lab4.R

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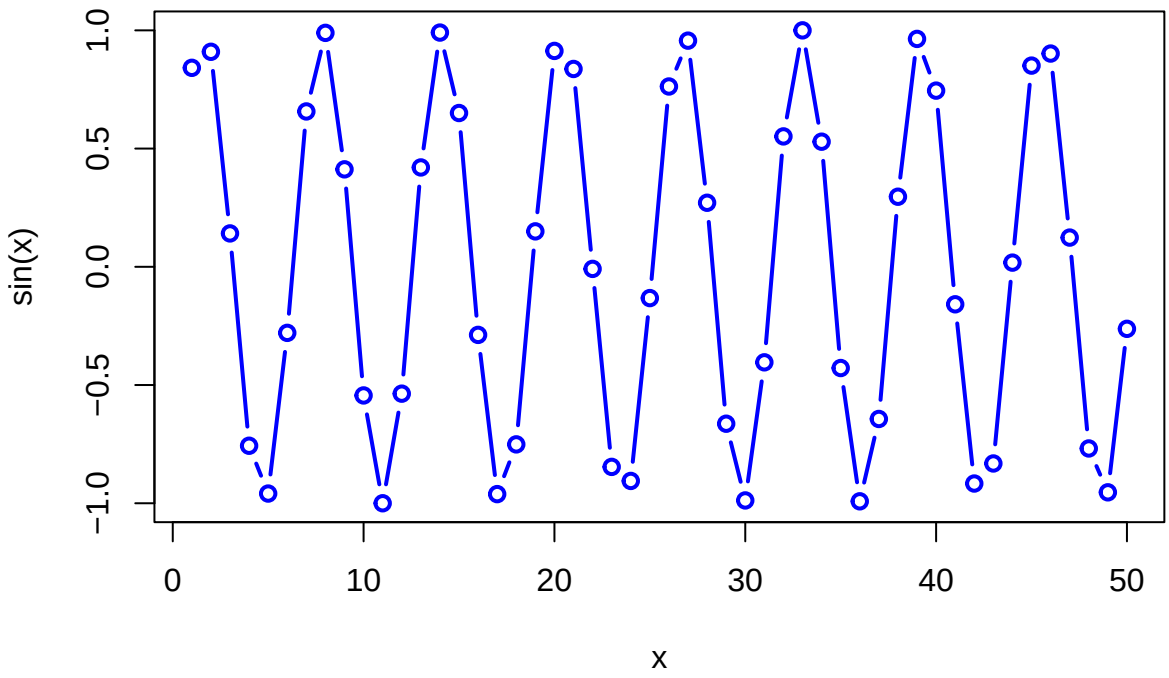
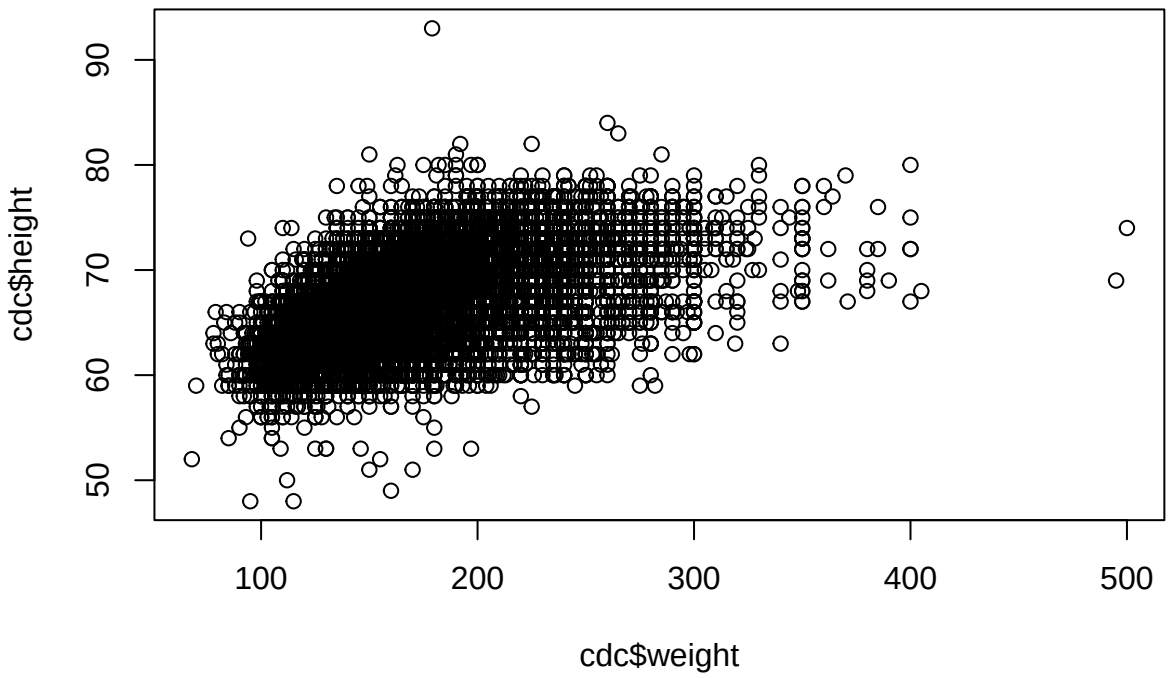
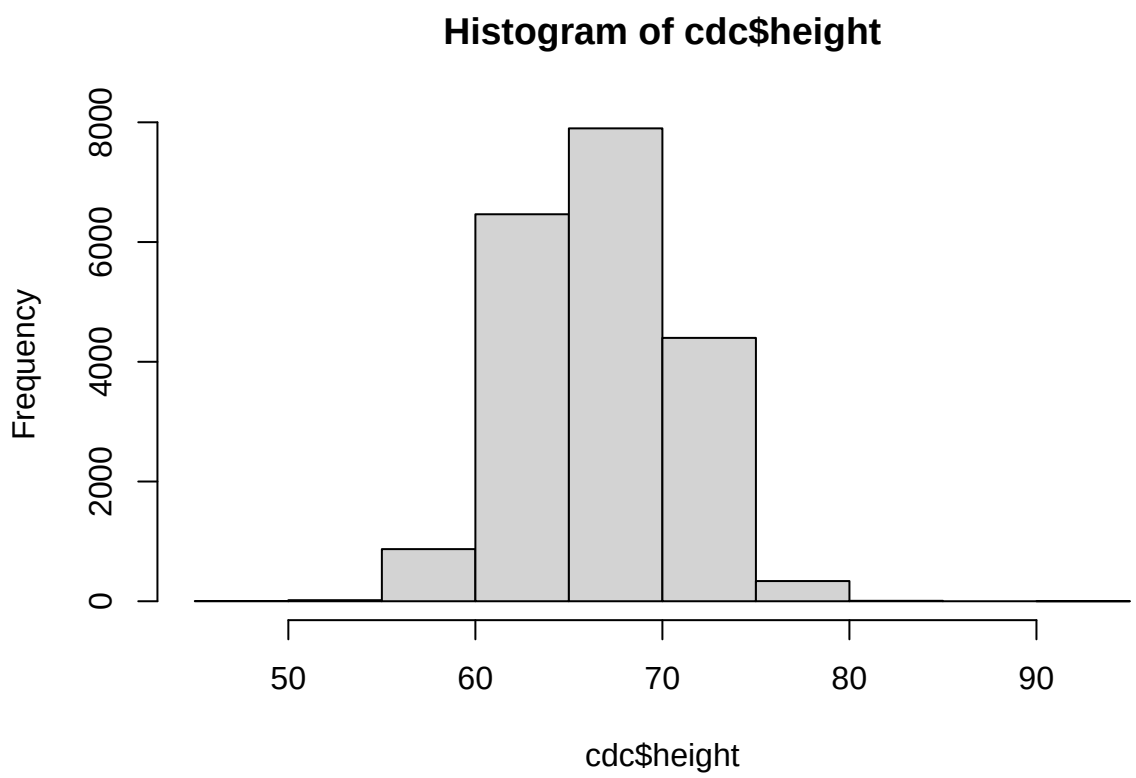
```
# The beginning of this script is the work we did in-class; the end is for the optional "Lab 4" documen

# IN-CLASS WORK
x <- 1:50
plot(x, sin(x), type='b', col='blue', lwd=2)
```



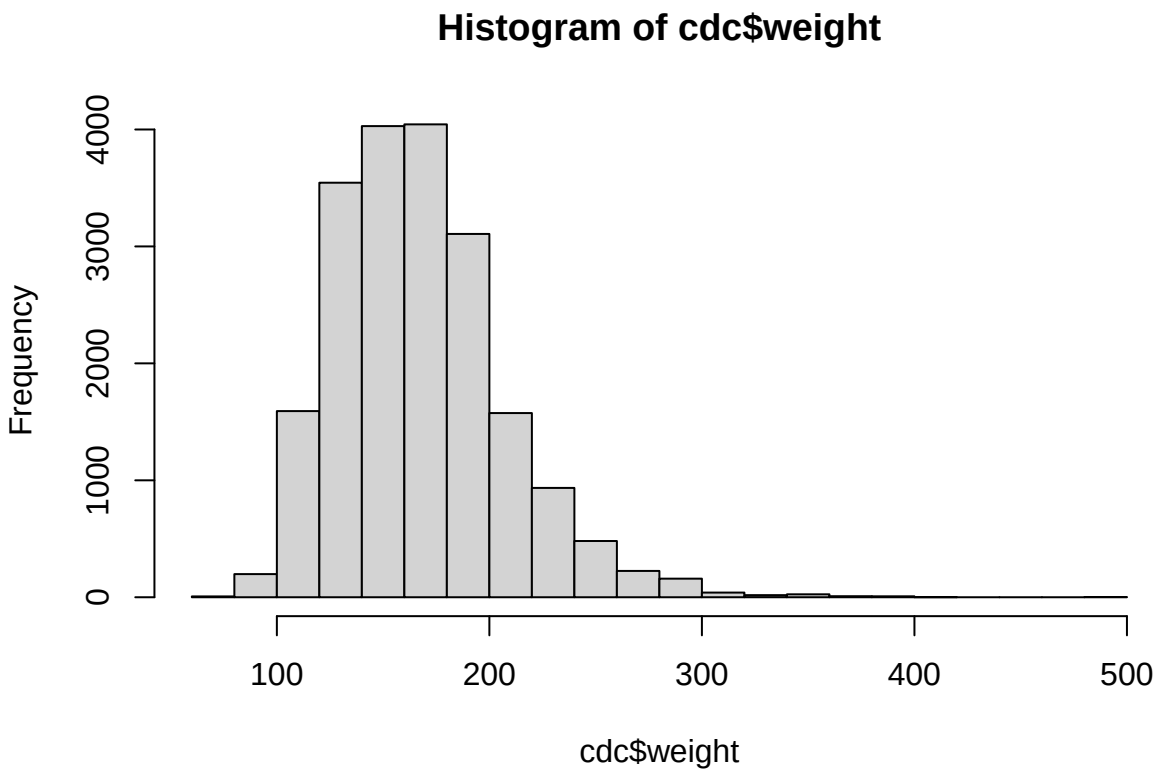

```
# LAB 4 OPTIONAL EXERCISE
# load BRFSS data
source("http://thegrantlab.org/misc/cdc.R")

# Q2
plot(cdc$weight, cdc$height)
```




```
# Q3
hist(cdc$height)
```



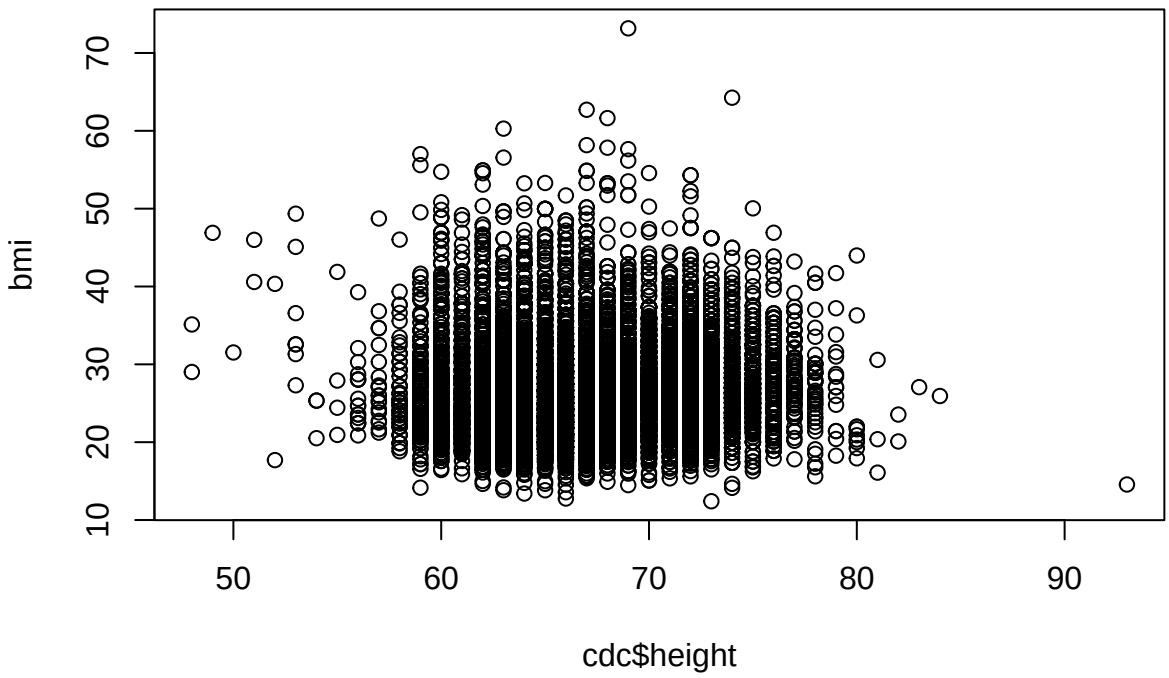

```
hist(cdc$weight)
```




```
# Q4
cor(cdc$height, cdc$weight)
```

```
## [1] 0.5553222
```

```
# Q5
POUND_TO_KG <- 0.454
weight_kg <- cdc$weight * POUND_TO_KG

# Q6
INCH_TO_METER <- 0.0254
height_m = cdc$height * INCH_TO_METER
bmi = weight_kg / height_m^2

plot(cdc$height, bmi)
```



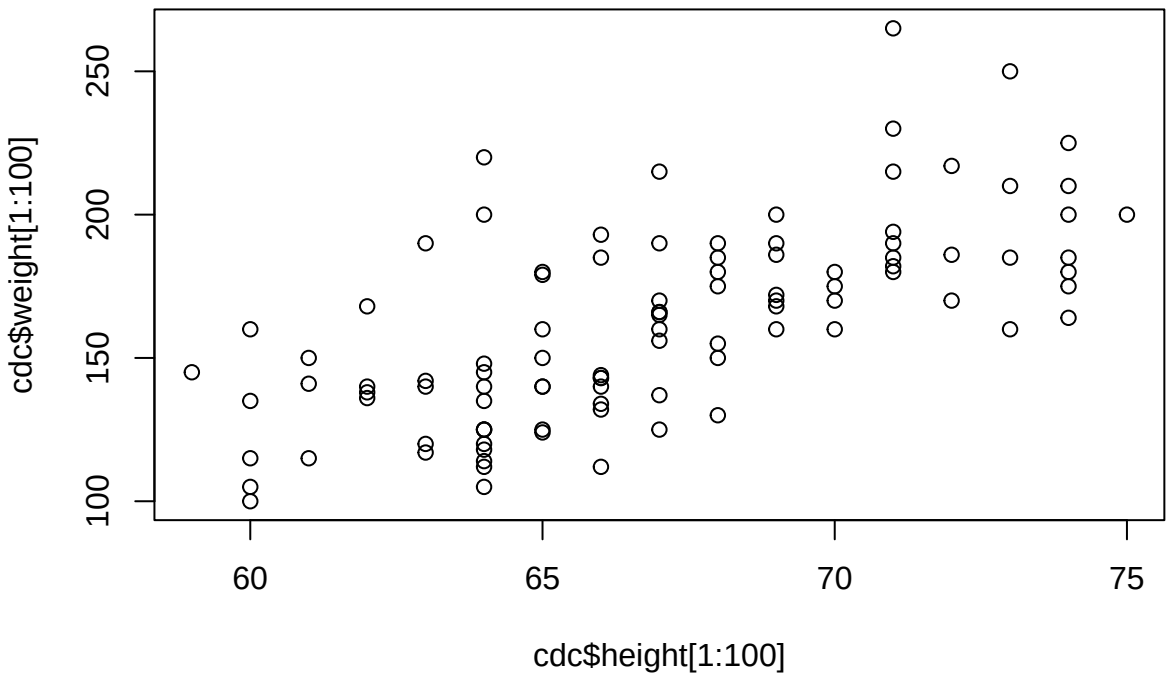

```
# Q7
cor(bmi, cdc$height)
```

```
## [1] 0.03251694
```

```
# Q8
numObese <- sum(bmi > 30)
numObese
```

```
## [1] 3897
```

```
# Q9
plot(cdc$height[1:100], cdc$weight[1:100])
```




```
# Q10
obeseGenders = cdc$gender[bmi >= 30]
table(obeseGenders)
```

```
## obeseGenders
##    m    f
## 1961 1936
```

```
# convoluted, non-elegant solution to Q10
# bmiIndex <- bmi >= 30
# allObese <- cdc$gender[bmiIndex]
# numObeseMales <- sum(allObese == 'm')
# numObeseMales
```