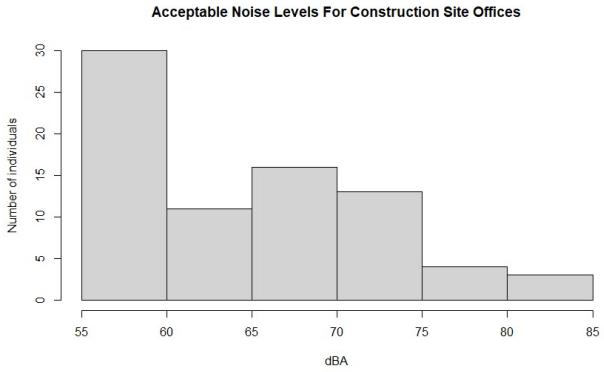
NAME: MOHAMMED FULWALA **STUDENT NUMBER: 217459744**

DATA PROJECT 1: <u>SECTION 1.4 QUESTION 63</u>

1) **DESCRIPTION OF DATA SET AND SAMPLING METHOD:**
   The data provided is basically a set of the noise levels experienced by 77 individuals working in a particular office. The original population is believed to be everyone from that particular office. Since the article is 'Acceptable Noise Levels For Construction Site Offices', the possibility is that they must have collected the sample from people of different genders and ages.
2) **DESCRIPTIVE STATISTICS:**
   The sample mean is 64.89 (rounded to two decimal points) and the sample median is 64.7, which means the data is not symmetrical. The trimmed mean of 9.1% is taken and the reason is because the last 7 values experience a sudden increase. Hence, in order to find the mean without the sudden increase, we trim the data points by 9.1% and we get 64.14 as the trimmed mean. The standard deviation is 7.803, which tells us the data is spread out from the mean by 7.803. The five-number summary gives us the first quartile, that is, 57.8, and the third quartile, that us, 70.4, and using this data, we get the interquartile range, that is, 12.6.
3) **PLOTS:**
   The histogram shows that the data is right skewed. It also shows us the distribution which says most of the sample individuals experience noise levels between 55 dBA and 75 dBA.



On calculating $Q_1 - 1.5 * IQR$ and $Q_3 + 1.5 * IQR$, we get 38.9 and 89.3 respectively. Since the sample decibel values are between 55 dBA and 83 dBA, and by also using the boxplot as reference, we can determine that there are no outliers in the data.