Home work 2

Heath Blackmon

2022-09-27

The challenge

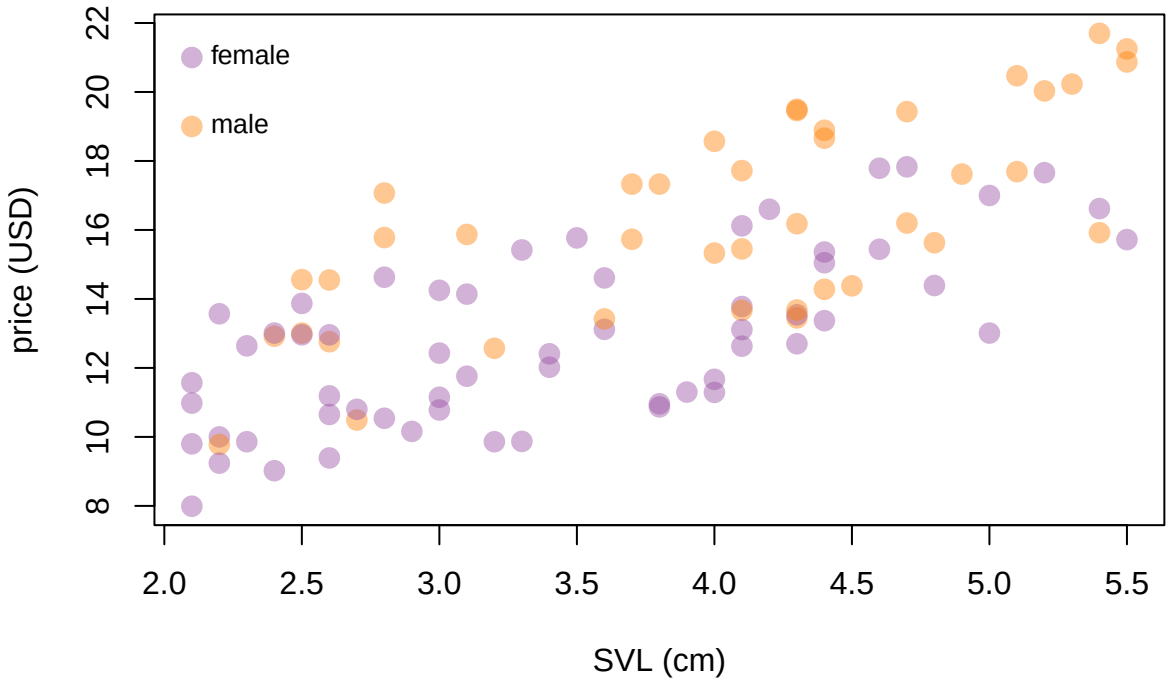
In this homework I want you to make a really beautiful plot of the betta fish data that is on the course website. The assignment was to produce visualizations that showed at least two different interesting patterns in the data and at least three variables. Below I have a few examples that I think do this well.

```
dat <- read.csv("../datasets/betta.csv")
```

Base R Plots

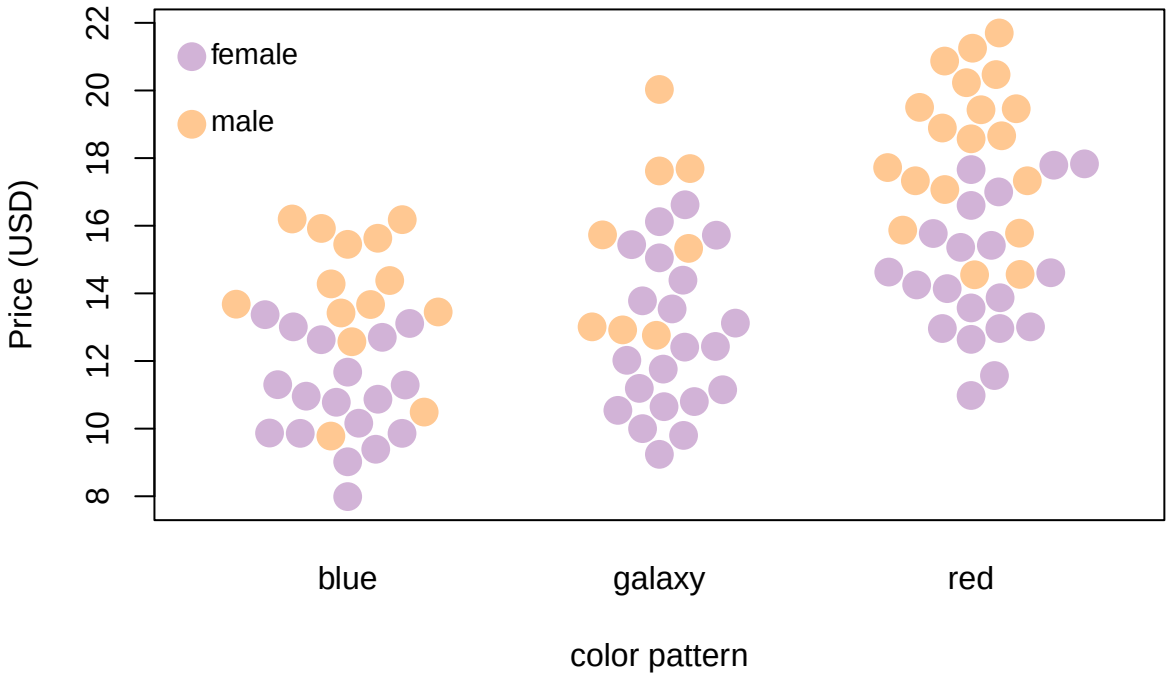
You can also embed plots, for example:

```
# Here I create a vector of colors that I will access
# below to be able to color by sex.
cols <- c(rgb(152, 78, 163, 110, maxColorValue = 255),
          rgb(255, 127, 0, 110, maxColorValue = 255))
plot(dat$price~dat$size,
     xlab = "SVL (cm)",
     ylab = "price (USD)",
     pch = 16,
     cex = 1.5,
     col = cols[as.factor(dat$sex)])
points(x = c(2.1, 2.1), y = c(21, 19),
       pch = 16, col = cols, cex = 1.5)
text(x = c(2.1, 2.1), y = c(21, 19),
     c("female", "male"),
     pos = 4, cex = .85)
```



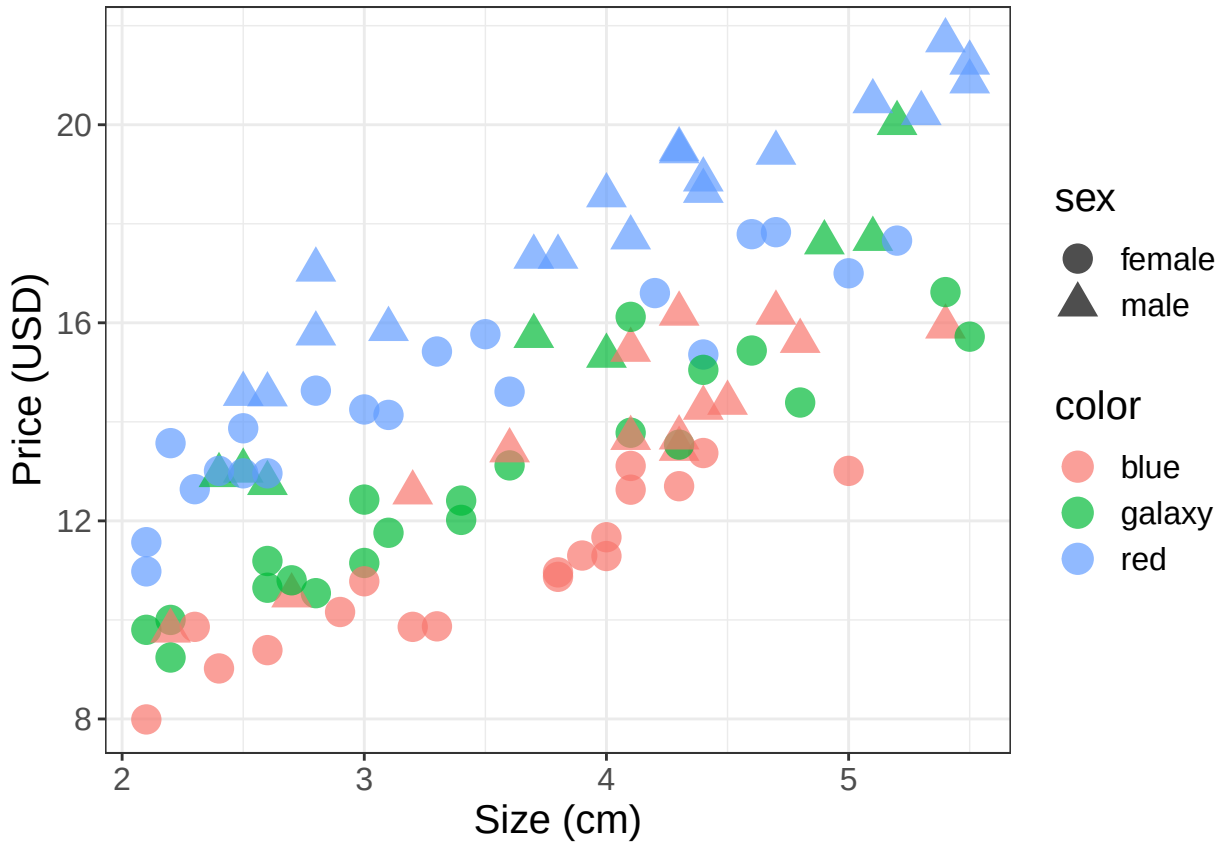
Beeswarm package

```
library(beeswarm)
cols <- c(rgb(152, 78, 163, 110, maxColorValue = 255),
          rgb(255, 127, 0, 110, maxColorValue = 255))
beeswarm(dat$price~dat$color,
         pwcol = cols[as.factor(dat$sex)],
         pch = 16,
         cex = 2,
         xlab = "color pattern",
         ylab = "Price (USD)")
points(x = c(.5, .5), y = c(21, 19),
       pch = 16, col = cols, cex = 2)
text(x = c(.5, .5), y = c(21, 19),
     c("female", "male"), pos = 4, cex = .95)
```



GGPlot2 package

```
library(ggplot2)
ggplot(dat, aes(y = price, x = size)) +
  geom_point(aes(shape = as.factor(sex), colour = color),
             alpha = 0.7, size = 5) +
  theme_bw() +
  theme(text = element_text(size = 15, hjust = 0.5, vjust = 0.5)) +
  scale_size(range = c(1, 5)) +
  guides(shape = guide_legend(title = "sex")) +
  xlab("Size (cm)") +
  ylab("Price (USD)")
```


Price (USD)
20
16
12
8
2
3
4
5
Size (cm)
sex
female
male
color
blue
galaxy
red