Section 3 Practice Assignment

Question 1: For your perfume bottle filling company, you are buying a machine from other manufacturer. You are offered two machine to select one out of these.

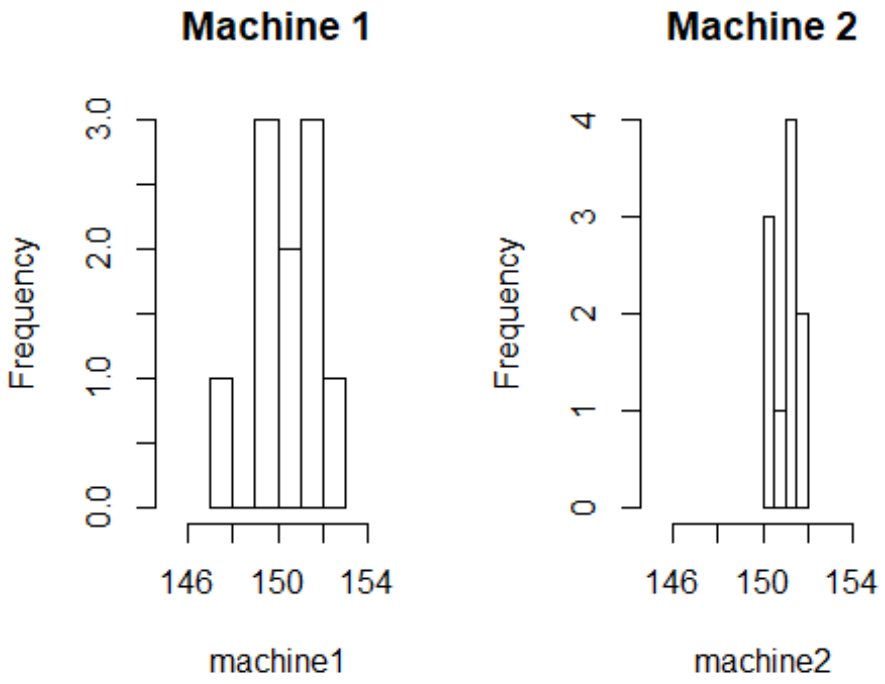
Before finally deciding on the machine, you pick 10 samples from each of these machine and note down the volume.

If this was the only consideration in selecting the machine, which of these two machines you will select?

Machine 1: 151.2, 150.5, 149.2, 147.5, 152.9, 152.0, 151.3, 149.7, 149.4, 150.7

Machine 2: 151.9, 151.4, 150.3, 151.2, 151.0, 150.2, 151.2, 151.4, 150.4, 151.7

```
machine1 <- c(151.2, 150.5, 149.2, 147.5, 152.9, 152.0, 151.3, 149.7, 149.4,
150.7)

machine2 <- c(151.9, 151.4, 150.3, 151.2, 151.0, 150.2, 151.2, 151.4, 150.4,
151.7)

# machine 1
mean(machine1)

## [1] 150.44

sd(machine1)

## [1] 1.552203

# machine 2
mean(machine2)

## [1] 151.07

sd(machine2)

## [1] 0.5907622

par(mfrow=c(1,2))
hist(machine1, main="Machine 1", xlim = c(145, 155))
hist(machine2, main="Machine 2", xlim = c(145, 155))
```




```
# We have not covered histograms yet in this course. However this gives a
much better visualization of these two machines.

# Even though Machine 1 has the average closure to the required value of 150,
it has much wider variation compared to Machine 2.

# If I had to buy one machine, I will go for the Machine 2.
```