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# Examining the air quality temperature variable

# R has several data sets available for practice, use the data command to view them
data()

# type in the name of the data set to get a look at its contents
airquality

# create a histogram of the temperature variable from air quality
hist.a = hist(airquality$Temp)

# set the frequency to F to show density on the y axis
hist.a = hist(airquality$Temp,freq=F)

# use the names() function to see modifiable attributes of the histogram
names(hist.a)

# enter the name of the histogram to see the current values of those attributes
hist.a

# changing the number of breaks may give a better picture of the data
hist(airquality$Temp,freq=F,breaks=20)

# the summary function shows five-number summary plus the mean
summary(airquality$Temp)

# generate a list of possible y values from a normal distribution
y.list = seq(56,97,by=.1)

# generate a list of densities for the possible y values
norm.d = dnorm(y.list,mean(airquality$Temp),sd(airquality$Temp))

# add a curve using the generated numbers to the existing histogram
points(y.list, norm.d, type="l")

# QQ plots are often used to assess normality
qqnorm(airquality$Temp)
qqline(airquality$Temp)
```