

# EVERY DAY I'M CALCULATIN

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# Frequency Distribution

(Categorical Frequency Distribution)

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# Frequency Distributions

- There are two forms of data collected in statistical studies; **Categorical Frequency Distribution** and **Grouped Frequency Distribution**.
- Constructing a categorical frequency distribution is used when data is based on different categories instead of numbers
- Grouped frequency distribution is used when collecting numerical data.

# Categorical Frequency Distribution

In this type of distribution, data is grouped into categories. Some examples are: Age, Gender, Race, Blood type, Food, Job position, Class subjects, Majors etc.

One way to illustrate data collected for categorical distribution is to use it in a pie chart or bar graph. The pie chart helps to visually compare the whole to each section of data collected. A second form that can be used to illustrate the data collected would be to use a bar graph. Bar graphs and Pie Charts are used when the data represents a certain category instead of a number.

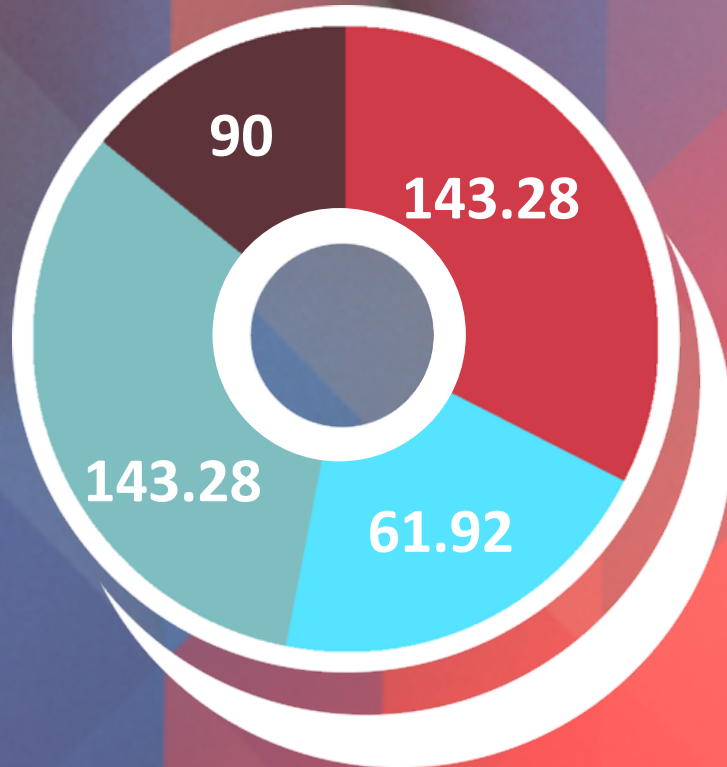
## Categorical Frequency Distribution Table

To construct a frequency distribution table. You will need to tally all of the raw data collected. Then tally the data and construct your table. **Example:** Amy asked a total of 500 students at orientation about their major. She then constructed a Frequency Table:

<b>Class(Response)</b>	<b>Frequency</b>
Human Services	90
Communications	61.92
Dental Hygienist	143.28
Nursing	143.28

# Categorical Frequency Distribution Pie Chart

With the information collected she was able to draw a pie chart to visually compare which major was most popular out of the 500 students she asked. **Example:** Formula used is  $\text{Degrees} = f/n * 360$  ( $n=500$ )





# How Frequency Distribution is Related to Everyday Life

Success and money will forever and always play a huge role in our everyday lives. It is the driving force behind what pushes us to grow and become better versions of ourselves. We figured the topic to best represent what our findings would be was to use Categorical Frequency Distribution as well as the graphs to represent the data collected. Our group consists of various college majors such as: Nursing, Dental Hygienist, Human Services, and Communications. We thought it would be interesting to see how much each major would make at the end of our education. Being such a diverse group with such different majors we felt this topic would not only be informative but easily applied to everyday life. To those who do not yet know their career path this topic would be a very useful tool in the elimination process. Usually one of the deciding factors in picking a major is the salary you will make after graduation. What better way to relate to everyday life than to create a frequency chart of different majors and their yearly salary?



# Why Frequency Distribution?

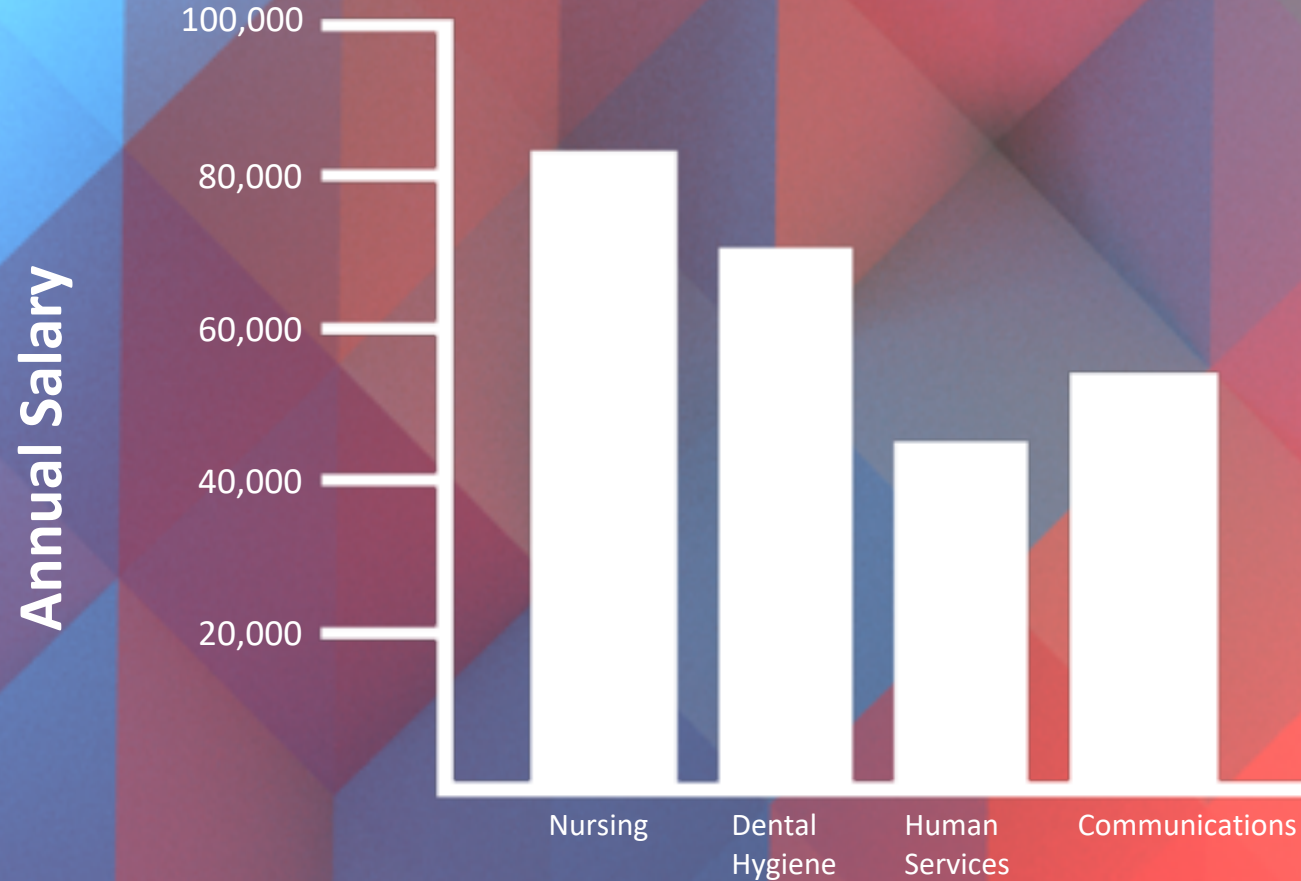
We chose this particular topic because we felt that wanting to be successful in money making careers was something we all have in common. We figured using each of our majors as an example was a good way to make it relatable to each one of us. We also chose to use a frequency table and chart because it would be the best way to display our collective raw data. Using a graph when comparing data is a great way to visually compare and learn from the information collected.

# The Question

Amy is an 18 year old incoming college freshman. Being someone that recently graduated high school, she is still confused on the career path she would like to take. She wants to pursue something that she will enjoy but also something that will benefit her in the end. During her freshman orientation Amy decided to ask random seniors around the campus what their annual salary will be upon graduation. The 4 majors she has narrowed it down to are Nursing which makes **82,575** annually, Dental Hygienist which makes **70,210** annually, Human Services which makes **44,710** annually and Communications which makes **54,00** annually.

**A) create a bar graph on the data given B) Find what sample type Amy used to acquire her data.**

# A) Categorical Frequency Distribution Bar Graph





## B) Sample Type

The sample type can be seen as Simple Random Selection or as a Convenience sample.

Amy is at her freshman orientation, so finding seniors to ask about their majors and potential salary based on those careers was a convenient way to keep the sample size relatively small without having a biased sample.

# Conclusion

As students here in City Tech, we felt that finding out what majors may be the best fit for our careers later in life is an important question most students ask themselves. We learned in this particular scenario if Amy's main concern was her salary after graduating college then she should choose nursing as her major.