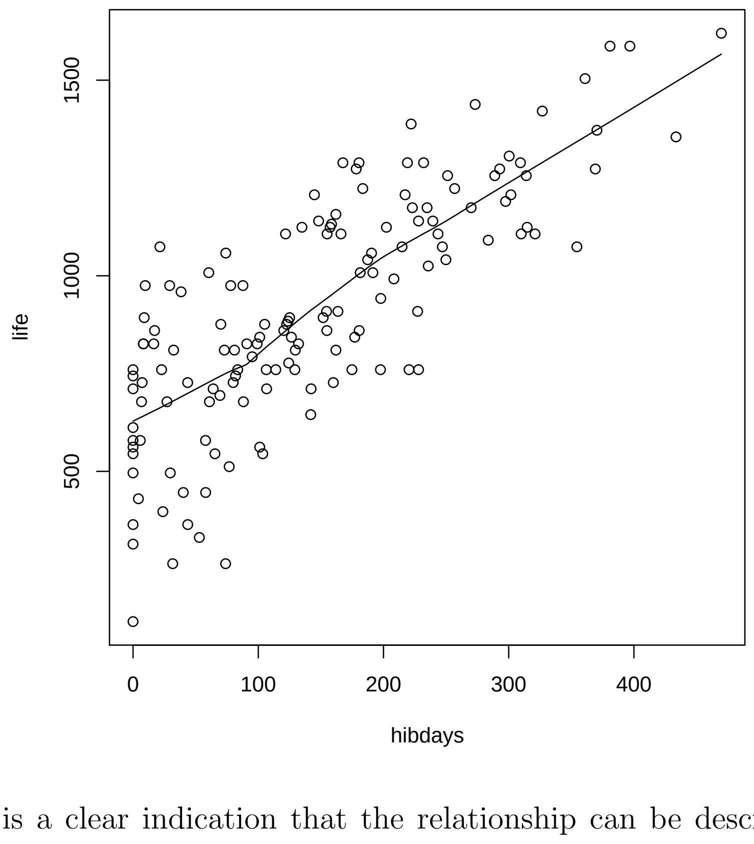
1. There are number of ways to approach this question. You could leave the hibernation variable "as is," but I think it makes sense to transform to days spent in hibernation. This makes the units of the two variables comparable.

   ```
   > hibdays = (hib/100) * life
   ```

   We can produce a plot of `life` against `hibdays` as folllows:

   ```
   > plot(hibdays, life)
   > lines(lowess(hibdays, life))
   ```

   This produces the following plot:



   There is a clear indication that the relationship can be described by a straight line. We can obtain the slope and intercept of the line as follows:

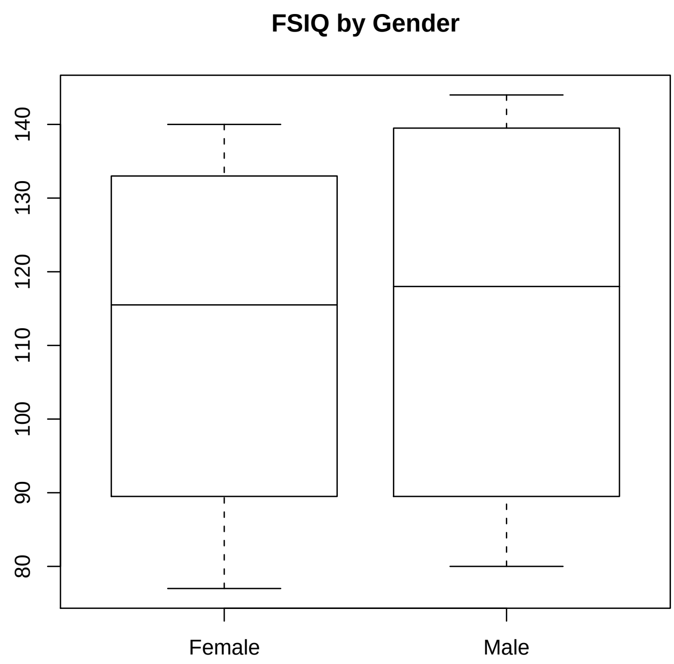
```
> lm(life ~ hibdays)

Call:
lm(formula = life ~ hibdays)

Coefficients:
(Intercept)      hibdays
    600.401        2.140
```

This says that for every day spent in hibernation the lifespan is extended by 2.14 days. Hibernation is having a real effect. For every day spent in hibernation, the number of days spent in a non-hibernating state is increased by (around) one.

2. I'll just show one pair of boxplots. This can be produced as follows.

```
> boxplot(FSIQ ~ Gender, main = "FSIQ by Gender")
```

and results in the following plot:

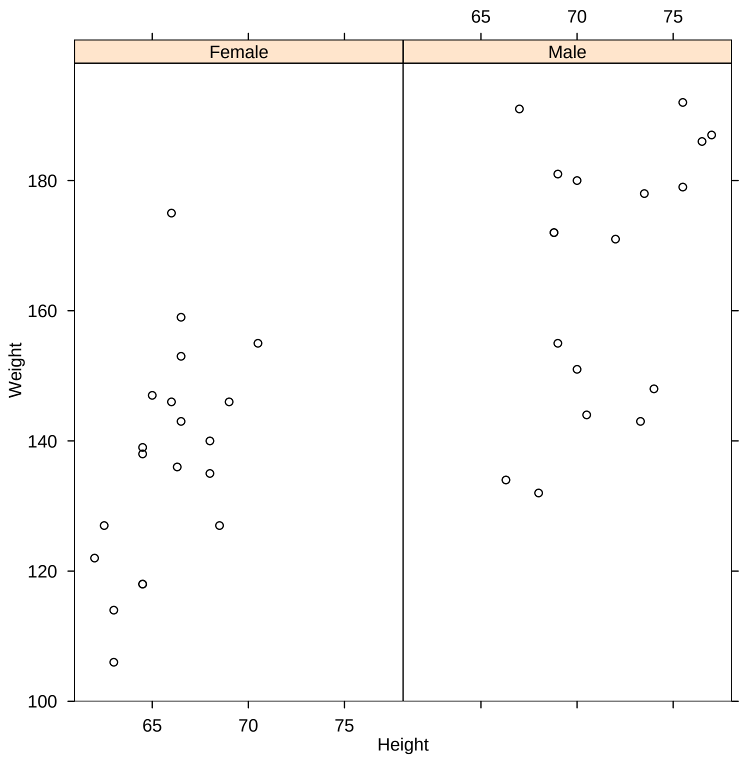


The plot makes it pretty clear that there is no significant difference in the IQ values. You could confirm this with a significance test (a t-test) but my general rule of thumb is that "if it don't look obviously significant, it ain't."

The remaining parts of the assignment require trellis plots, conditioning on gender. This is pretty easy. In the case of the height/weight relationship, the command

```
> xyplot(Weight ~ Height | Gender)
```

produced the plot



Clearly the females are smaller than the males, but it looks like the same general relationship holds for both groups. We could combine the groups and just fit a a straight line.