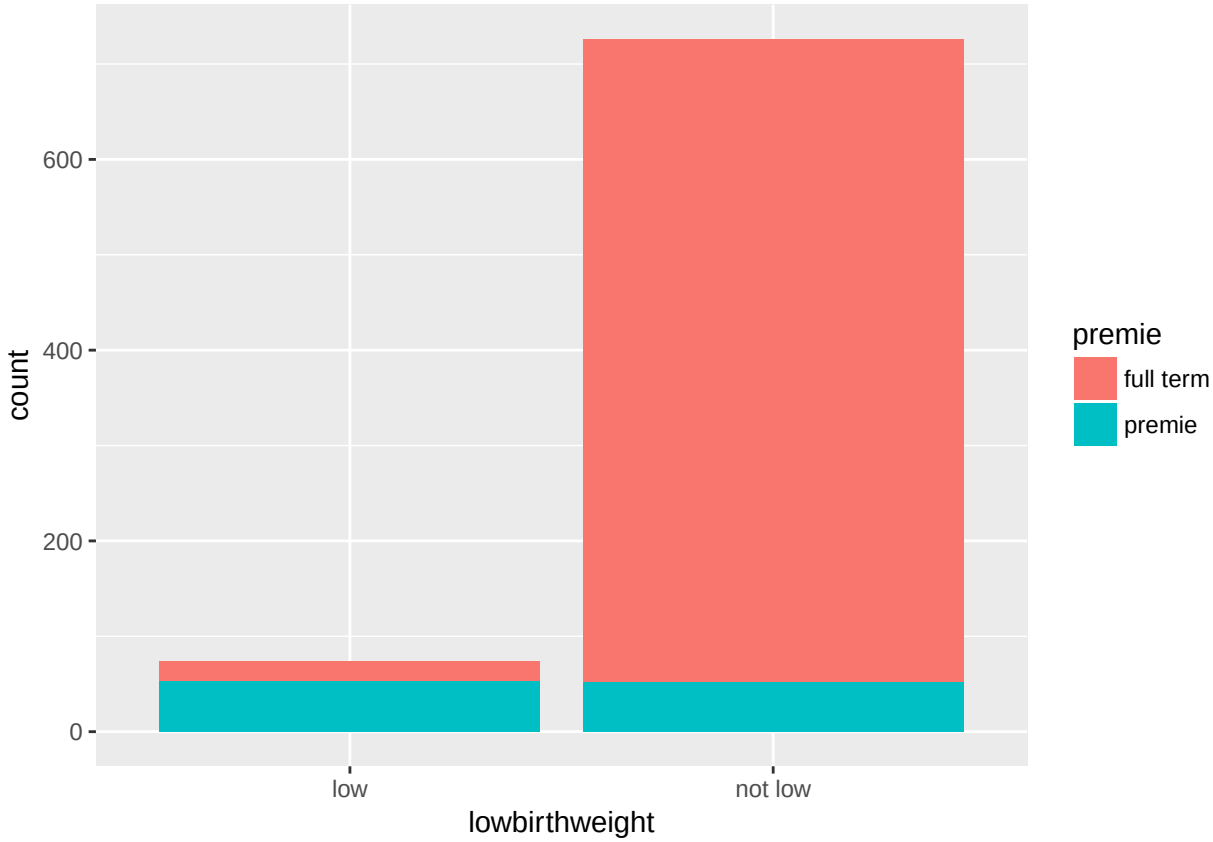

600
400
200
0
count
married
not married
marital
whitemom
not white
white

Practice



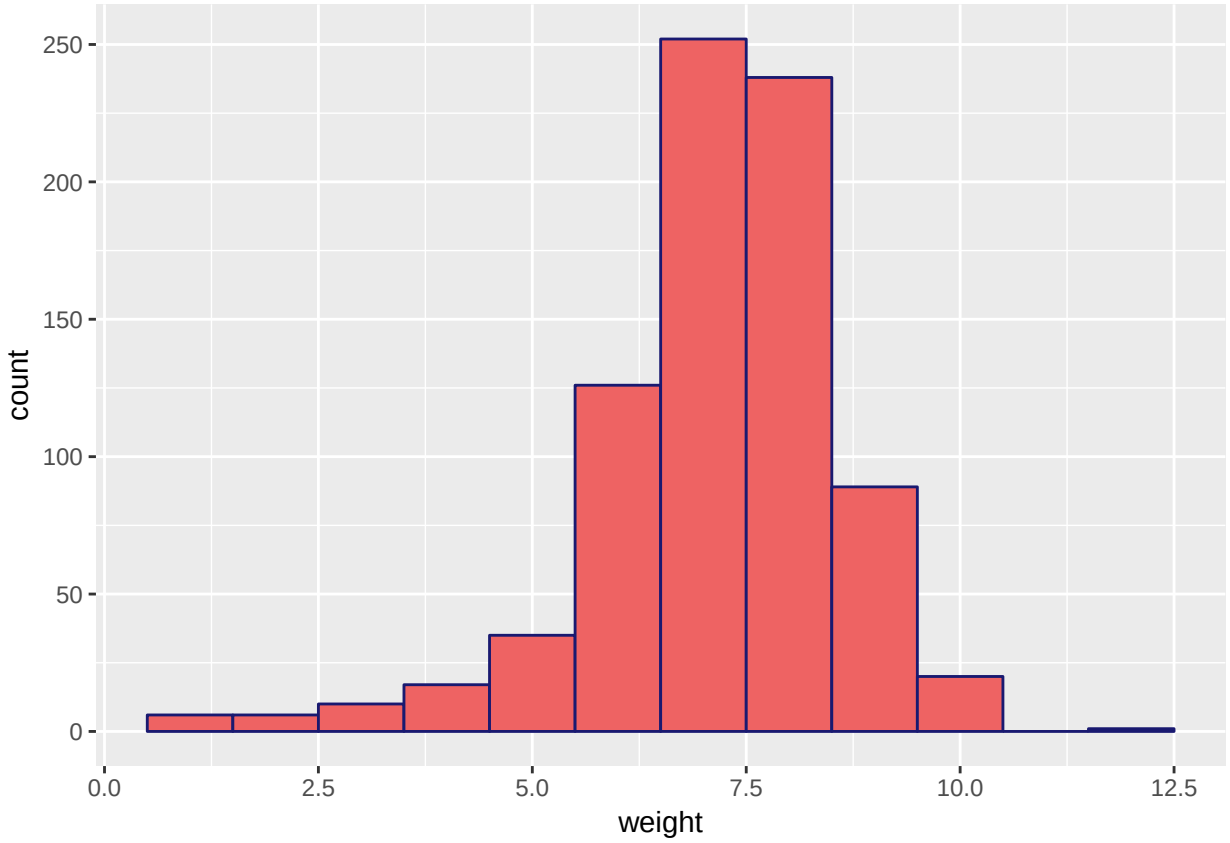
Practice

```
ggplot(nc,aes(x=lowbirthweight, fill=premie))+
  geom_bar()
```


600
400
200
0
count
low
not low
lowbirthweight
premie
full term
premie

One Continuous Variable

Plot 2

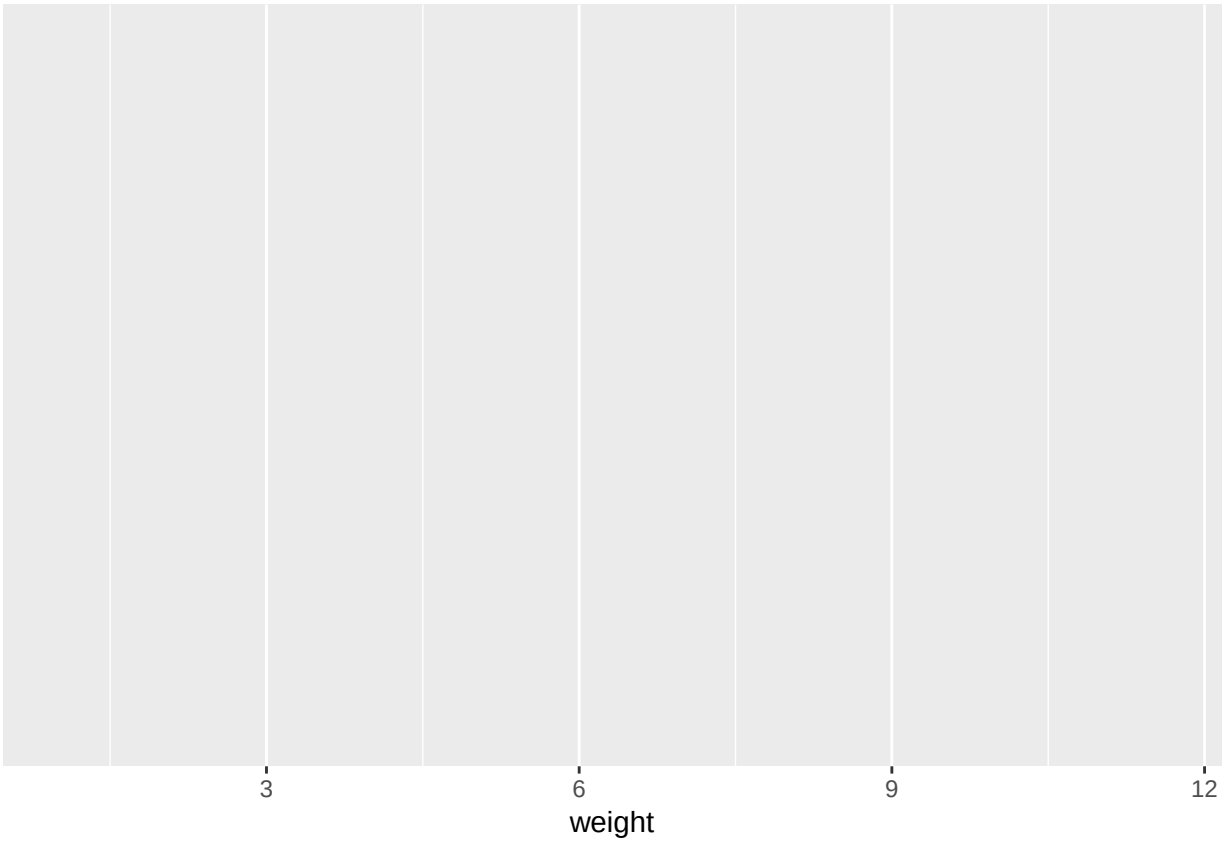


Step by Step Histogram

```
ggplot(nc)
```

Step by Step Histogram

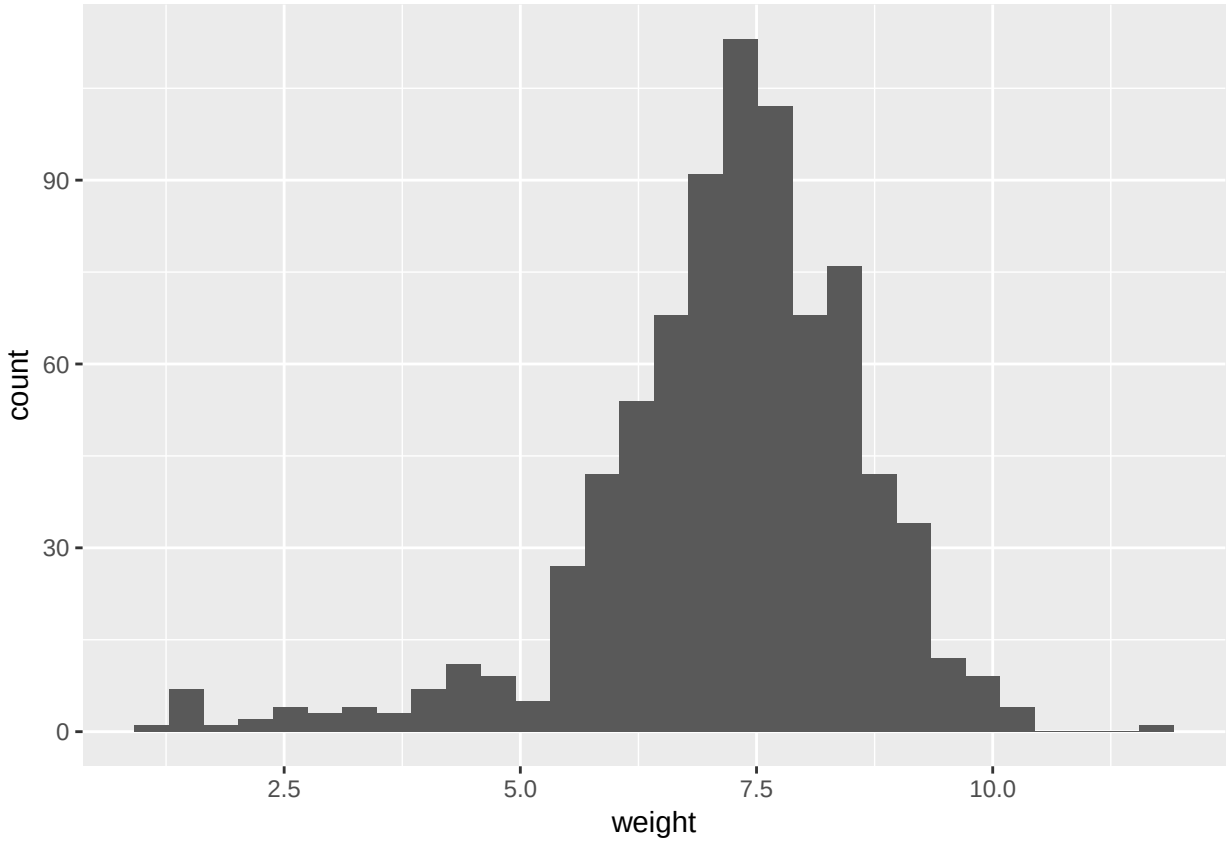
```
ggplot(nc,aes(x=weight))
```



Step by Step Histogram

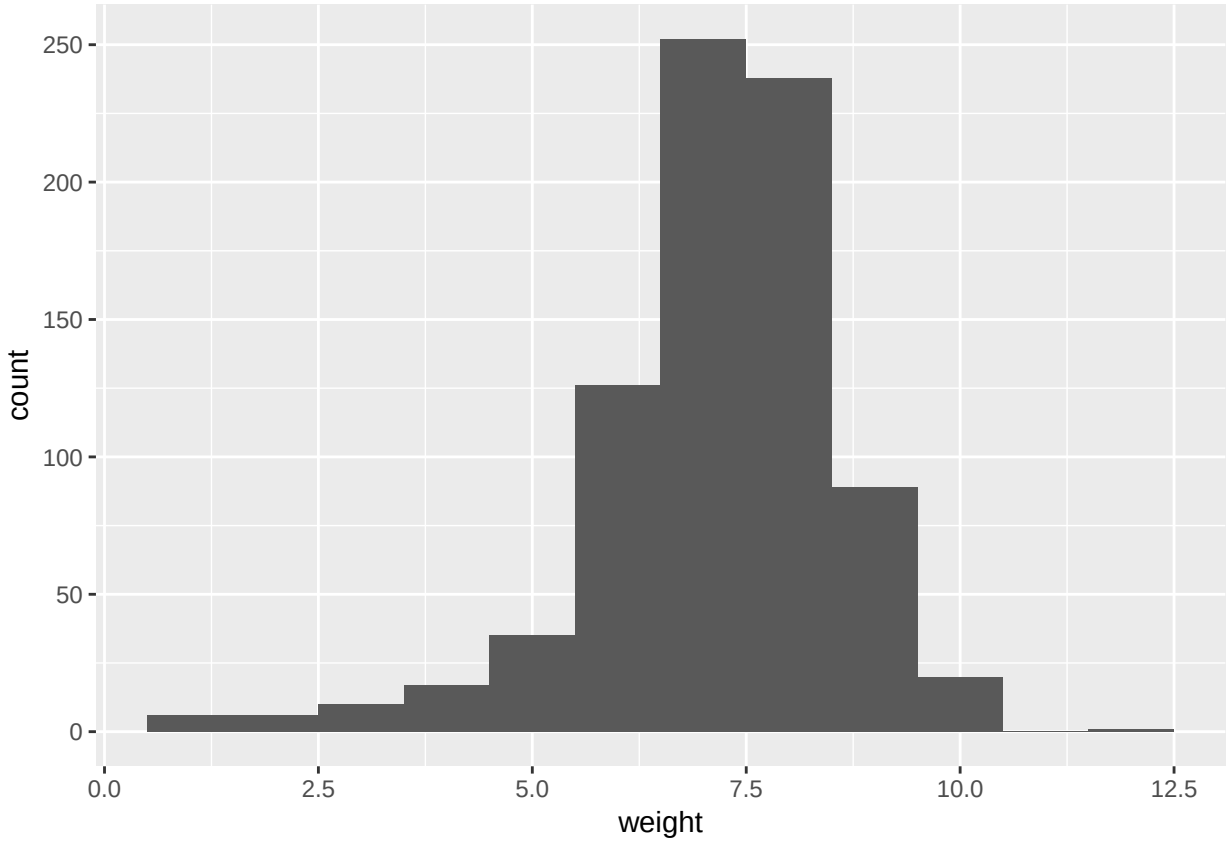
```
ggplot(nc,aes(x=weight))+
  geom_histogram()
```

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



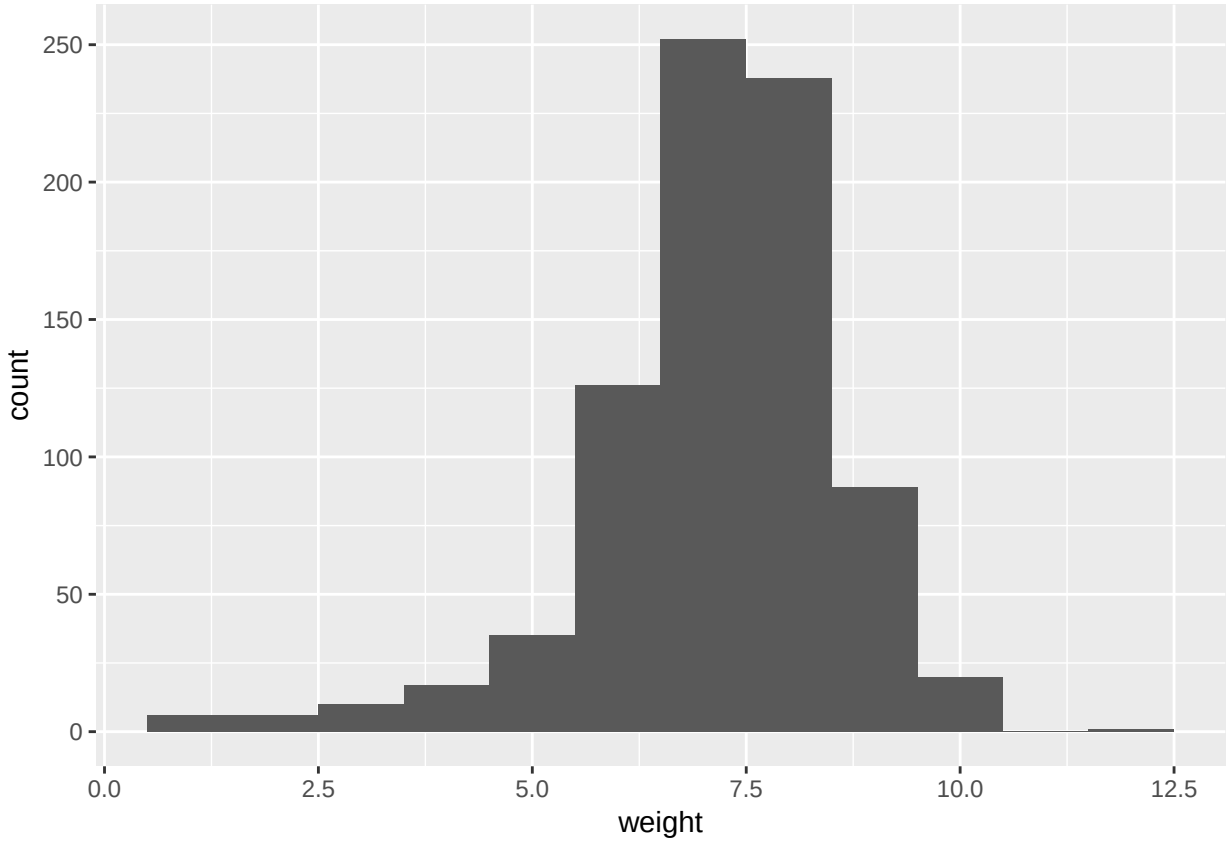
Step by Step Histogram

```
ggplot(nc,aes(x=weight))+
  geom_histogram(binwidth=1)
```



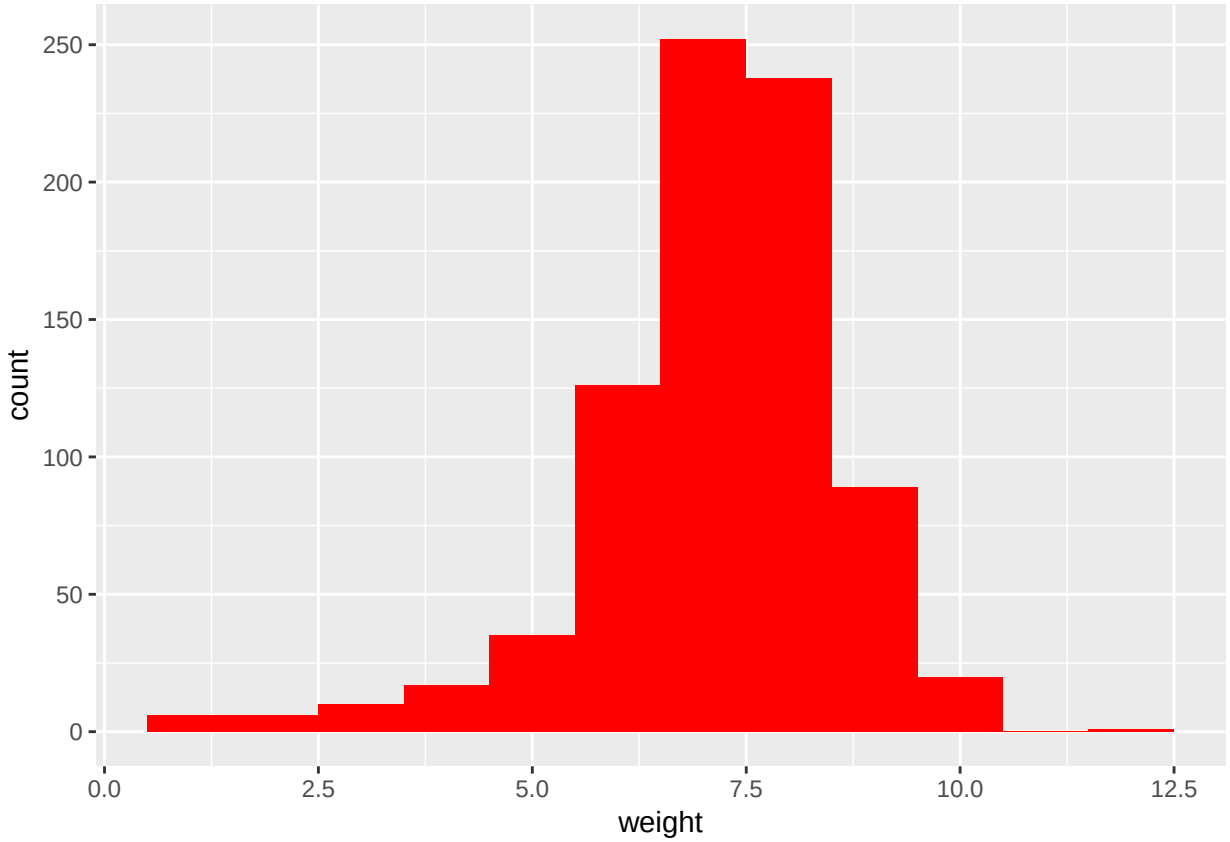
Step by Step Histogram

```
ggplot(nc,aes(x=weight))+
  geom_histogram(binwidth=1, aes())
```



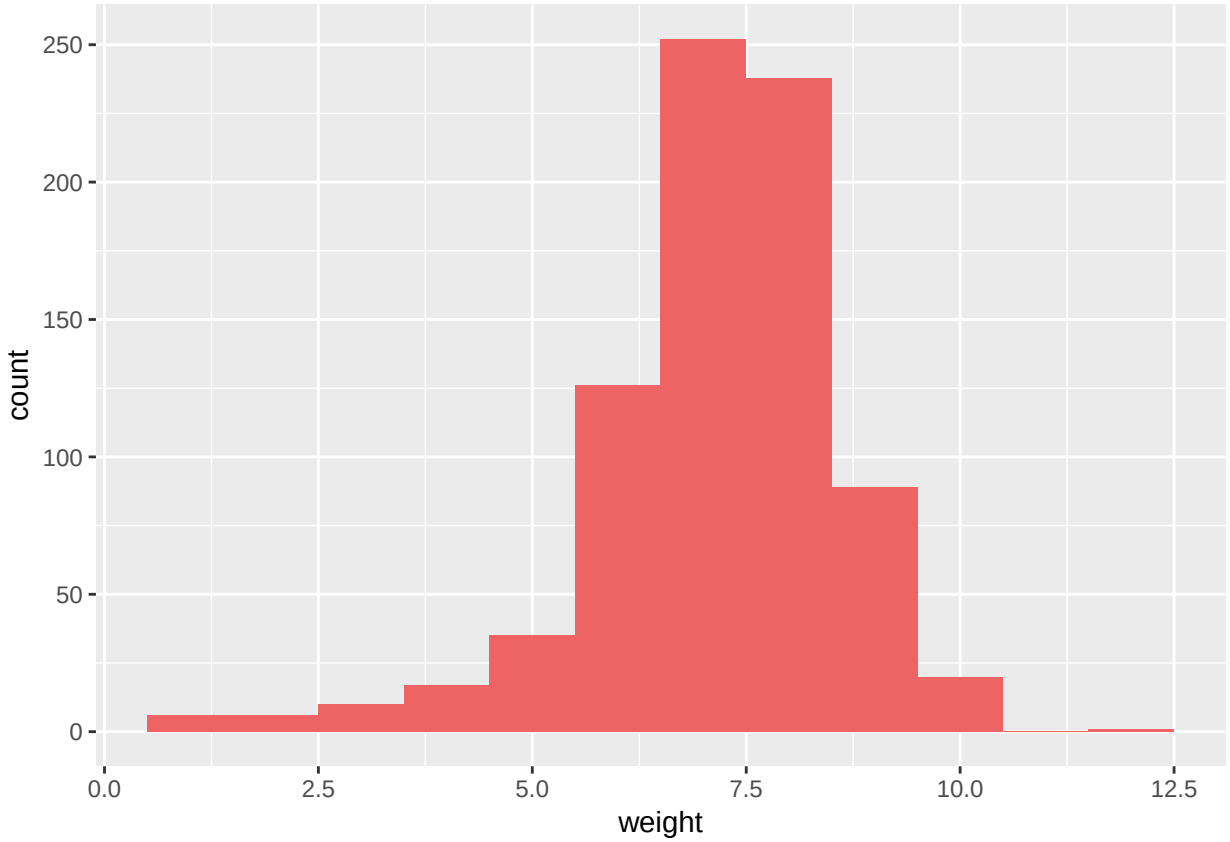
Step by Step Histogram

```
ggplot(nc,aes(x=weight))+
  geom_histogram(binwidth=1, aes(fill=I('red')))
```



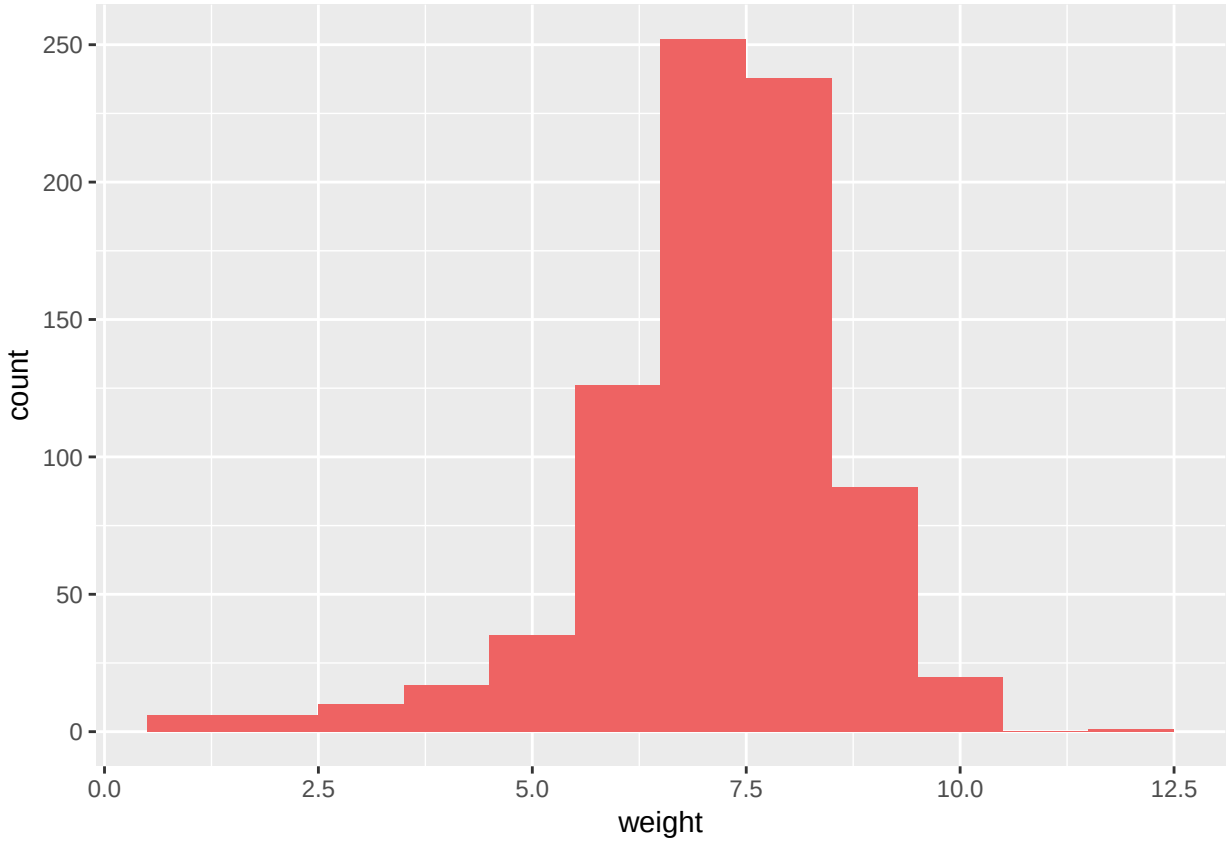
Step by Step Histogram

```
ggplot(nc,aes(x=weight))+
  geom_histogram(binwidth=1, aes(fill=I('indianred2')))
```



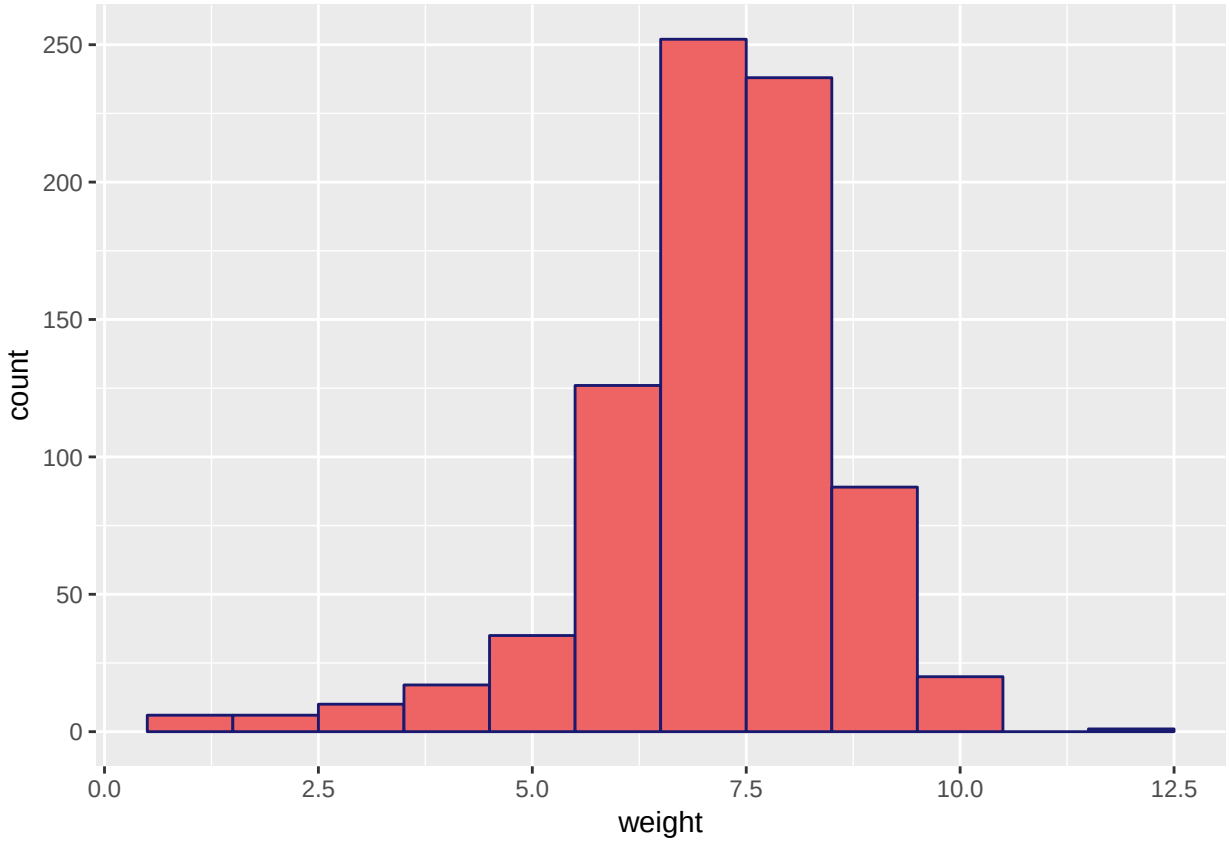
Step by Step Histogram

```
ggplot(nc,aes(x=weight))+
  geom_histogram(binwidth=1,
                 aes(fill=I('indianred2')))
```



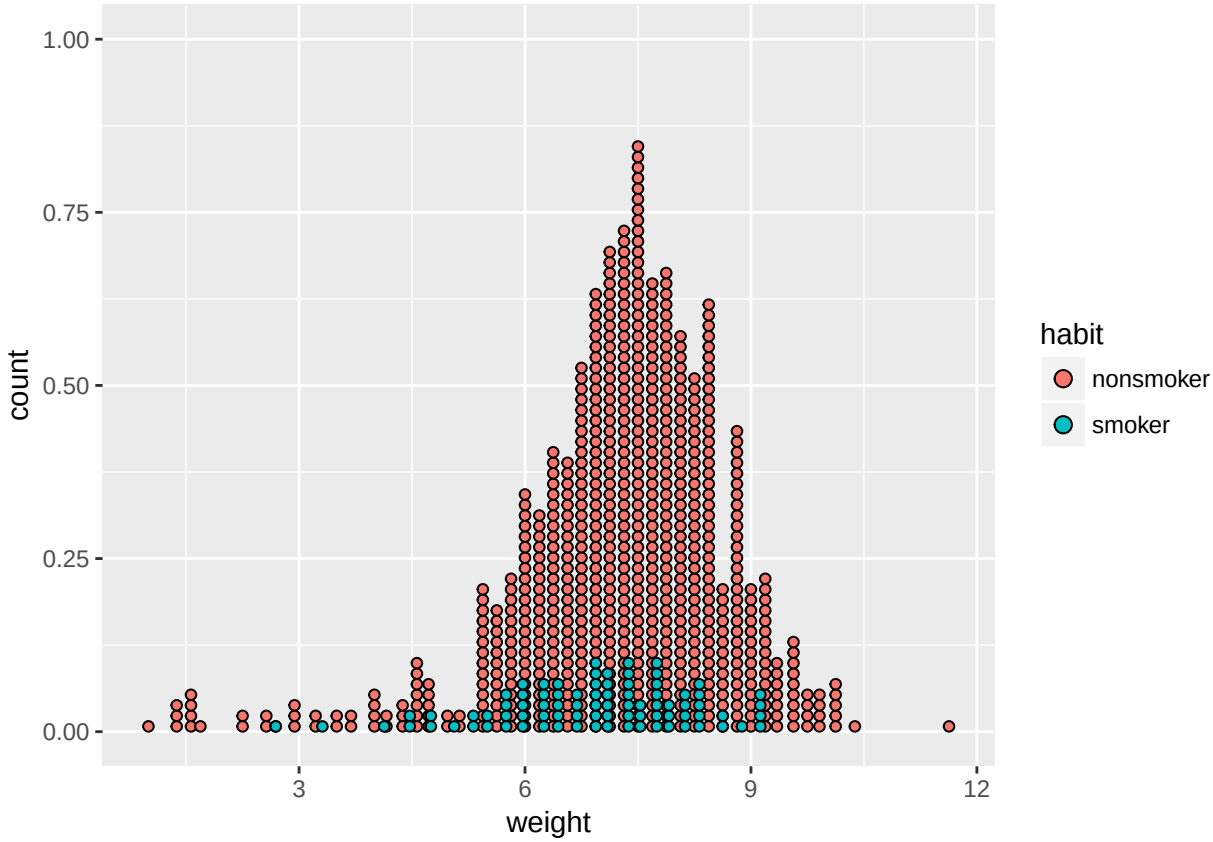
Step by Step Histogram

```
ggplot(nc,aes(x=weight))+
  geom_histogram(binwidth=1,
                 aes(fill=I('indianred2'),
                     color=I('midnightblue')))
```



Plot 3

What kind of a plot is this?

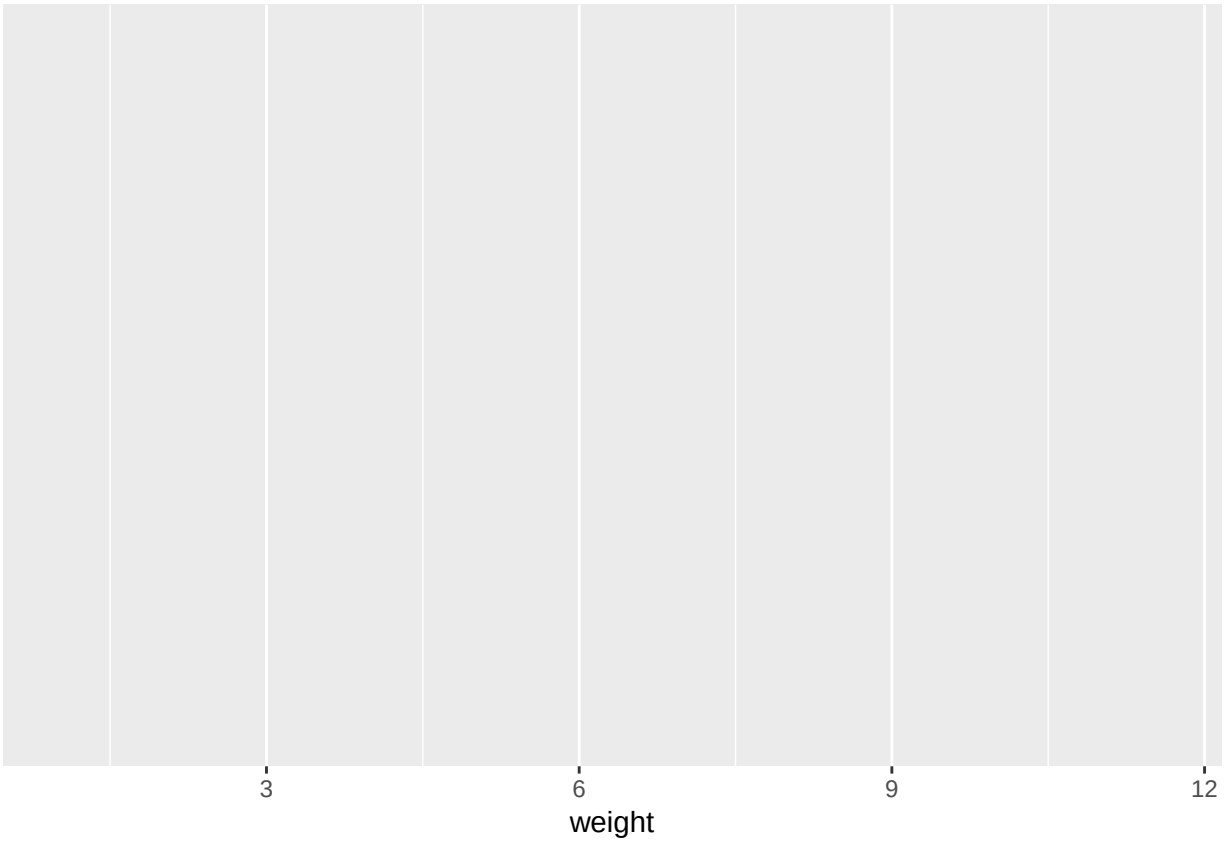


Step by Step dotplots

```
ggplot(nc)
```

Step by Step dotplots

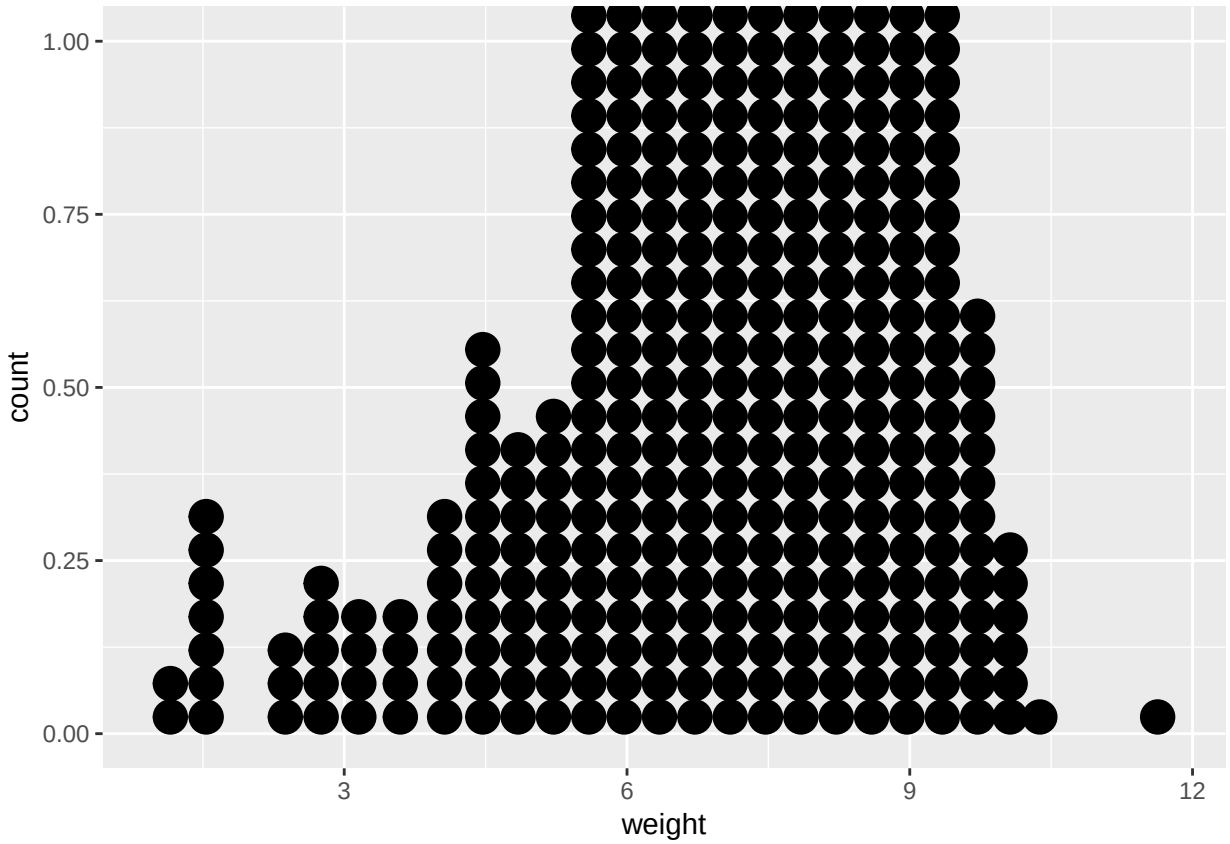
```
ggplot(nc,aes(x=weight))
```



Step by Step dotplots

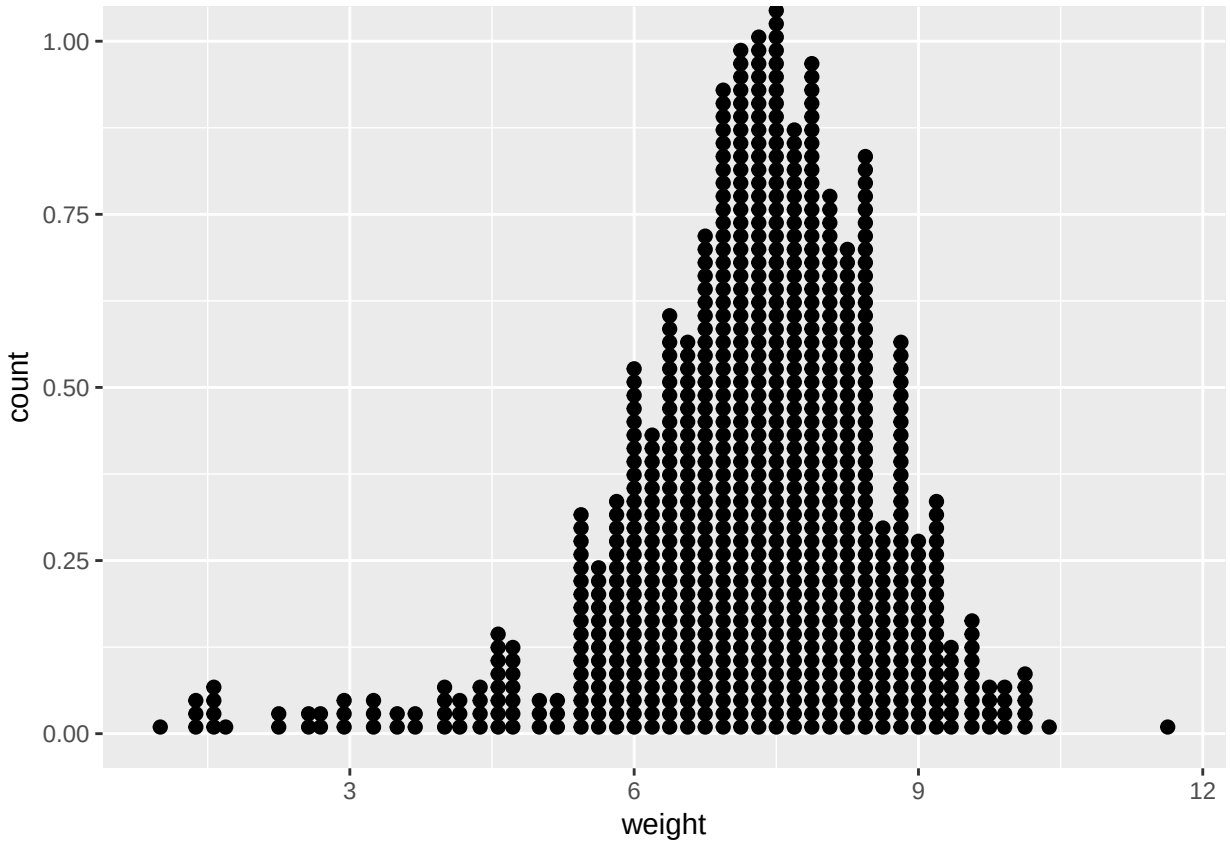
```
ggplot(nc,aes(x=weight))+
  geom_dotplot()
```

```
## `stat_bindot()` using `bins = 30`. Pick better value with `binwidth`.
```



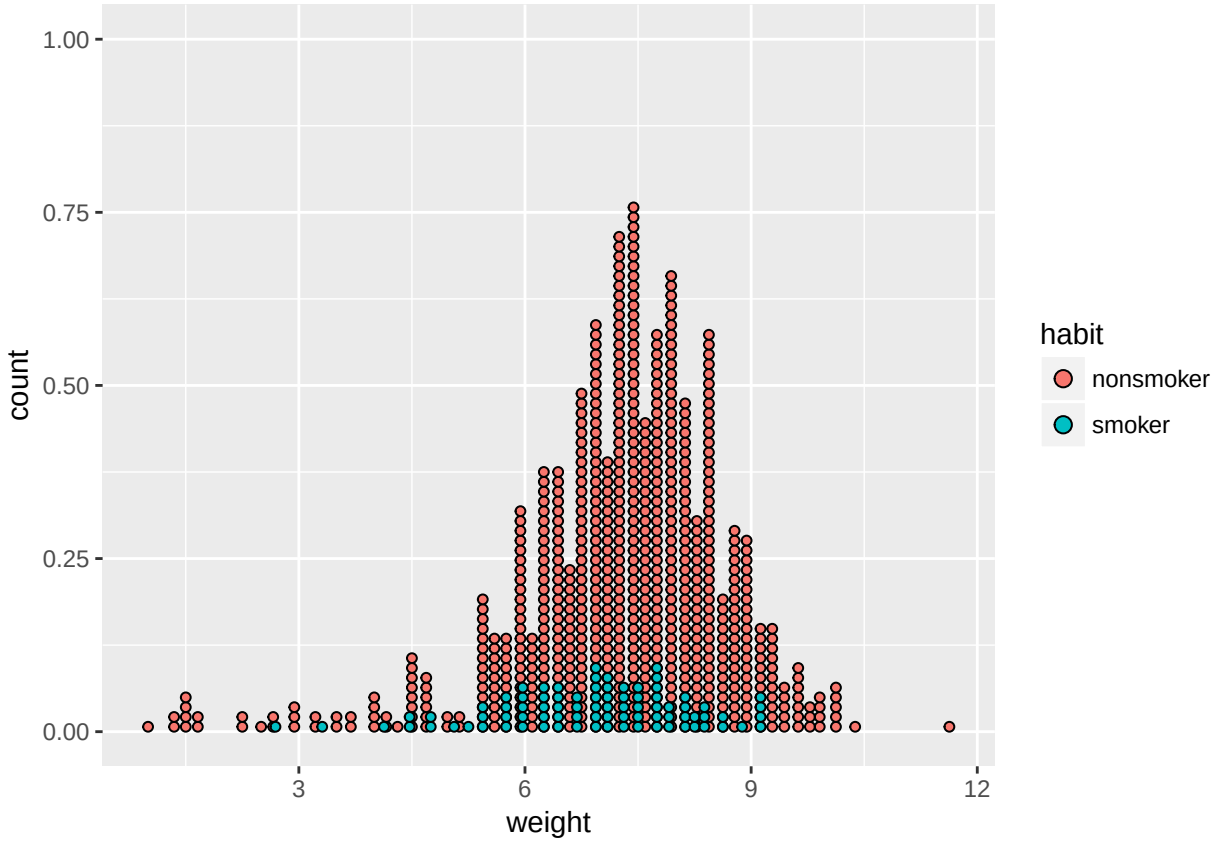
Step by Step Dotplots

```
ggplot(nc,aes(x=weight))+
  geom_dotplot(binwidth = 0.14)
```



Step by Step Dotplots

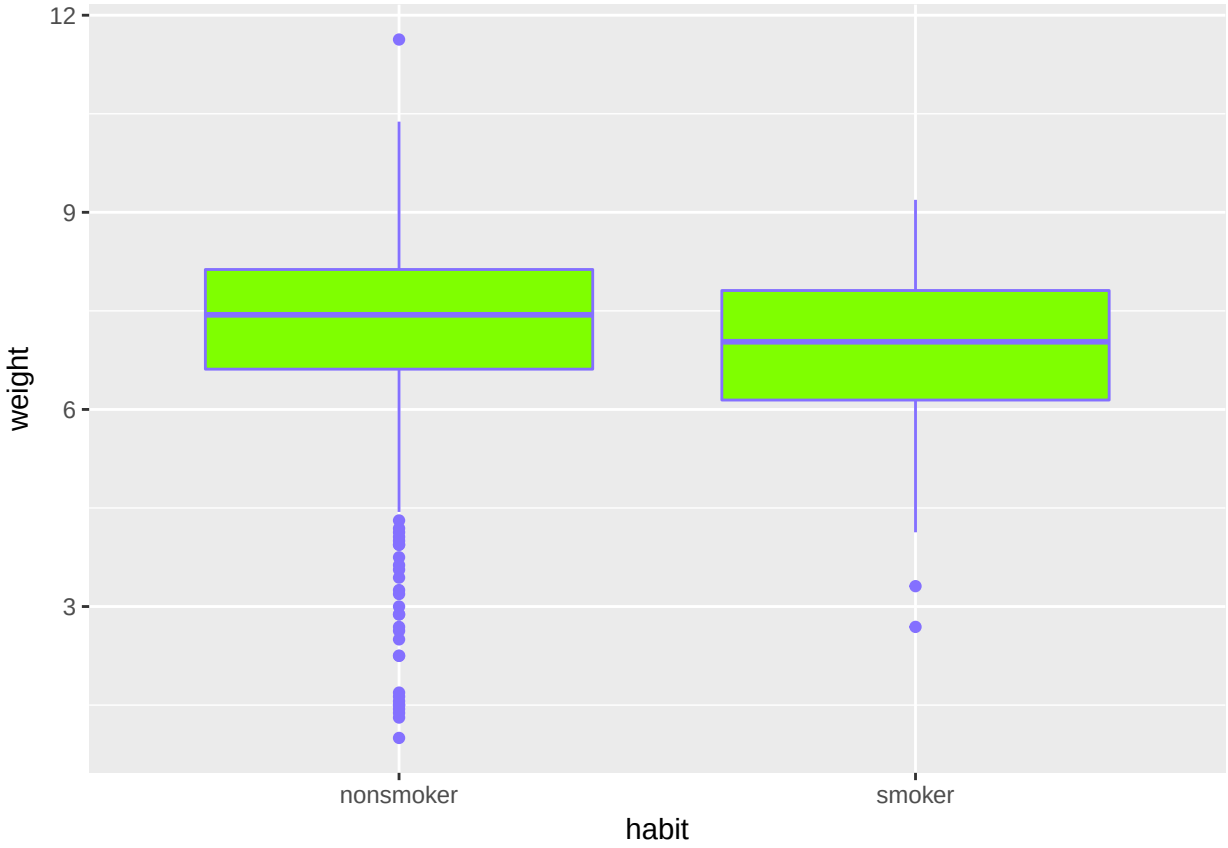
```
ggplot(nc,aes(x=weight, fill=habit))+
  geom_dotplot(binwidth = 0.13)
```



One Continuous One Categorical Variable

Plot 4

What kind of a plot is this?

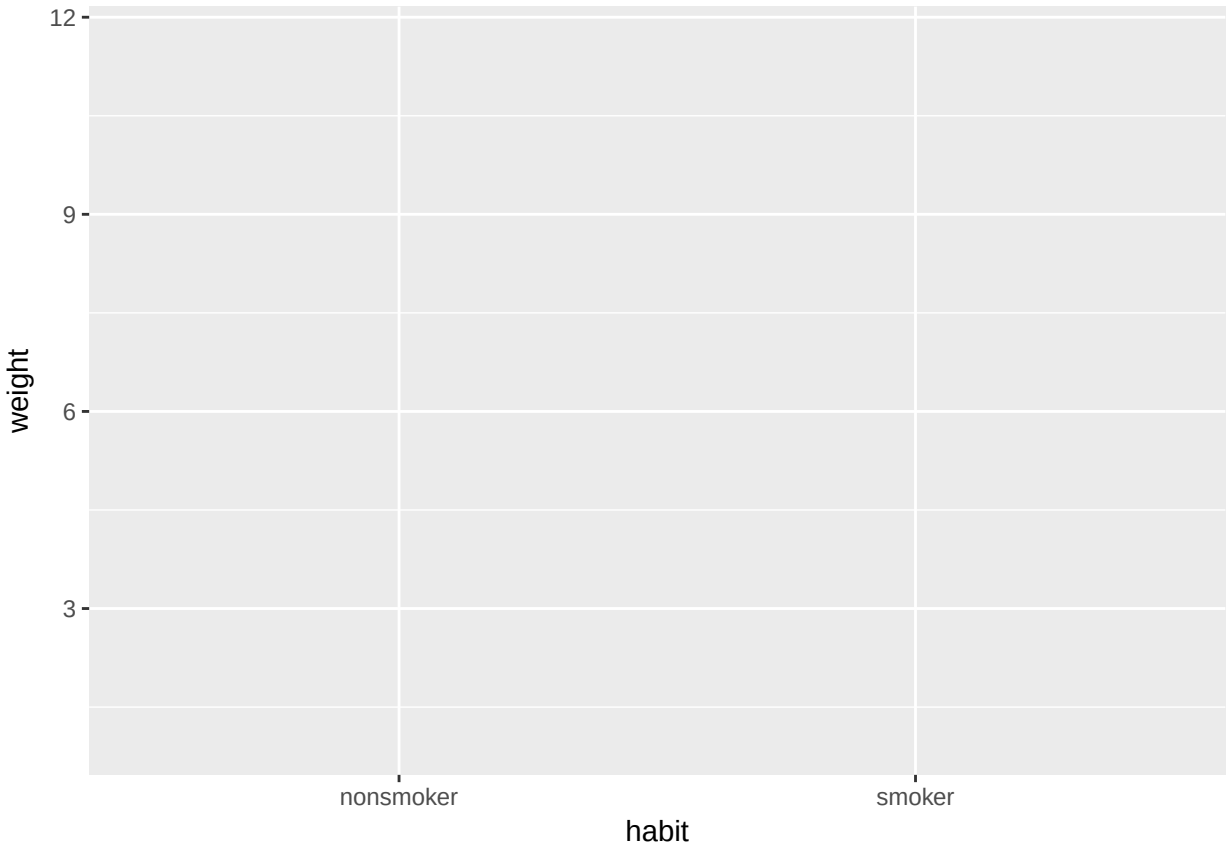


Step by Step Boxplots

```
ggplot(nc)
```

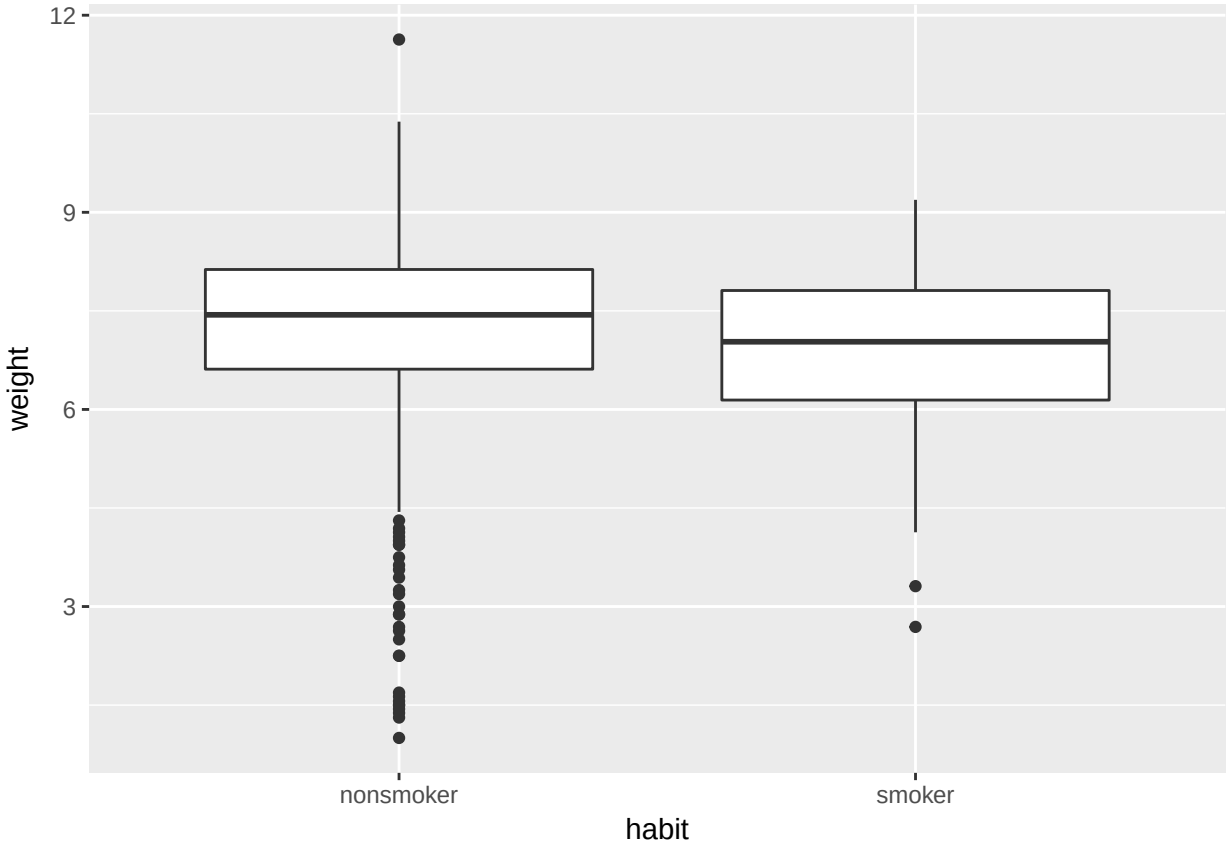
Step by Step Boxplots

```
ggplot(nc,aes(x=habit,y=weight))
```



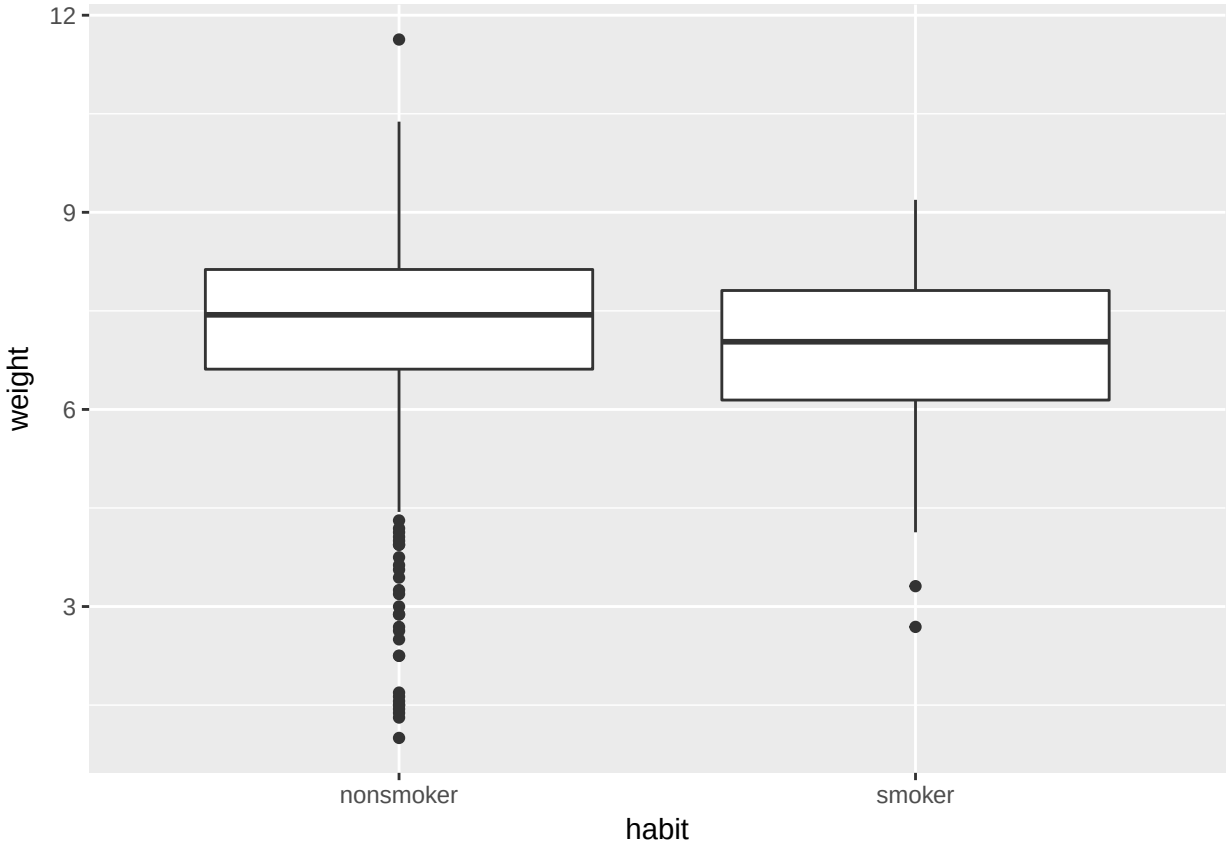
Step by Step Boxplots

```
ggplot(nc,aes(x=habit,y=weight))+
  geom_boxplot()
```



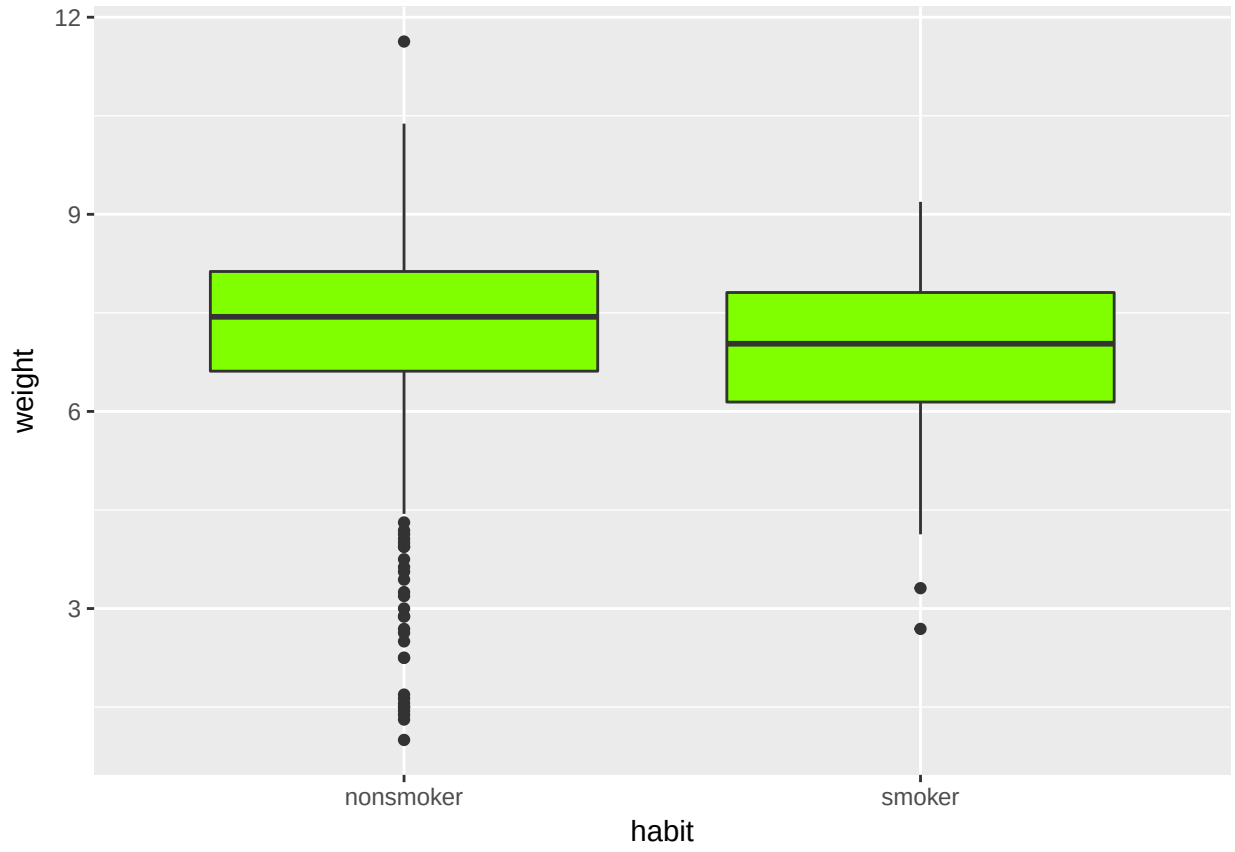
Step by Step Boxplots

```
ggplot(nc,aes(x=habit,y=weight))+
  geom_boxplot(aes())
```



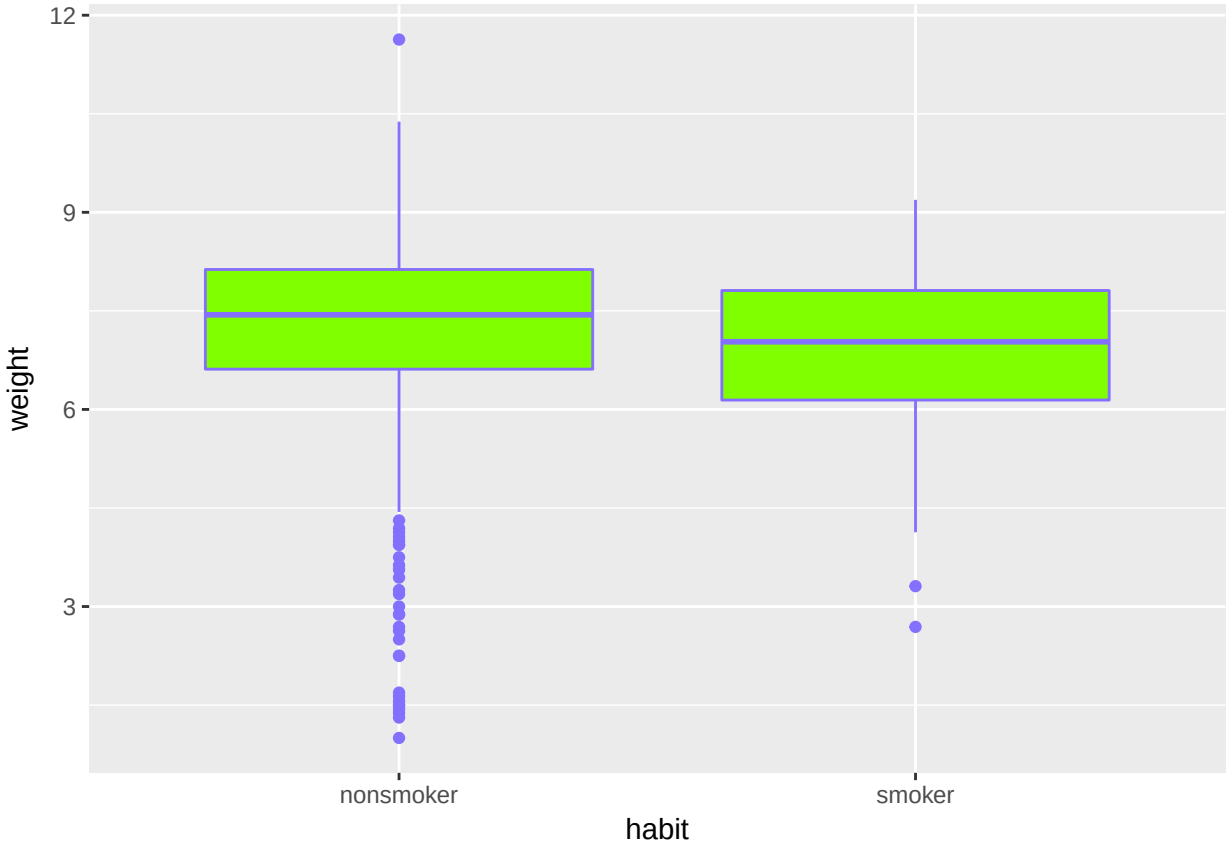
Step by Step Boxplots

```
ggplot(nc,aes(x=habit,y=weight))+
  geom_boxplot(aes(fill=I('chartreuse')))
```



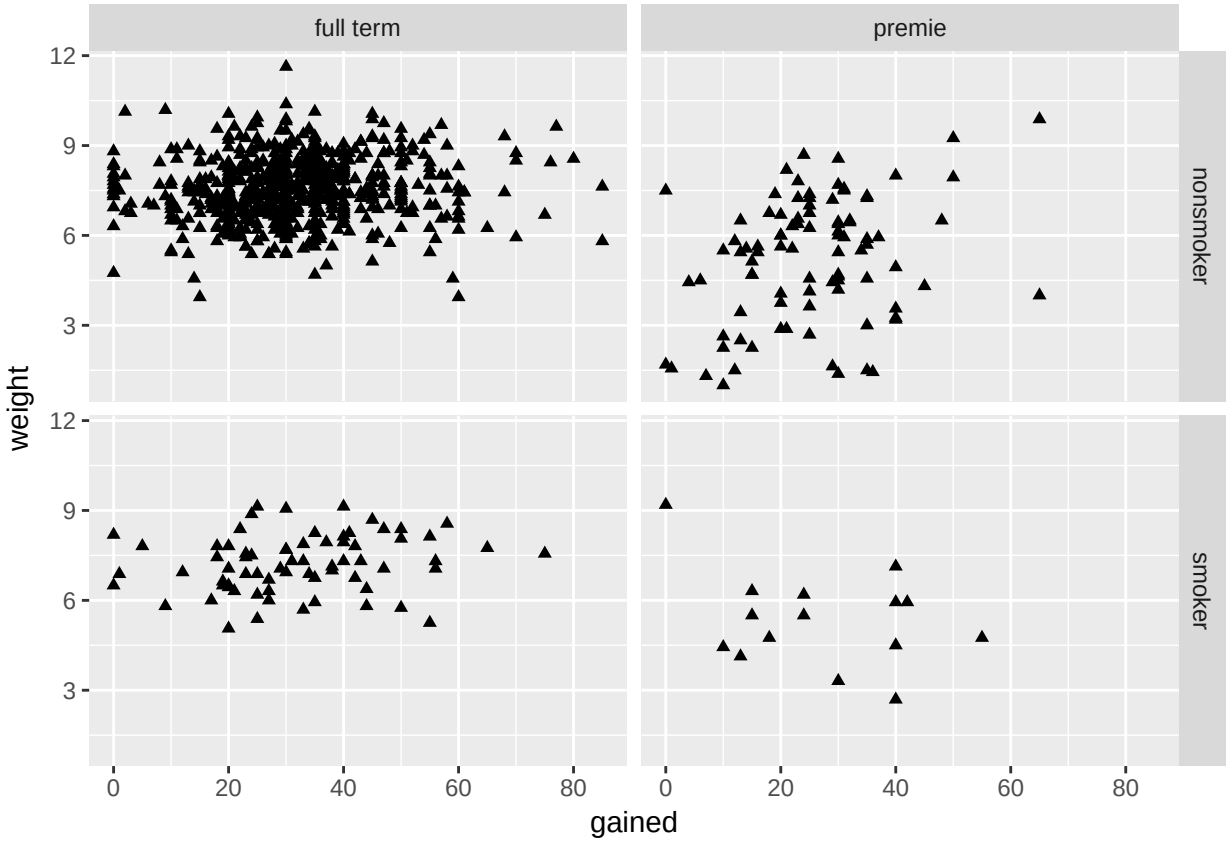
Step by Step Boxplots

```
ggplot(nc,aes(x=habit,y=weight))+
  geom_boxplot(aes(fill=I('chartreuse'),
                   color=I('lightslateblue')))
```


12
9
6
3
weight
nonsmoker
smoker
habit

Two Continuous Variables

Plot 5

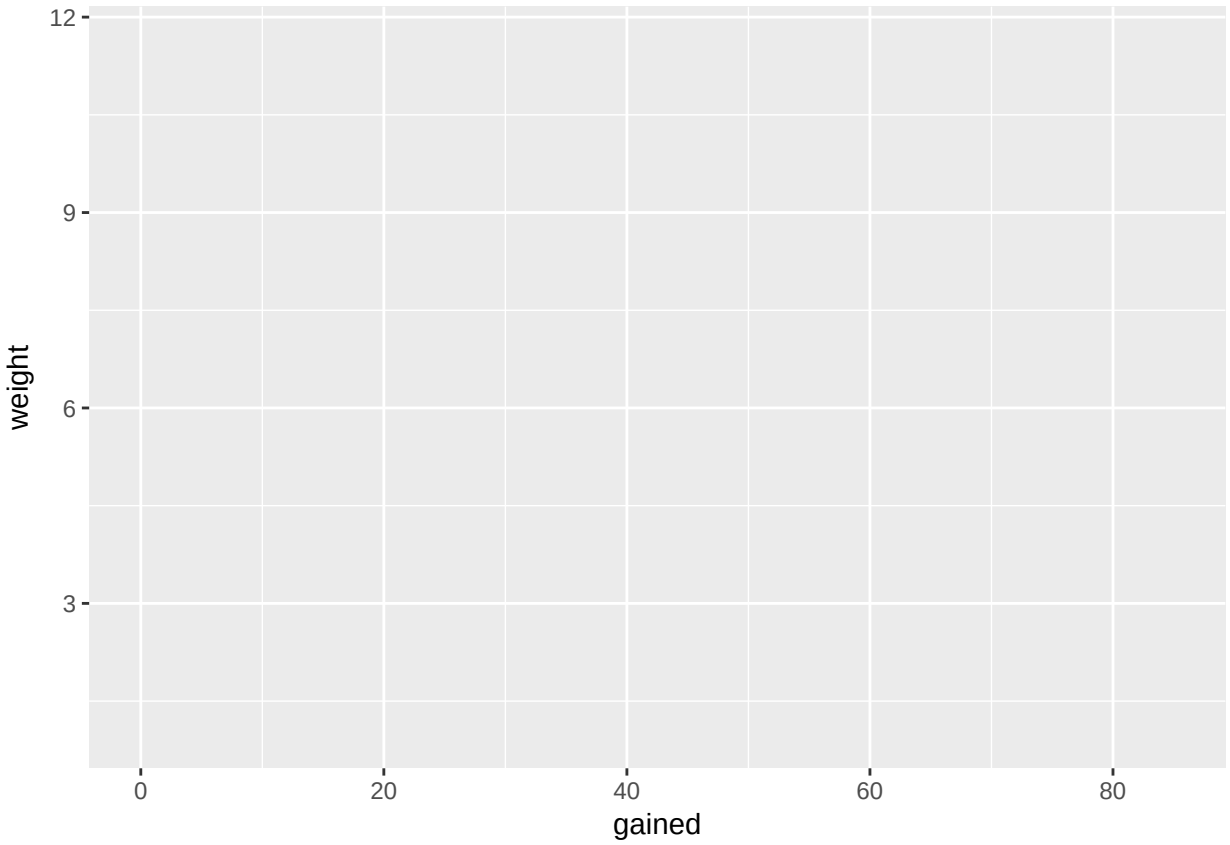


Step by Step Scatterplots

```
ggplot(nc)
```

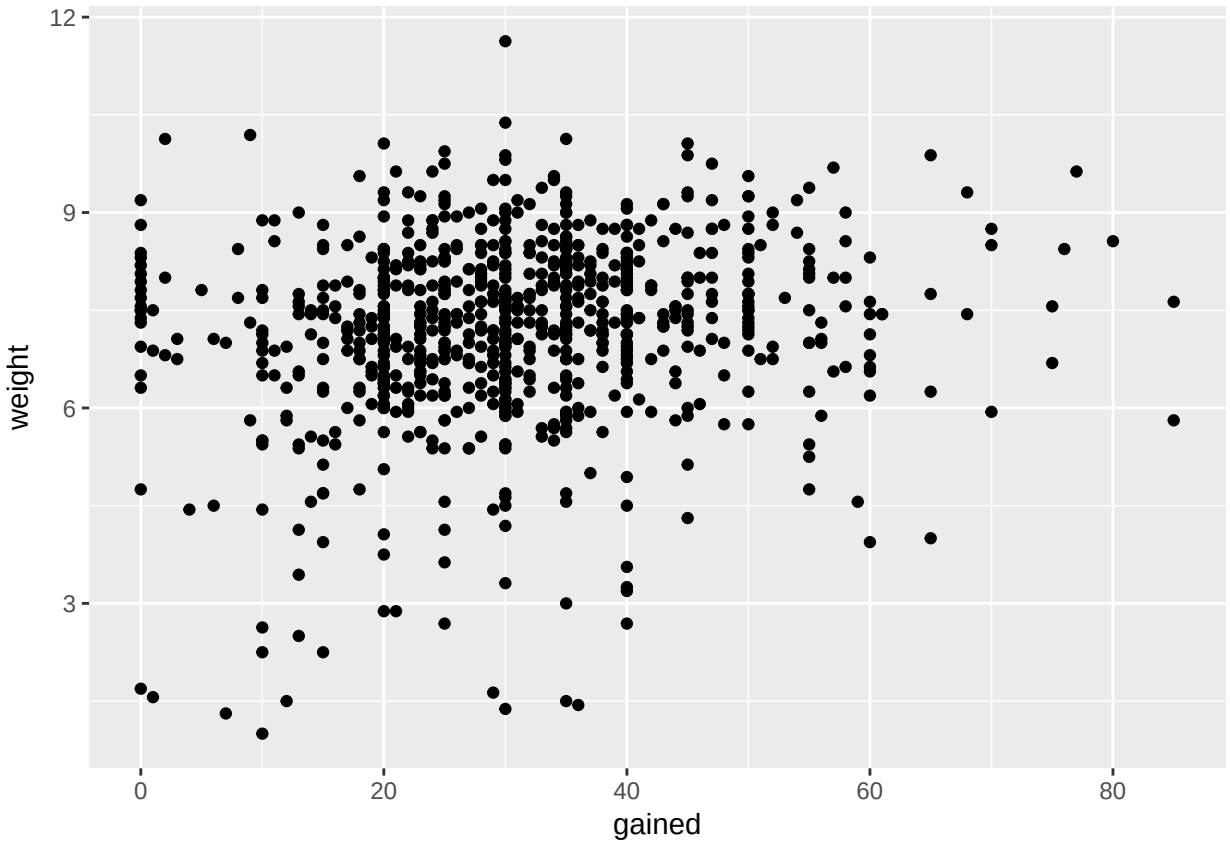
Step by Step Scatterplots

```
ggplot(nc, aes(x=gained, y=weight))
```



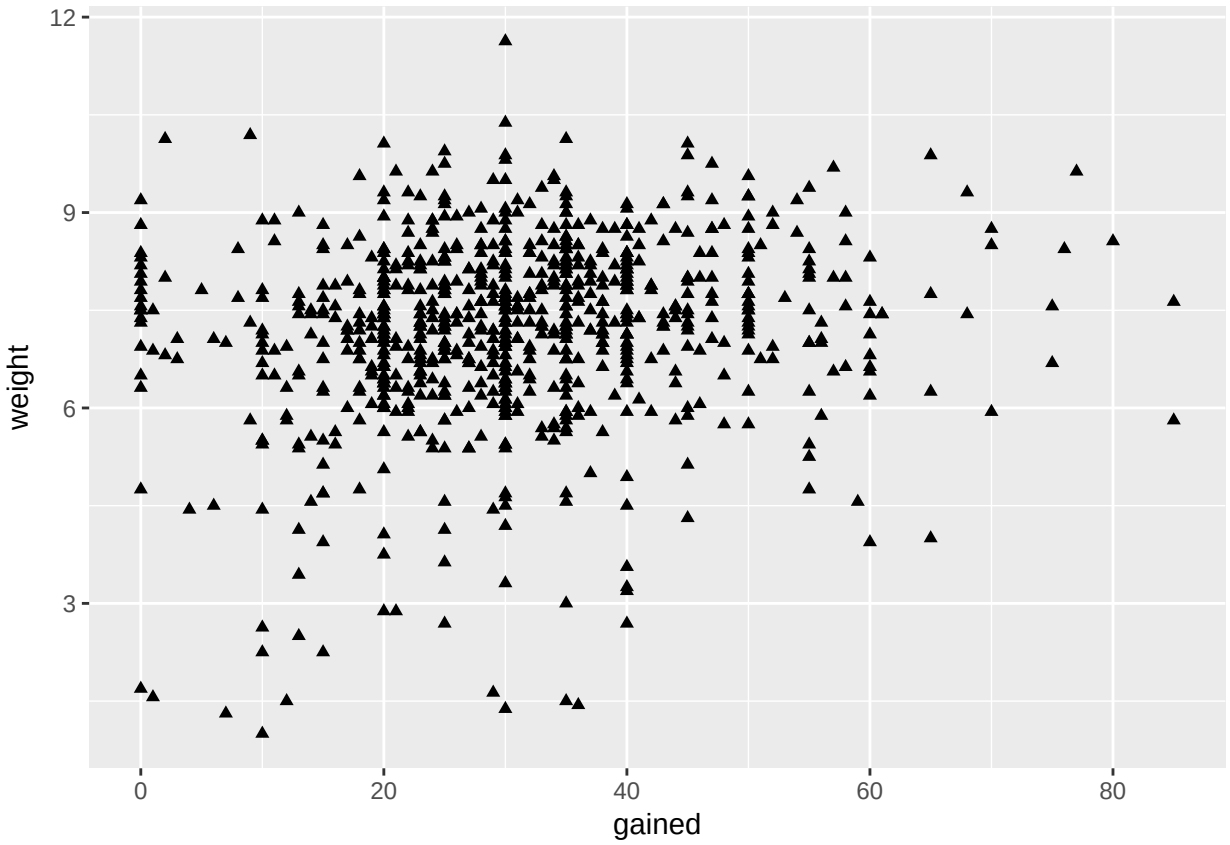
Step by Step Scatterplots

```
ggplot(nc, aes(x=gained, y=weight))+
  geom_point()
```



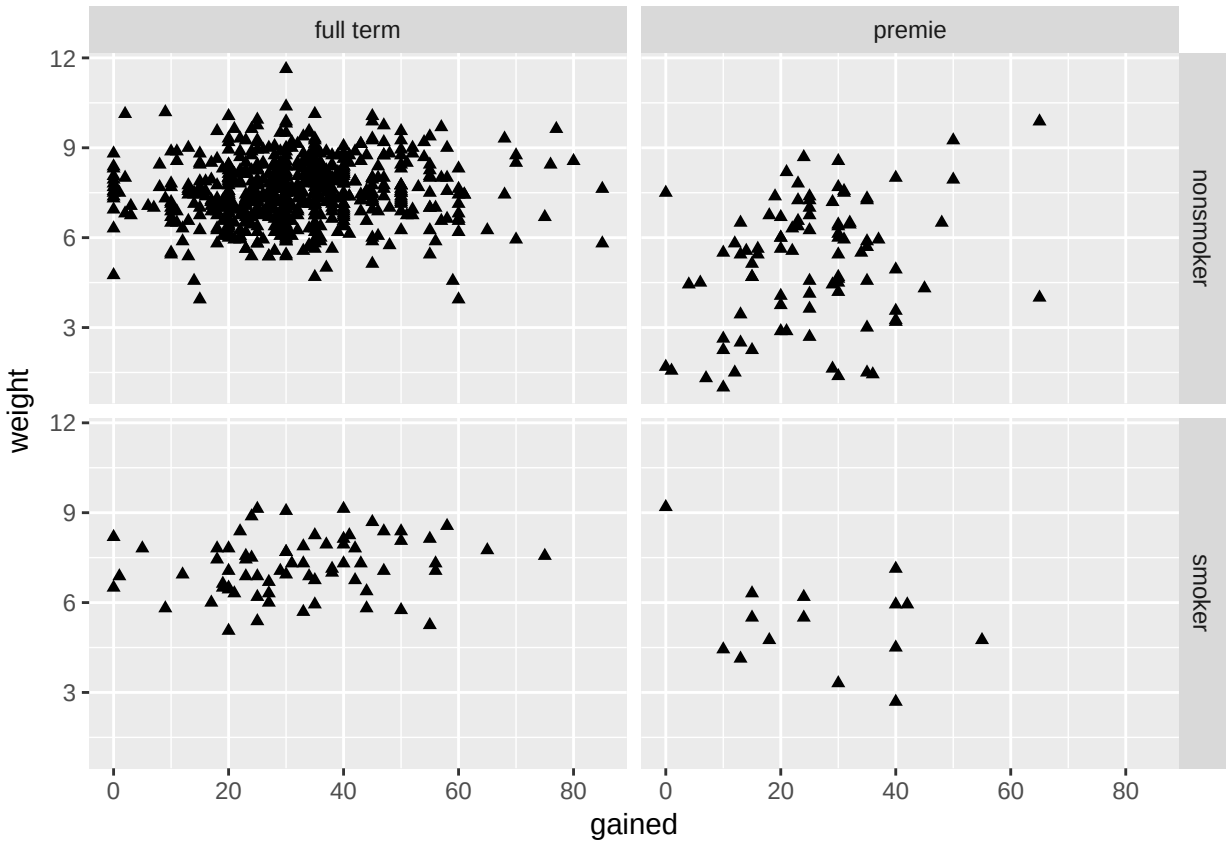
Step by Step Scatterplots

```
ggplot(nc, aes(x=gained, y=weight))+
  geom_point(shape=17)
```



Step by Step Scatterplots

```
ggplot(nc, aes(x=gained, y=weight))+
  geom_point(shape=17)+
  facet_grid(habit~premie)
```



Saving Plots

One way:

Plots> Export > Save as Image

- Select the directory you would like to save (ideal to save under figs).
- Name the file to save.
- Click Save

Saving Plots

The other way:

```
ggsave("myplot.png")
```