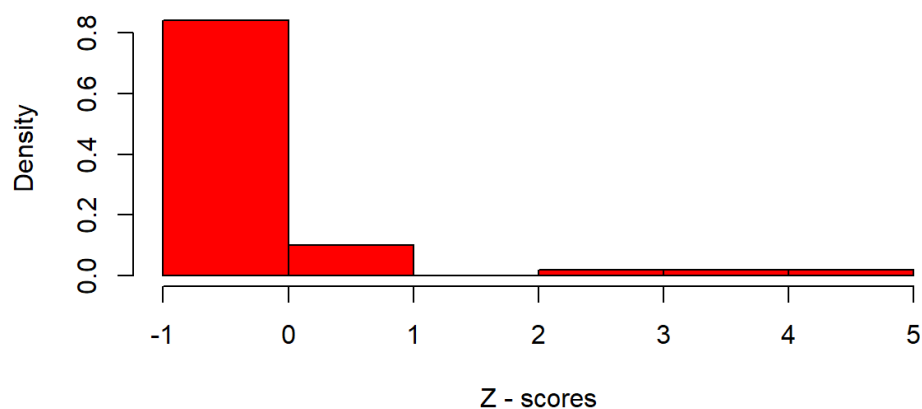Lab 2

Part 1

Z scores of Income Goals

a. The fraction students who have Income.Goals one standard deviation above the mean are:
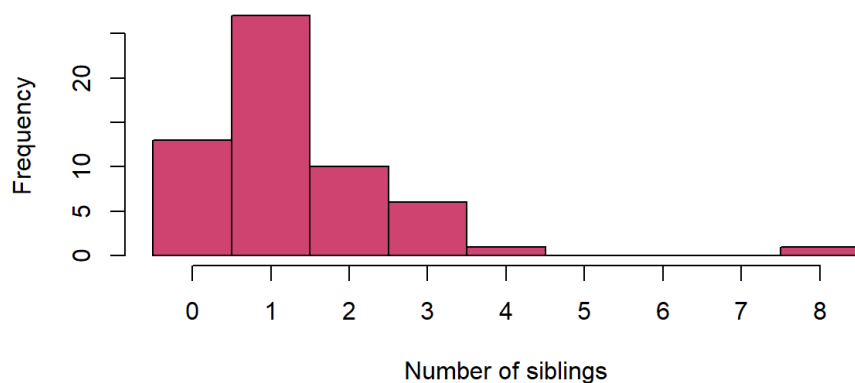
$$length(z[which(z > 1)])/length(z)$$

$$= 0.06$$

b. If Income.Goal followed a normal distribution, the fraction of students that would have the income goal one standard deviation above mean would be:
$$1 - pnorm(1, mean = 0, sd = 1)$$
$$= 0.1586553$$

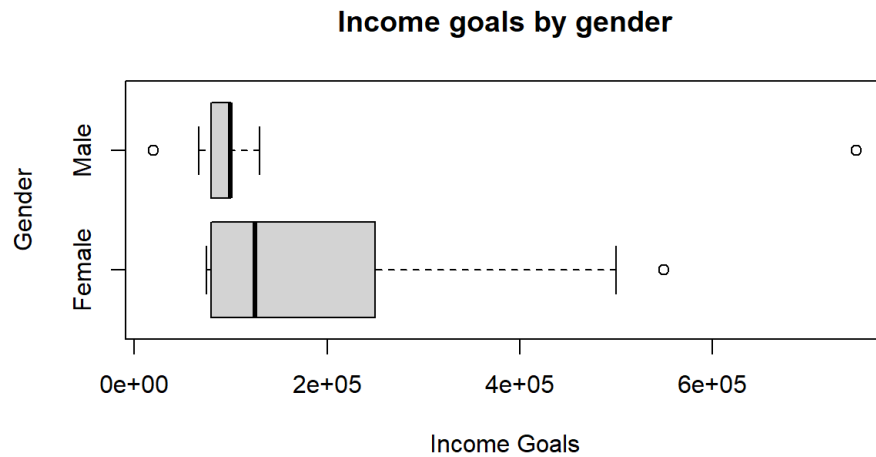c. The follow values are unusual (z < -2.0 and z > 2.0): 750000, 550000, and 500000.

Part 2

Histogram of siblings

a. Q1 = 1. Q2 = 1, Q3 = 2
b. P5 = 0, P90 = 3
c. There are two outliers, 4 and 8.

Part 3

Income goals by gender

Conclusion: It seems that females in the 2021 CIT sets generally had higher income goals than their male counterparts in the same sets. The females in the 2021 CIT sets had high ambitions that the males in the same sets.