

## ChEE 201 Computer Homework 2

You need to have read Computer Handout 2 before attempting this homework unless you are intimately familiar with how to use VBA in Excel.

This homework will have you:

- 1) demonstrate you can create logical arguments and program them into VBA from Excel to accomplish a task
- 2) demonstrate that you can write a looping structure that accomplishes a task
- 3) show you can use message boxes to report intermediate results

1) Write a VBA program in Excel that takes three **nonequal** numbers into VBA and then reports the middle of those three numbers to Excel in Cell A1. If two numbers are the same, it is OK to report that number. This assignment is to test you on using If...Then...statements.

Your final program in the VBA module should be printed out and included as your solution. Make sure it works for all possible combinations of relative values. Also, save this spreadsheet and module by itself as your "first name+last name+HW2.1.xls" and email to [blowers@engr.arizona.edu](mailto:blowers@engr.arizona.edu) before class begins on the day it is due. As an example, my own submission would be saved as PaulBlowersHW2.xls

**Solution:** One working final program in the VBA module would be:

```
Option Explicit
Function middlenum(a, b, c)
Dim n1 As Single

If a < b And b < c Then
    n1 = b
End If

If c < b And b < a Then
    n1 = b
End If

If b < a And a < c Then
    n1 = a
End If

If c < a And a < b Then
    n1 = a
End If

If a < c And c < b Then
    n1 = c
End If

If b < c And c < a Then
    n1 = c
End If

middlenum = n1
End Function
```

There are other methods that would have worked too, but this one works. Your program will be tested with the six different possible orderings for numbers to make sure that you program really does work.

**Recall:** late homework will not be accepted. You should complete this and be in class on time on the day it is due.

2) Write a program that finds the factorial of a number and call the function FACTORY. This will involve you using a looping structure. You should take in the number you want the factorial of and report back the factorial. Note: this is not a built in function like it is in many other languages so you need to construct your own program to do this.

Your final program in the VBA module should be printed out and included as your solution. Make sure it works. Also, save this spreadsheet and module by itself as your "first name+last name+HW2.2.xls" and email to blowers@engr.arizona.edu before class on the day it is due. As an example, my own submission would be saved as PaulBlowersHW2.xls

**Solution:** An example of a program that works would be

```
Option Explicit  
Function factory(n)  
Dim i As Single, product As Single  
  
product = 1  
For i = 1 To n Step 1  
product = product * i  
Next i  
  
factory = product  
End Function
```

Others may have worked. Your program will be checked for a few larger integers to make sure it is working properly.

3) Demonstrate in some way that you know how to use a message box. Include your code and a screen shot of your message box with your homework solution. You can do this by hitting "Print Screen" on your keyboard and then pasting the result into word and printing it out.

Solution: An example would be our solution from number two with just a msgbox command added like:

```
Option Explicit  
Function factory(n)  
Dim i As Single, product As Single  
  
product = 1  
For i = 1 To n Step 1  
product = product * i  
MsgBox (i)  
Next i  
  
factory = product  
End Function
```

Our picture screen shot demonstrating this works would be something like:

