ST551: HOMEWORK 0

Brian Cervantes Alvarez
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Part A

```r
# Set random seed for reproducibility
set.seed(503)

# Parameters
n = 100
mean = 12
sd = 10

# Generate the random sample
samp1 <- rnorm(n, mean, sd)
# Show first 50 values of the random sample generation
head(samp1, 50)
```

```
 [1] 15.5512507  4.2110659  4.4264304 35.2980061 14.8397493 24.8102522
 [7] 11.9763675 22.3377069  7.6806673  8.5713254  7.7797917 11.6255833
[13]  9.9390984 32.1835389  5.9440146  9.1585832 21.6044445 19.4774752
[19] 11.8713501  4.8137009 34.0400118 16.1281187 22.3225192 19.8047460
[25] 37.8434305 14.3392002 25.5019470  7.9027339  8.3378197  1.0871386
[31] -0.9535243 13.4877381  5.3389162  6.3165214 12.3680899  9.9310633
[37]  3.5950975  6.6580395 14.7469374 11.0394967 -2.8748084 20.2597356
[43] 27.6448863 16.4932001  6.2616689  4.8180354  4.6495722 26.1374847
[49] 21.4717911 34.8779113
```

Part B

```
# Calculate the sample mean
meanRandomSample <- mean(samp1)
# Show sample mean
print(paste0("Sample Mean: ", meanRandomSample))
```

```
[1] "Sample Mean: 12.4557125923904"
```

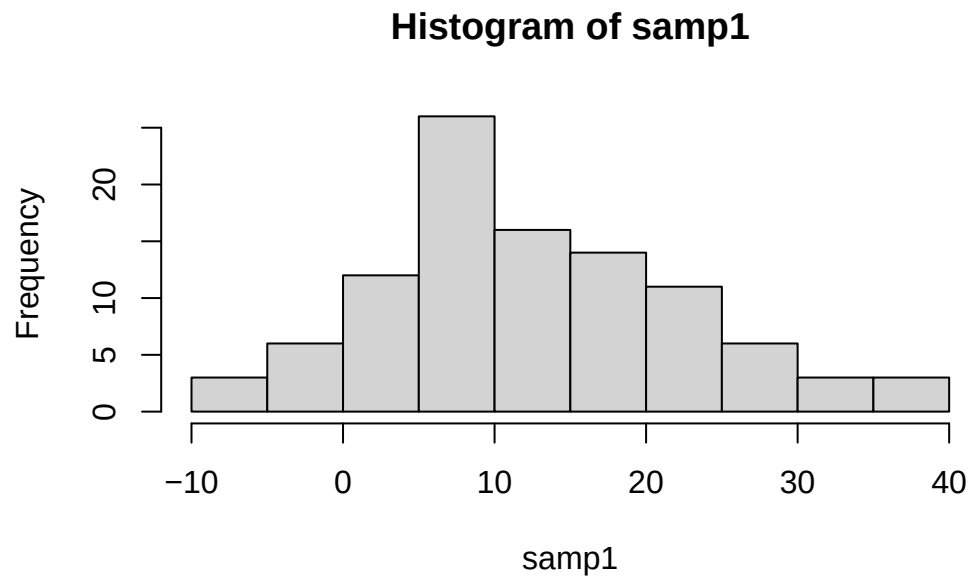
Part C

```r
# Calculate the sample standard deviation
sdRandomSample <- sd(samp1)
# Show sample standard deviation
print(paste0("Sample Standard Deviation: ", sdRandomSample))
```

```
[1] "Sample Standard Deviation: 10.1797221146891"
```

Part D

```r
# Plot the random sample
hist(samp1)
```




```r
hist(samp1,breaks = seq(min(samp1), max(samp1) + 1, by = 1))
```