

Lab on Functions CPS 171 J. Remen

This lab is to give you practice in using functions in your programs by writing two functions based mostly on existing code in the `main()` function.

Start a new project in Visual Studio as usual. Go to <http://www.hal9k.com/cps171/labfuncs.htm> and cut-and paste the code into the module in Visual Studio.

The file contains a program that finds the volume of a sphere. It is based on the earlier lab that we did but has no error checking for incorrect data.

Your task is to change this program so that it uses the following two functions – work on them *one at a time!*

Function **GetData** is a void function with **one reference parameter** for the radius. The body of the function will contain a do-while loop that will prompt the user and get the data until the user enters a positive value for the radius. After the loop is finished, the function will echo the data and return the radius to the main program.

Function **CalcVolume** will just do the calculation of the volume so it will be a very short function. It is sent the radius as a value parameter and can be written as *either* a void function with a reference parameter or a value returning function – your choice.

The main program has to be modified to call these two functions and then print the volume.

Hand in a listing of the program and the output. Please enter some negative and zero values for the radius first (to show that your loop works) and then enter a value of 10 for the radius (so that I can see that your volume is correct).