PS 3 - in R

The Data

This data set contains body measurements from 247 men and 260 women, most of whom were considered healthy young adults.

```
download.file("http://www.openintro.org/stat/data/bdims.RData", destfile = "bdims.RData")
load("bdims.RData")
```

You'll see that for every observation we have 25 measurements, many of which are either diameters or girths. A key to the variable names can be found at *http://www.openintro.org/stat/data/bdims.php*.

1. Eyeballing the shape of the histogram is one way to determine if the data appear to be nearly normally distributed, but it can be frustrating to decide just how close the histogram is to the curve. An alternative approach involves constructing a normal probability plot, also called a normal Q-Q plot for "quantile-quantile". Make this plot using the function below and determine if the variable is distributed nearly normally or not. And if not, determine how it deviates from normality.

   ```
   qqnorm(bdims$hgt)
   qqline(bdims$hgt)
   ```

2. Now let's consider some of the other variables in the body dimensions data set. Using the figures on the next page, match the histogram to its normal probability plot. All of the variables have been standardized (first subtract the mean, then divide by the standard deviation), so the units won't be of any help. If you are uncertain based on these figures, generate the plots in R to check.

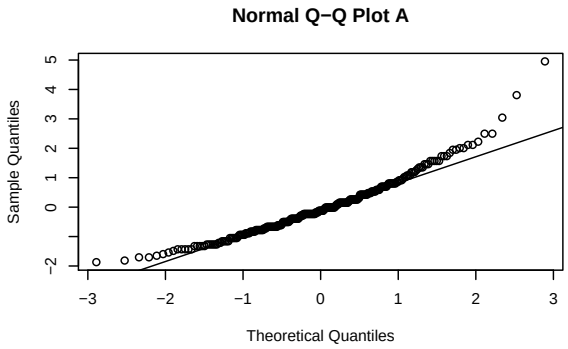
   (a) The histogram for female biiliac (pelvic) diameter (`bii.di`) belongs to normal probability plot letter ____.

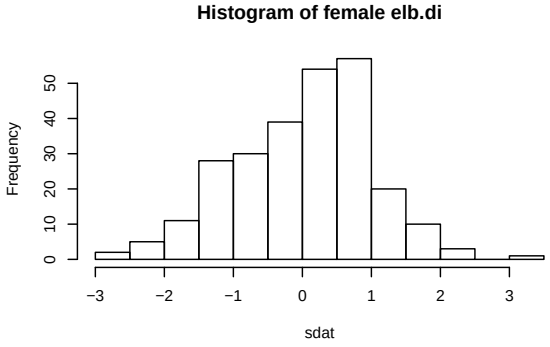
   (b) The histogram for female elbow diameter (`elb.di`) belongs to normal probability plot letter ____.

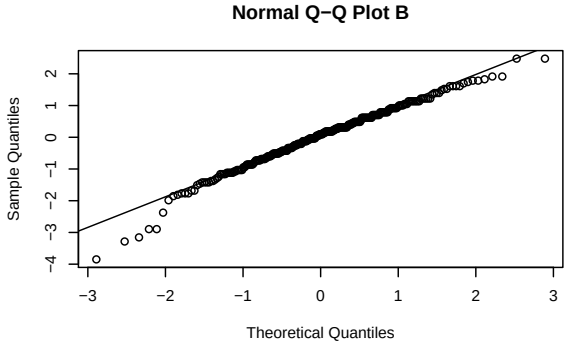
   (c) The histogram for general age (`age`) belongs to normal probability plot letter ____.

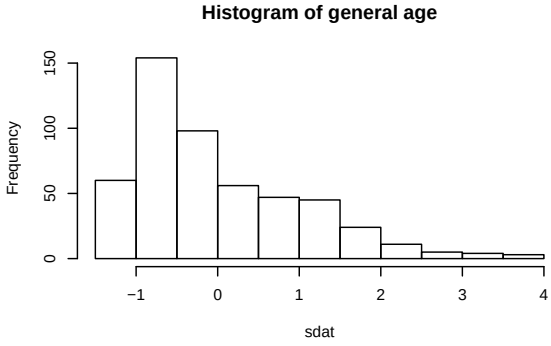
   (d) The histogram for female chest depth (`che.de`) belongs to normal probability plot letter ____.

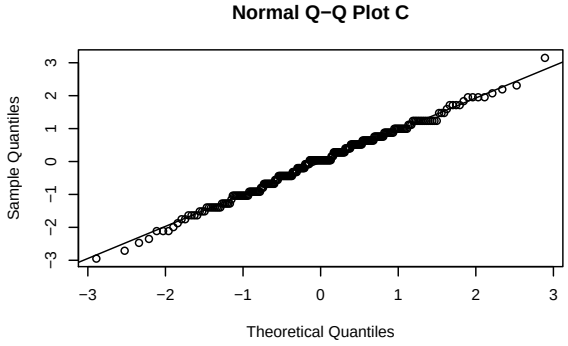

Histogram of female bii.di
Frequency
sdat

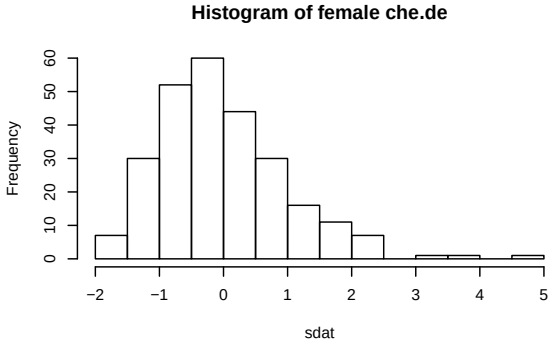

Normal Q−Q Plot A
Sample Quantiles
Theoretical Quantiles

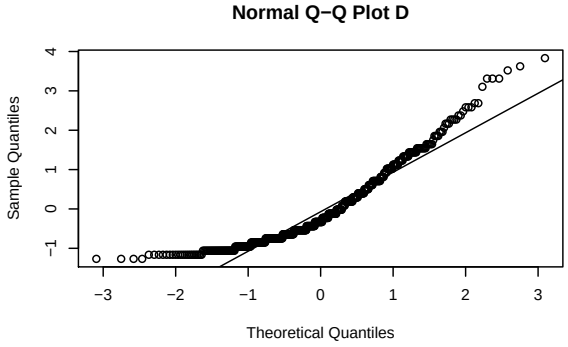

Histogram of female elb.di
Frequency
sdat


Normal Q−Q Plot B
Sample Quantiles
Theoretical Quantiles


Histogram of general age
Frequency
sdat


Normal Q−Q Plot C
Sample Quantiles
Theoretical Quantiles


Histogram of female che.de
Frequency
sdat


Normal Q−Q Plot D
Sample Quantiles
Theoretical Quantiles