Third Detailed Example : Class, Factor, Plot

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Previously we had the two tables which we merged to get the following table, using the 'rbind' function.

W	L	Lab
1.0	5.29	1
1.5	6.31	1
2.0	7.28	1
2.5	8.33	1
3.0	9.30	1
3.5	10.32	1
1.2	7.60	2
1.5	8.11	2
1.8	8.88	2
2.1	9.40	2
2.1	9.39	2

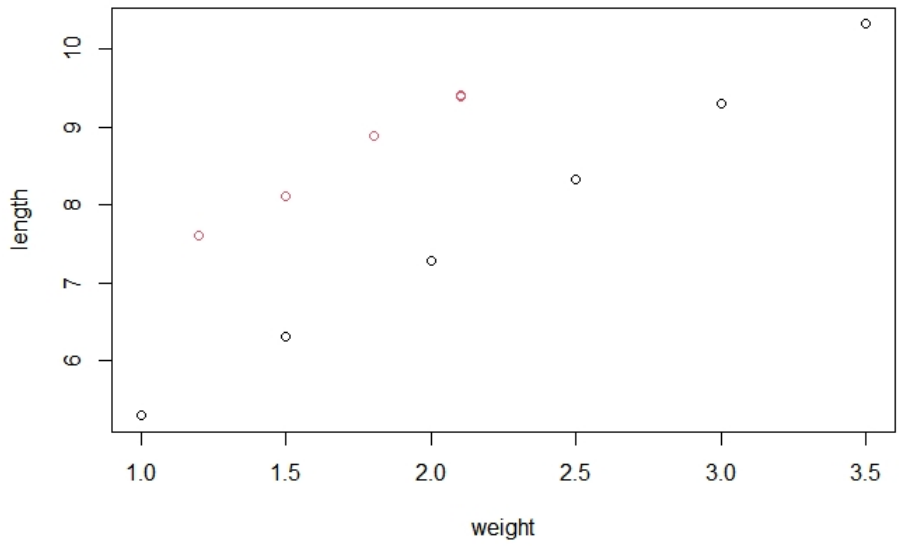
We plot the weights and lengths according to different labs, with lab 1 coloured with black points and lab 2 coloured with red points.

The R-code is as follows :

```
plot(length ~ weight,alllab, col=lab)
```

The plot function used gives a scatter-plot with *length* as y-axis and *weight* as x-axis. *allab* here denotes the dataset from which length and weight come.

The plot turned out as follows :



Notice, *length* is a numeric variable whereas *lab* is not, i.e, *lab=2* does not imply it is 2 times *lab=1*. Thus, the variable *lab* is a factor. To define it as a factor, we need to write the following code :

```
alllab$lab=factor(alllab$lab)
```

It does not change the contents of the table. To see how it works, we use the 'class' command. The class command returns the variable type. For example, the class of *lab* variable is factor whereas the class of *length* variable is numeric.

To verify this, we run the following code :

```
class(alllab$lab)
class(alllab$length)
```

The output is :

```
> class(alllab$lab)
[1] "factor"
> class(alllab$length)
[1] "numeric"
```