

Estimation of q-values and LFDR from p-values

#Excel file "Data_pvalues" format:

```
p-values
8.32E-31
2.63E-17
5.01E-22
2.14E-09
4.68E-20
.....
```

#save Excel file to text file, "Data_pvalues", by choosing "Text (Tab delimited) (*.txt)"

#The text file will look like after being opened by WordPad:

```
p-values
8.31764E-31
2.63027E-17
5.01187E-22
2.13796E-09
7.07946E-41
```

#In R Console, type in following commands marked by **blue** color;
#At first, open the data file that must be exactly the same format as shown above. File name and the header in the data file can be different if you want to change. However, the text in the commands must be corresponding to the name and header used in the data file.

```
> data <- read.table("L:/Data_pvalues.txt", header=TRUE)
```

```
> list(data)
```

```
#Display
```

```
[[1]]
      p.values
1  8.317640e-31
2  2.630270e-17
3  5.011870e-22
4  2.137960e-09
5  7.079460e-41
.....
```

```
#install package "devtools"
```

```
>library(devtools)
```

```
#Download package "qvalue" from http://www.bioconductor.org/packages/release/bioc/html/qvalue.html>  
library(qvalue)
```

```
#Install "qvalue" package from file name "qvalue_2.8.0.zip" from saved site.
```

```
>library(qvalue)
```

```
> qobj <- qvalue(data)
```

```
> qvalue (data)
```

```
Or, > qvalue(p = data)
```

```
> summary(qobj)
```

```
#Output:
```

```
$qvalues
```

```
$pvalues
```

```
$fdr
```

```
> hist(qobj)
```

```
> plot(qobj)
```

```
#The output image:
```

