

IST 256  
Lab Week 9, Day 2 – Wednesday, October 28, 2009

### 1. Extending an Array Program

Use the new process for opening a Visual Studio project (although this is not strictly necessary for this program, since it does not use files):

- a. Go to the C: drive and make a folder at the top level with your name or userid, something like: C:\njmccrac
- b. Open Visual Studio and go to create a new project/solution. When this Dialog box opens,
  - i. name: pick a name for the project – something like SimpleArray
  - ii. Put the **location** as the C: drive folder or do “**Save All**” to the C: drive
- c. In this lab, we will work with the SimpleArray program shown in class and add additional output. In this first part, **create the form**. It only needs to have a Button that the user will click on to activate the computation and display of the numbers and other output. It should have **three labels** that will show the results, and another button for close. The form can look something like this, except that you should leave lots of space, 20 or more lines, below the Results label

|\_\_ Display Squares of Numbers \_\_|

Results (label)

Average: (label)

Number below Average: (label)

|\_Close\_|

- d. Use the Simple Array button procedure shown in class; you may copy the contents of the procedure from the web page to your button procedure for Display Squares of Numbers.
- e. Test the program to make sure that the numbers and squares are displaying correctly so far.
- f. Add code to the end of the button procedure to compute two more parts:
  - i. First add code to compute the **average of the values in the array**. Using the solution worked on in class, add a loop to go through the array and add the numbers. Divide this total by 20 to get the average. Put the average number into a label to display it.

ii. Next add code to compute the **number of elements that are less than the average**. Using the solution worked on in class, add a loop to go through the array and to count the number of elements that are < the average. Put this number into a label to display it.

g. test the program again to make sure that it is working correctly.

\*\*\*\*\* **At the end of lab, Don't forget to save your work!** \*\*\*\*\*

Go to the C: drive where you put your folder with your name. Copy and paste this entire folder to the H: drive under your IST256 projects.

**Hand in for lab this week, Monday's lab sheet and program and today's program.**