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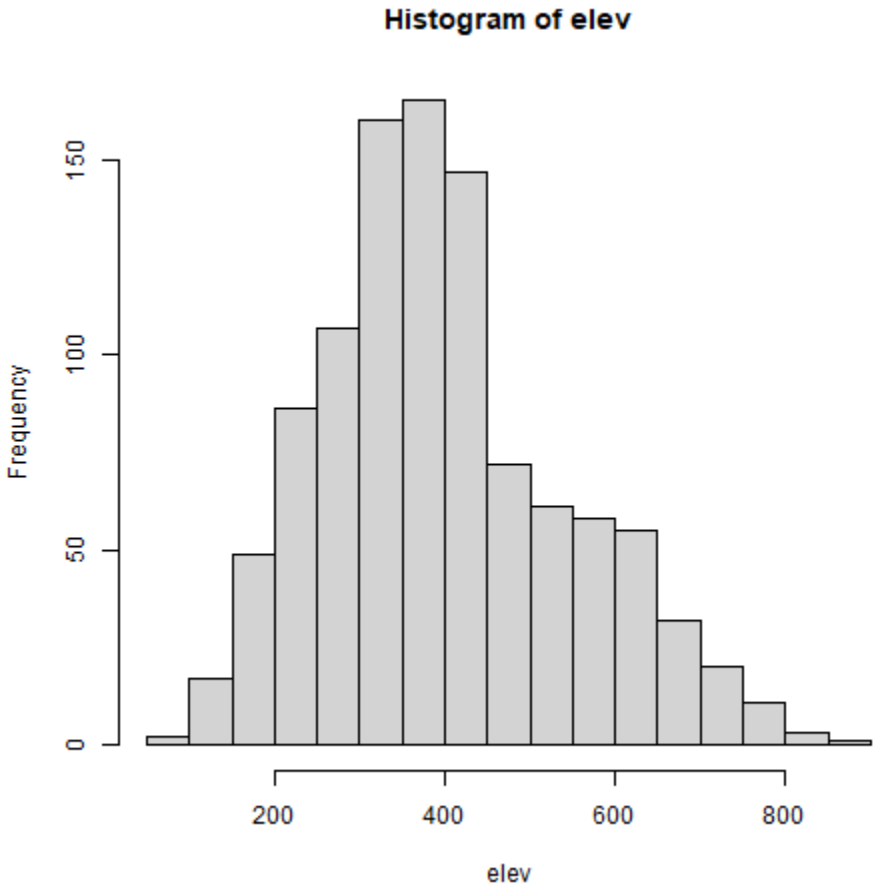
Homework 3

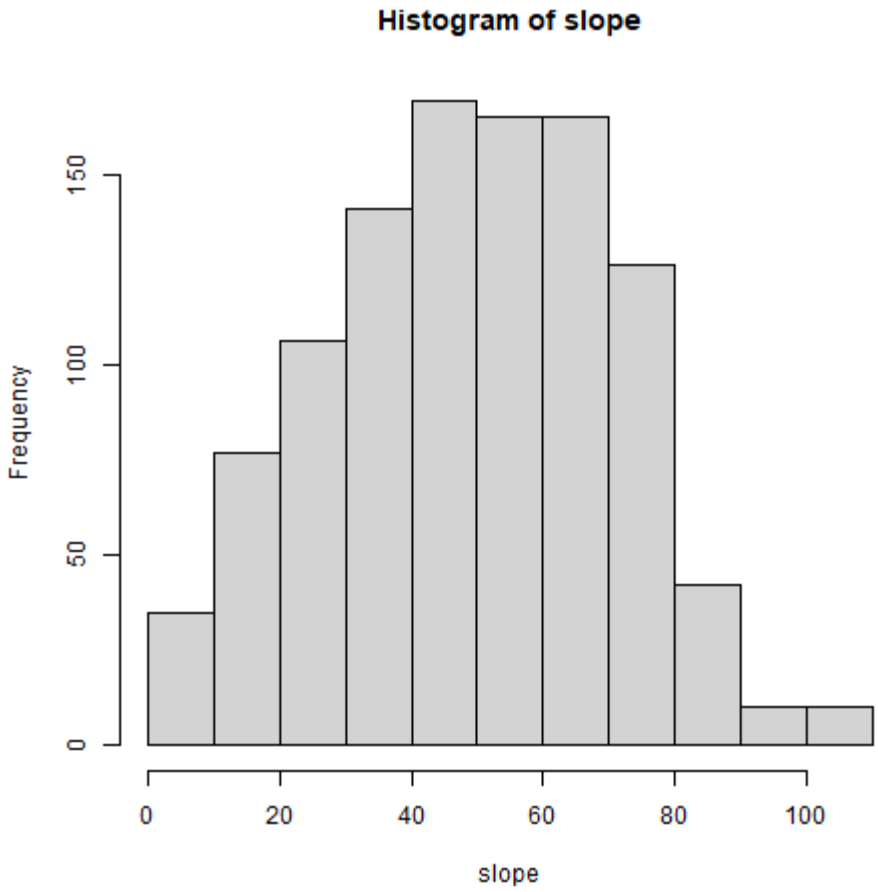
Question 1:

A.



B. This histogram represents the frequency of different elevations measured in meters. The results are slightly skewed right which indicates that a slight majority of the elevations are towards the lower end of the spectrum.

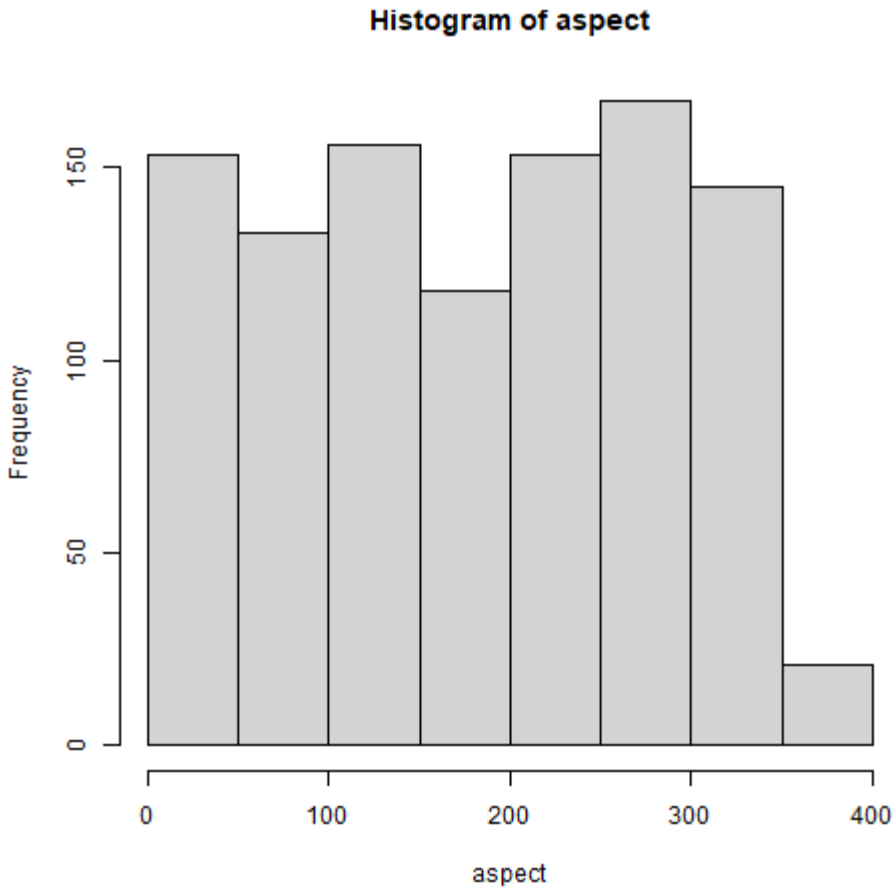
Question 2:



A.

B. This histogram is telling us that the average percent slope for the measured data is around 50%. This histogram has a more normal even distribution than the elevation histogram but it isn't using the same units so they cannot be compared to each other. Slope is measured as a percentage in this data set so the 50% figure is slightly misleading as it is worse than it seems otherwise.

Question 3:



A.

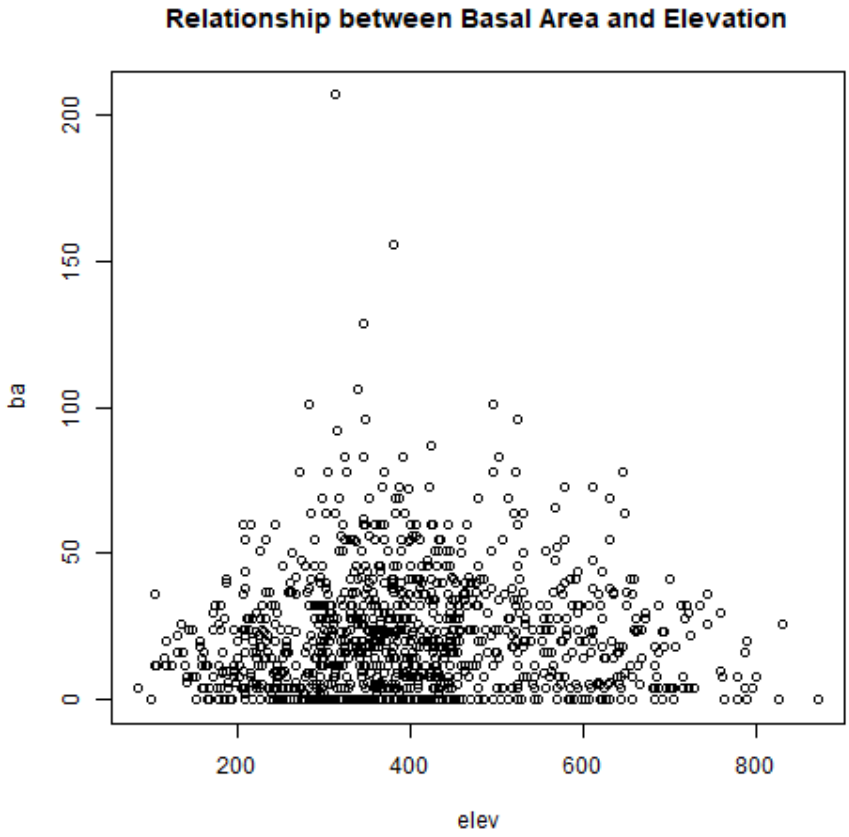
B. Aspect is typically the orientation of the slope measured in degrees.

C. This histogram shows a very even distribution as is to be expected for terrain such as this. There are slopes in all directions as evidenced by there being high frequency from 0 – 360 degrees. The final box at the end of the histogram is smaller due to their being no possible recorded values from 361 – 400 degrees.

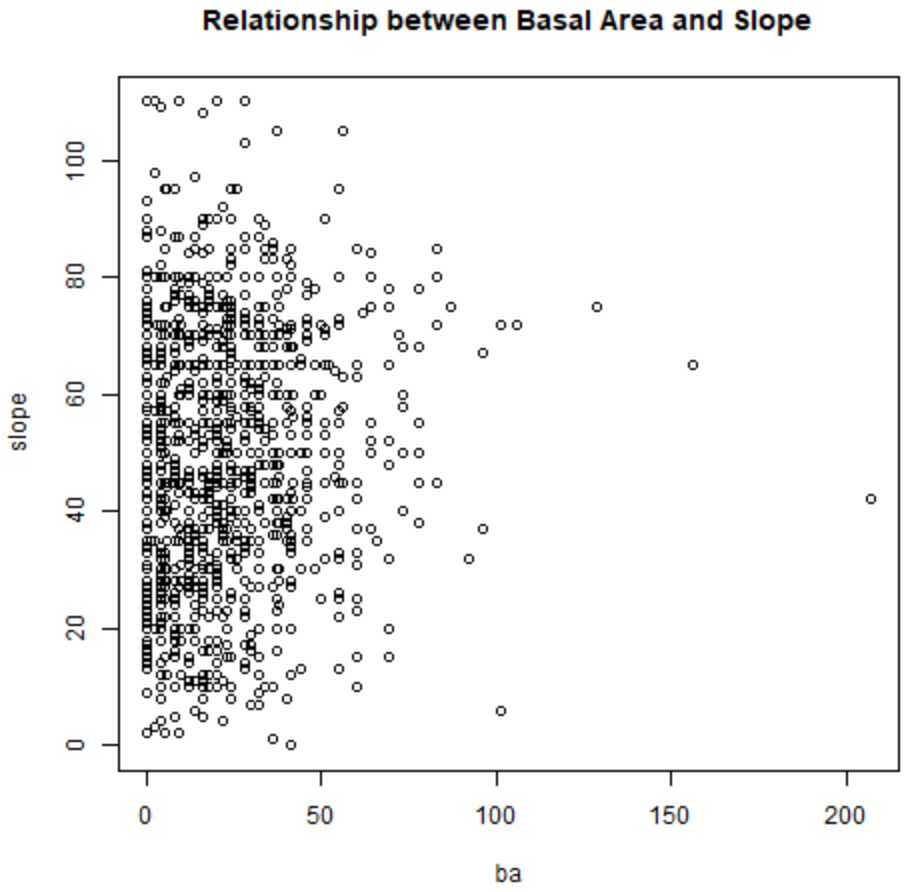
Question 4:

A. Oregon's terrain characteristics are multiple areas of high elevation mountainous terrain which increased the average elevation and slope percentage of the results.
B. The histograms would show different results if the tests were conducted in a state with less mountainous terrain. I would expect different, lower, results in all three of the histograms if the same data were collected in Ohio.

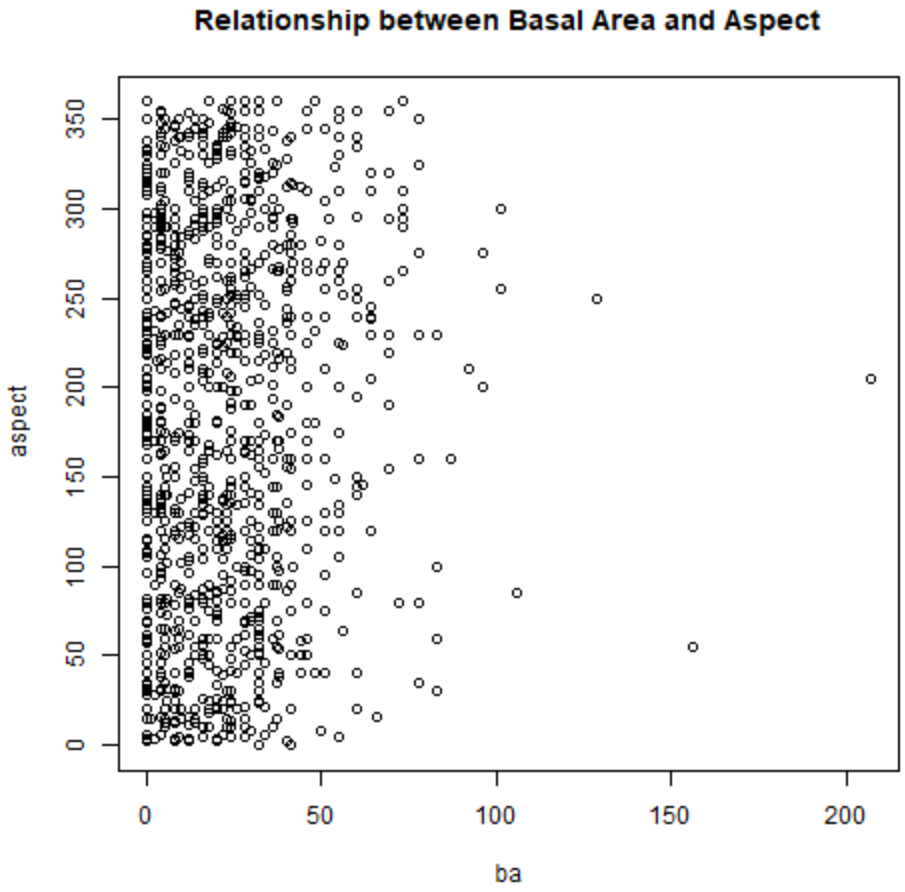
Question 5:


Relationship between Basal Area and Elevation
ba
0
50
100
150
200
200
400
600
800
elev

A.


Relationship between Basal Area and Slope
slope
ba
0
20
40
60
80
100
0
50
100
150
200

B.



C.

Question 6:

A. Total basal area stays relatively consistent throughout the varying elevations with slightly more results towards areas of lower elevation.

B. The total basal area is lower at lower percentages of slope than it is when the slope is around 50-60%. This could be due to several reasons such as the land with low % of slopes being used residentially or for agricultural purposes.
C. The basal area again stays consistent throughout the varying degrees of the aspect. The relationship here is like the one we saw in the histogram plot.
D. Basal area varies in the sample sites in Oregon does not vary greatly depending on which terrain it is found in. The most variation we see is at the two extremes for slope but seeing as Oregon is highly mountainous terrain, we do not have a lot of data from areas of low slope percentage to analyze. It's hard to draw conclusions specific to our data without having comparisons to data from lower elevations and slopes. For the most part we do see consistent basal areas over different elevations besides the extremes as mentioned earlier.