

## Statistics Lecture 1

*Gathering Data and Organizing Data*  
(frequency table, relative frequency table)

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### 1. How many cups of coffee do you drink per day?

The following data is randomly selected and is measured in cups.

3,1,2,2,1,0,0,4,0,1,0,0,2,2,2,3,0,4,4,0,4,4,4,3,3,4,0,0,1,1,2,4,0,3

- a) Organize your data into a frequency table and a relative frequency table. Note that you will need to determine the sample size for your data. **Approximate the relative frequency to the nearest thousandths.**

Data	Frequency
0	
1	
2	
3	
4	

Data	Relative Frequency
0	
1	
2	
3	
4	

- b) What percent of the sample drinks at least one cup of coffee per day?
- c) What percent of the sample drinks more than one cup of coffee per day?
- d) What percent of the sample drinks less than three cups of coffee per day?
- e) What percent of the sample drinks no more than two cups of coffee per day?
- f) What percent of the sample drinks between one and three cups of coffee per day?

2. How many cups of coffee do you drink per day?

The following data is randomly selected and is measured in cups.

0,2,2,0,0,0,3,1,1,3,4,4,4,4,0,0,2,1,3,2,1,2,2,0,0,2,3,2,1,0,1,0,1,1,1,0

- a) Organize your data into a frequency table and a relative frequency table. Note that you will need to determine the sample size for your data. **Approximate the relative frequency to the nearest thousandths.**

Data	Frequency
0	
1	
2	
3	
4	

Data	Relative Frequency
0	
1	
2	
3	
4	

- b) What percent of the sample drinks at least one cup of coffee per day?
- c) What percent of the sample drinks more than one cup of coffee per day?
- d) What percent of the sample drinks less than three cups of coffee per day?
- e) What percent of the sample drinks no more than two cups of coffee per day?
- f) What percent of the sample drinks between one and three cups of coffee per day?

3. How long did you wait in line at the Husky Store for your coffee?

The following data is randomly selected in minutes.

4,3,3,2,0,4,0,3,5,4,0,2,2,2,4,5,2,4,3,5,0,4,0,1,1,1,2,3,1,0,0,5,5

- a) Organize your data into a frequency table and a relative frequency table. Note that you will need to determine the sample size for your data. **Approximate the relative frequency to the nearest ten thousandths.**

Data	Frequency
0	
1	
2	
3	
4	
5	

Data	Relative Frequency
0	
1	
2	
3	
4	
5	

- b) What percent of the sample waited for at least two minutes in line?
- c) What percent of the sample waited for more than two minutes in line?
- d) What percent of the sample waited for less than five minutes in line?
- e) What percent of the sample waited for No more than one minute in line?
- f) What percent of the sample waited between two and four minutes in line?

4. How long did you wait in line at the Husky Store for your coffee?

The following data is randomly selected in minutes.

3,2,2,3,4,0,1,1,1,2,4,3,5,5,3,2,4,5,0,0,0,1,2,3,4,5,3,0,2,4,4,0,0,0,1,0

- a) Organize your data into a frequency table and a relative frequency table. Note that you will need to determine the sample size for your data. **Approximate the relative frequency to the nearest ten thousandths.**

Data	Frequency
0	
1	
2	
3	
4	
5	

Data	Relative Frequency
0	
1	
2	
3	
4	
5	

- b) What percent of the sample waited for at least two minutes in line?
- c) What percent of the sample waited for more than two minutes in line?
- d) What percent of the sample waited for less than five minutes in line?
- e) What percent of the sample waited for No more than one minute in line?
- f) What percent of the sample waited between two and four minutes in line?

5. **How many children do you have?**

The following data was randomly selected from college students.

0,1,0,0,1,4,3,3,3,0,0,1,2,3,2,2,2,1,0,0,0,0,1,1,0,0,4,2,2,0,0,3,0,0,2,4

a) Organize your data into a frequency table and a relative frequency table.

**Approximate the relative frequency to the nearest hundredths.**

Data	Frequency
0	
1	
2	
3	
4	

Data	Relative Frequency
0	
1	
2	
3	
4	

- b) What percent of the sample has at least one child?
- c) What percent of the sample has at least two children?
- d) What percent of the sample has no more than three children?
- e) What percent of the sample has more than three children?
- f) What percent of the sample has between one and three children?

**6. How many children do you have?**

The following data was gathered randomly from a survey of college students.

1,1,2,0,1,0,0,0,0,0,2,3,3,4,3,4,3,0,0,4,0,0,1,2,1,2,0,0,0,0,4,0,0,3,3,2

a) Organize your data into a frequency table and a relative frequency table.

**Approximate the relative frequency to the nearest hundredths.**

Data	Frequency
0	
1	
2	
3	
4	

Data	Relative Frequency
0	
1	
2	
3	
4	

- b) What percent of the sample has at least one child?
- c) What percent of the sample has at least two children?
- d) What percent of the sample has no more than three children?
- e) What percent of the sample has more than three children?
- f) What percent of the sample has between one and three children?

### 7. How many semesters did it take you to transfer?

The following data was randomly selected from college students and measured in semesters.

4, 6, 8, 4, 4, 5, 5, 4, 5, 6, 7, 6, 7, 8, 10, 4, 4, 7, 8, 5, 4, 5, 10, 12, 10, 8, 8,  
9, 6, 6, 12, 5, 4, 5, 6, 5, 5, 6, 8, 7, 8, 8, 7, 9, 9, 9, 4, 5, 6, 12, 11, 12, 11,  
10, 8, 6, 7, 4, 5, 5, 4, 7, 8, 9, 9, 9, 5, 4, 5, 6, 5, 6, 6, 8, 10, 5, 4, 4, 5

- a) Construct a frequency table using a bin width of 2 and the first bin having a lower bin limit of 4.
- b) Construct a relative frequency table using the frequency table found in part a. **Approximate your relative frequency to the nearest ten thousandths.**
- c) What percent of the sample at least 6 semesters to transfer?
- d) What percent of the sample took at least 10 semesters to transfer?
- e) What percent of the sample took no more than 9 semesters to transfer?
- f) What percent of the sample took more than 9 to transfer?
- g) What percent of the sample took less than 10 semesters to transfer?
- h) What percent of the sample took between 6 and 11 semesters to transfer?

**8. How many semesters did it take you to transfer?**

The following data was randomly selected from college students and measured in semesters.

4, 6, 8, 4, 4, 5, 5, 4, 5, 6, 7, 6, 7, 8, 10, 4, 4, 7, 8, 5, 4, 5, 10, 12, 10, 8, 8,  
9, 6, 6, 12, 5, 4, 5, 6, 5, 5, 6, 8, 7, 8, 8, 7, 9, 9, 9, 4, 5, 6, 12, 11, 12, 11,  
10, 8, 6, 7, 4, 5, 5, 4, 7, 8, 9, 9, 9, 5, 4, 5, 6, 5, 6, 6, 8, 10, 5, 4, 4, 5, 13,  
13, 13, 12, 11, 13, 8, 7, 4, 6, 6, 5, 13, 12, 12, 13, 5, 4, 8, 9, 9, 10

- a) Construct a frequency table using a bin width of 3 and the first bin having a lower bin limit of 4.
- b) Construct a relative frequency table using the frequency table found in part a.  
**Approximate your relative frequency to the nearest ten thousandths.**
- c) What percent of the sample at least 7 semesters to transfer?
- d) What percent of the sample took at least 10 semesters to transfer?
- e) What percent of the sample took no more than 9 semesters to transfer?
- f) What percent of the sample took more than 9 to transfer?
- g) What percent of the sample took less than 10 semesters to transfer?
- h) What percent of the sample took between 7 and 12 semesters to transfer?



### 9. How many Facebook friends do you have?

The following data was randomly selected from college students.

50, 52, 65, 78, 88, 94, 55, 69, 70, 72, 55, 74, 100, 88, 90, 95, 65, 82, 55, 66, 72, 84, 88, 102, 96, 98, 102, 88, 56, 79, 52, 106, 108, 100, 96, 99, 102, 108, 56, 73, 55, 66, 87, 67, 74, 87, 90, 92, 99, 78, 83, 108, 101, 95, 83, 104, 68, 60, 79, 70, 88, 100, 95, 77, 80, 95, 75, 65, 55, 90, 78, 84, 66, 92,

- a) Construct a frequency table using a bin width of 12 and the first bin having a lower bin limit of 50.
- b) Construct a relative frequency table using the frequency table found in part a. **Approximate your relative frequency to the nearest thousandths.**
- c) What percent of the sample has at least 62 friends?
- d) What percent of the sample has more than 85 friends?
- e) What percent of the sample has no more than 85 friends?
- f) What percent of the sample has at least 86 friends?
- g) What percent of the sample less than 74 friends?
- h) What percent of the sample has between 62 and 97 friends?

**10. How many Facebook friends do you have?**

The following data was randomly selected from college students.

50, 52, 65, 78, 88, 94, 55, 69, 70, 72, 55, 74, 100, 88, 90, 95, 65, 82, 55, 66,  
72, 84, 88, 102, 96, 98, 102, 88, 56, 79, 52, 106, 108, 100, 96, 99, 102,  
108, 56, 73, 55, 66, 87, 67, 74, 87, 90, 92, 99, 78, 83, 108, 101, 95, 83,  
104, 68, 60, 79, 70, 88, 100, 95, 77, 80, 95, 75, 65, 55, 90, 78, 84, 66, 92,

- a) Construct a frequency table using a bin width of 10 and the first bin having a lower bin limit of 50.
- b) Construct a relative frequency table using the frequency table found in part a. **Approximate your relative frequency to the nearest thousandths.**
- c) What percent of the sample has at least 60 friends?
- d) What percent of the sample has more than 89 friends?
- e) What percent of the sample has no more than 89 friends?
- f) What percent of the sample has at least 80 friends?
- g) What percent of the sample less than 90 friends?
- h) What percent of the sample has between 60 and 89 friends?