

**CS1100**  
**Fall 2009**  
**Lab Assignment 1**

To complete this assignment you must submit an electronic copy to your lab instructor by the due date using Blackboard.

Download the file **Lab1.xls** and save a copy of it. The file contains records on a number of students in a class, with an ID, a height, and a weight, separated by sex. Our problem is to study the distribution of body mass index for men and for women in the population for which we have data that will allow us to compare the two groups.

**Body Mass Index (BMI)**

Body mass index, or BMI, is an index designed to allow physicians and researchers to study obesity. A person's BMI index is a function of his or her height and weight. The formula for calculation is:

$$\text{BMI} = (\text{weight} / \text{height}^2) * 703$$

Our study proceeds in the following manner:

1. Define an expression to calculate each person's BMI. When you have the expression, copy it into E8:E107 for women, and K8:K98 for men. Round the values to only 1 decimal place. You have now calculated a BMI value for everyone in our population.
2. Assign names to ranges as follows:
  - a. E8:E107      FemaleBMI
  - b. K8:K98      MaleBMI
3. In D114:H119 you will find an array of cells in which you are asked to place functions that answer the following questions. Use the above range names in this process:
  - a. How many women and men, and how many total people in our study? This is often called the sample size.
  - b. What are the average BMIs for men and for women
  - c. What is the average of the BMIs for our total population (both men and women)?
  - d. Compute the average of the average BMI for men and the average BMI for women? Is it the same as the average of the total population?
  - e. What is the median BMI for men, for women and for the total population (men and women combined)?
  - f. What are the minimum, maximum, and range of BMI for women, for men and for the total population (both men and women combined)?