**Algorithm Workbench**

3.

For index = 0 to SIZE - 1

Set array2[index] = array1[index]

End For

5.

index <= SIZE - 1

Set index = 1

Set highest = array[0]

array[index] > highest

True

True

Set highest = array[index]

False False

Set index = index + 1

**Debugging exercizes**

1. The error with the pseudocode is in the line which states “For index = 0 to SIZE” which will result in the program searching for six different variables (0-5) in an array which only contains five variables (0-4). The line should read “For index = 0 to SIZE – 1”
2. In the program, the variable “highest” is never initialized to any value, so the program cannot run, as it has no initial benchmark to compare the first value in the array to.

**Pseudocode**

//Declarations and Variable initialization

Constant Integer SIZE = 20

Declare Integer numbers[SIZE]

Declare Integer index

Declare Integer total

Declare Integer average

Declare Integer highest

Declare Integer lowest

Set highest = numbers[0]

Set lowest = numbers[0]

//Data entry

For index = 0 to SIZE – 1

Display “Please enter a number.”

Input numbers[index]

Display “You have”, SIZE – index, “numbers left to enter”

End For

//number totals calculation

For index = 0 to SIZE – 1

Set total = total + numbers[index]

End For

//highest number calculation

For index = 1 to SIZE – 1

If numbers[index] > highest

Set highest = numbers[index]

End If

End For

//lowest number calculation

For index = 1 to SIZE – 1

If numbers[index] < lowest

Set lowest = numbers[index]

End If

End For

//Average number calculation

Set average = total / SIZE

//Display statements

Display “The total of the numbers which you entered is”, total

Display “The average of the numbers which you entered is”, average

Display “The highest number which you entered is”, highest

Display “The lowest number which you entered is”, lowest