IMS1906: Business Software Fundamentals
Tutorial exercises
Week 8: Loops and Arrays

These notes are available on the IMS1906 Web site http://www.sims.monash.edu.au
Please contact your tutor if you require assistance with these exercises. Tutor email address and consultation times are available on the subject’s Web page under Staff.

Aim
- To create and search through arrays
- Gain practice in using loops
- Practice in using input boxes and message boxes

Exercise 1 (Variable arrays - Array of Strings)

a) Draw a 1-Dimensional array called strFriendsName that can store 5 friend’s name
   Draw a picture of the array with the following elements inserted:
   and index the array.

b) What is the name of this array, what type of data can it hold, how many elements can fit in this array?

c) Declare a module-level 1-dimensional array called strFriendsName that can store 5 friend’s name.

d) Implement a VB.NET event procedure named “enterNames” so that when the enter button is clicked a DO WHILE LOOP is used to prompt the user to enter (using an input box) names of five friends (one at a time) and stores these names in your array.

e) Write another VB.NET event procedure named “displayNames” so that when the display button is clicked it uses a FOR LOOP to display these names in a textbox control

f) Write another VB.NET event procedure named “sortNames” so that when the sort button is clicked it display these names in sorted order in a textbox control.

g) Write another VB.NET event procedure named “reserveNames” so that when the reverse button is clicked it display these names in reverse order in a textbox control.
Exercise 2 (Variable arrays - Array of Integers)

a) Draw a 1-Dimensional array called intAges that can store 6 ages
b) Declare a module-level 1-dimensional array called intAges that can store 6 ages
What is the name of this array, what type of data can it hold, how many elements can fit in this array?

c) Implement a VB.NET event procedure named “enterAge” so that when the enter button is clicked a DO UNTIL LOOP is used to prompt the user to enter (using an input box) the ages (one at a time) and stores these ages in your array. Use a message box to inform the user if the value they entered is not valid. A valid age lies between 0 and 100 inclusive.

d) Write another VB.NET event procedure named “displayAge” so that when the display button is clicked it uses a FOR LOOP to display these ages in a textbox control.

e) Write another VB.NET event procedure named “findOldestAge” so that when the Find Max button is clicked it displays the oldest age and the position/index of where this age is stored in the array.

f) Write another VB.NET event procedure named “findSmallestAge” so that when the Find Min button is clicked it displays the youngest age and the position/index of where this age is stored in the array.

g) Write another VB.NET event procedure named “findAverageAge” so that when the Average button is clicked it displays the average age in a label.

h) Write a new event procedure called “extendArray” so that when the users clicks on the Extend Array button, changes the array size to hold 10 elements, and it preserves the names already entered. Your code should then prompts the user to enter another 4 names. Display the extended array in a text box to ensure all names are correctly placed in the array.