Chapter 1 discussed how to identify the research objective

and collect data.

We learned that data can be obtained

from either observational studies

or designed experiments.

When data are obtained, they are referred to as raw data.

The purpose of this chapter is to learn

how to organize raw data into a meaningful form

so that we can understand what the data are telling us.

The first step in determining how to organize raw data

is to determine whether the data is qualitative or quantitative.

We know from chapter 1 that there are two types of data--

qualitative and quantitative.

In this section, we will concentrate

on tabular and graphical summaries of qualitative data.

In sections 2.2 and 2.3, we discuss tabular and graphical

summaries of quantitative data.

When [qualitative data](https://xlitemprod.pearsoncmg.com/assignment/containerassignmentplayer.aspx#xln-lb-lnk_obj2_1_bc0736fe-cbc0-ca31-5c28-041c93316f8b) are collected, we often first determine the number of occurrences within each category.

**DEFINITION**

A **frequency distribution** lists each category of data and the number of occurrences for each category of data.

**STATCRUNCH**

**In this example, we'll learn to organize qualitative data**

**into a frequency distribution.**

A physical therapist wants to determine

types of rehabilitation required by her patients.

To do so, she obtains a sample 30 of her patients

and records the body part requiring rehabilitation.

Construct a frequency distribution

for the following data.

Here are the data.

Let's go ahead and open up StatCrunch.

Here we are in StatCrunch.

I've typed the data in the first column labeled Body Part.

And we'll press Stat, Tables, Frequency.

Next, we'll select the column containing the data-- Body

Part.

And we just want the frequency.

So click on Frequency.

And click Compute.

And there's our frequency distribution.

Let's go over the steps for using StatCrunch.

Type the data, one per line, in one column.

Press the Stat button.

And from Tables, select Frequency.

Select the column containing the data.

Select Frequency.

And click Compute.

And you'll have your result.

SHOW SOLUTION

2.1 Organizing Qualitative Data

In any frequency distribution, it is a good idea to add up the frequency column to make sure that it equals the number of observations.

In [Example 1](https://xlitemprod.pearsoncmg.com/assignment/containerassignmentplayer.aspx#xln-lb-lnk_obj2_3_3099b78d-80df-c737-015f-998ccd0207ed), the frequency column totals to 30 as it should because there are 30 body parts (observations).