

VBA Project Report

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November 14, 2014

Statement of the problem

The goal of this project was to create a VBA Userform that was capable of assisting a teacher with managing grades that are collected by TA's and formatted into a specific way inside an excel spreadsheet. At the press of a button, VBA code allows the user to select certain files, which are then compiled and alphabetized into a main worksheet. From here, the user may search for grades or change grades. The user inputs either a student's last name or a student ID number. Then, they select what assignment to search for/change, or they can pull up the complete scores record for that student. The project requirements for user input validation were heavy. The code protects for many mishaps, such as the user failing to enter a certain search criteria.

Strategy of the solution and flow chart

The strategy to solving this problem was to write code behind various buttons on userforms. In addition, various userforms were created for the three main functions: Importing, Searching, and Grade Changing. Initially, the user is presented with the "Import Tool", and they may press a button to transfer to the "Search Tool" or "Grade Changer Tool". All the userforms were linked together with buttons that transfer the user to whatever form they wish. The main "functional" code will be shown in flow charts below for each of the three userforms (Import, Search, and Grade Change tools).

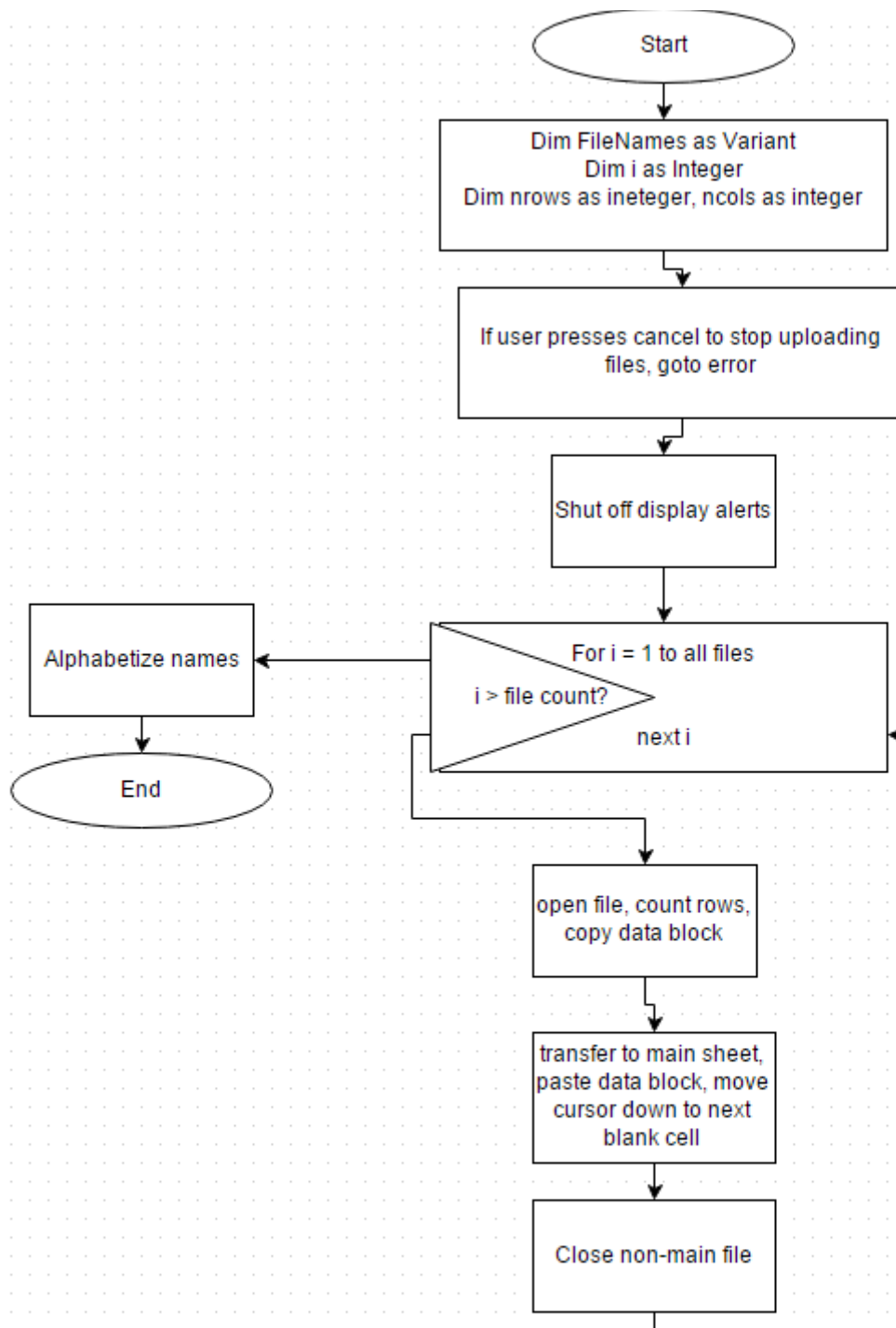
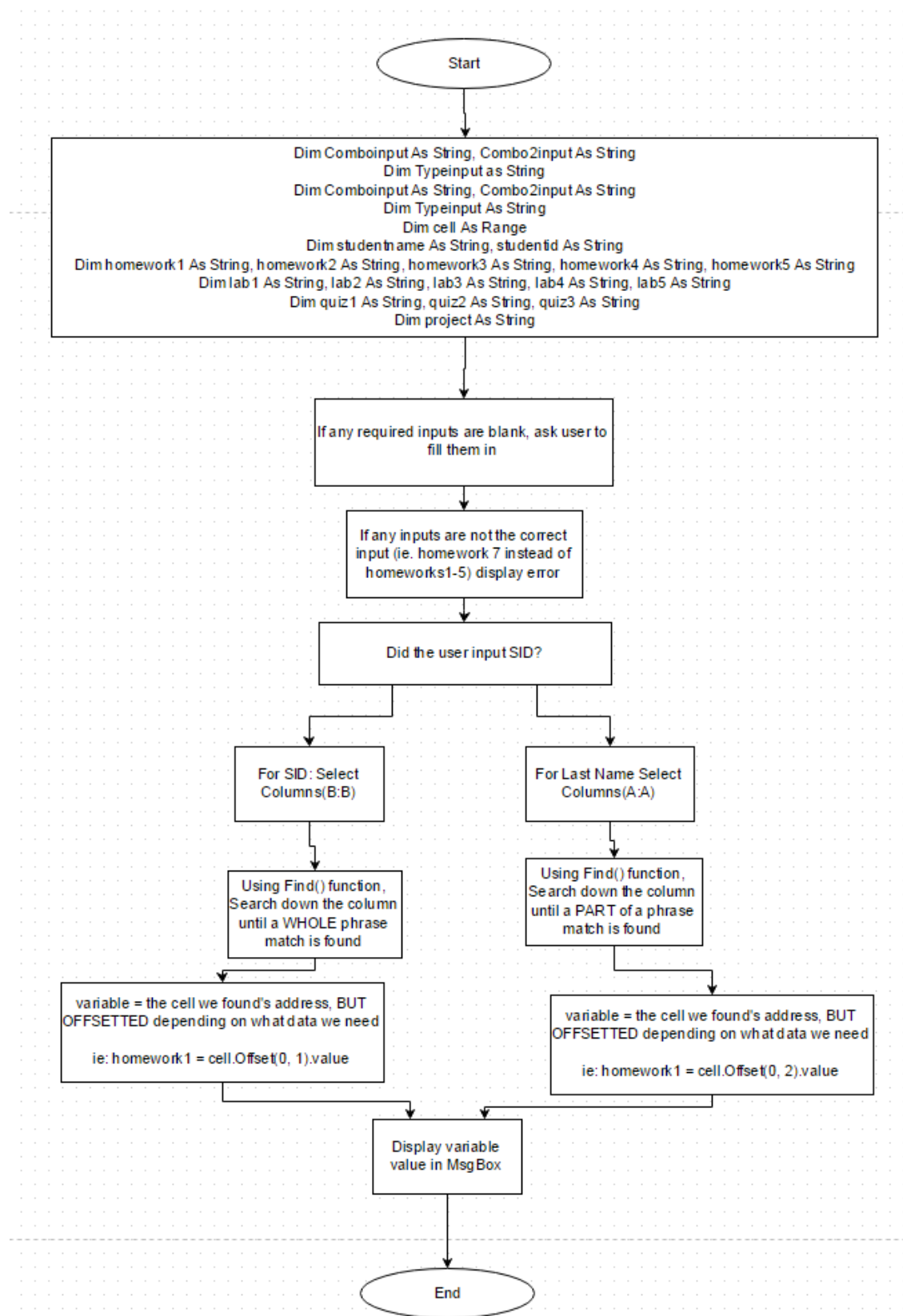
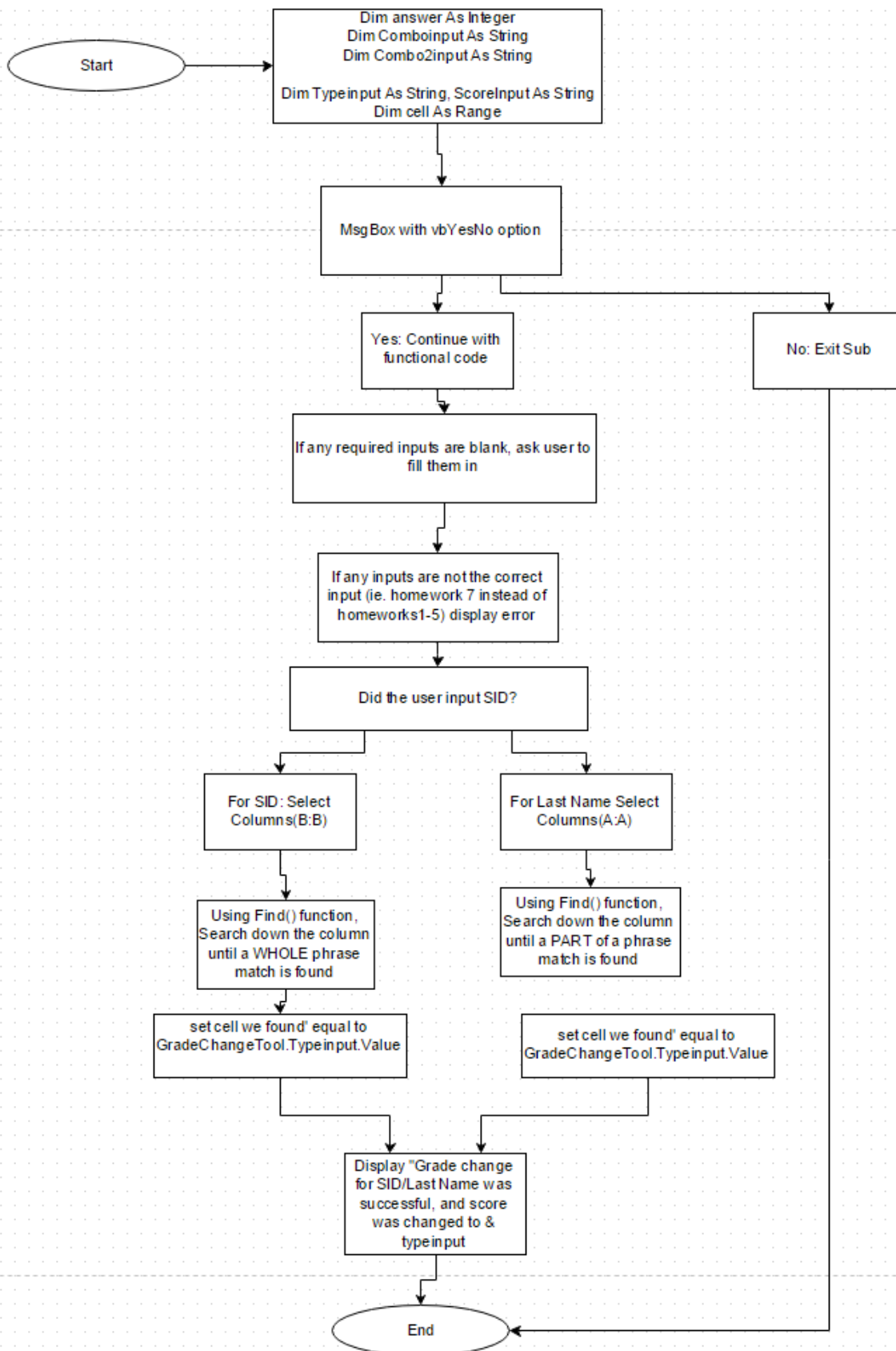


Figure 1: Import Tool Functional Code

Figure 2: Search Tool Functional Code Flow Chart

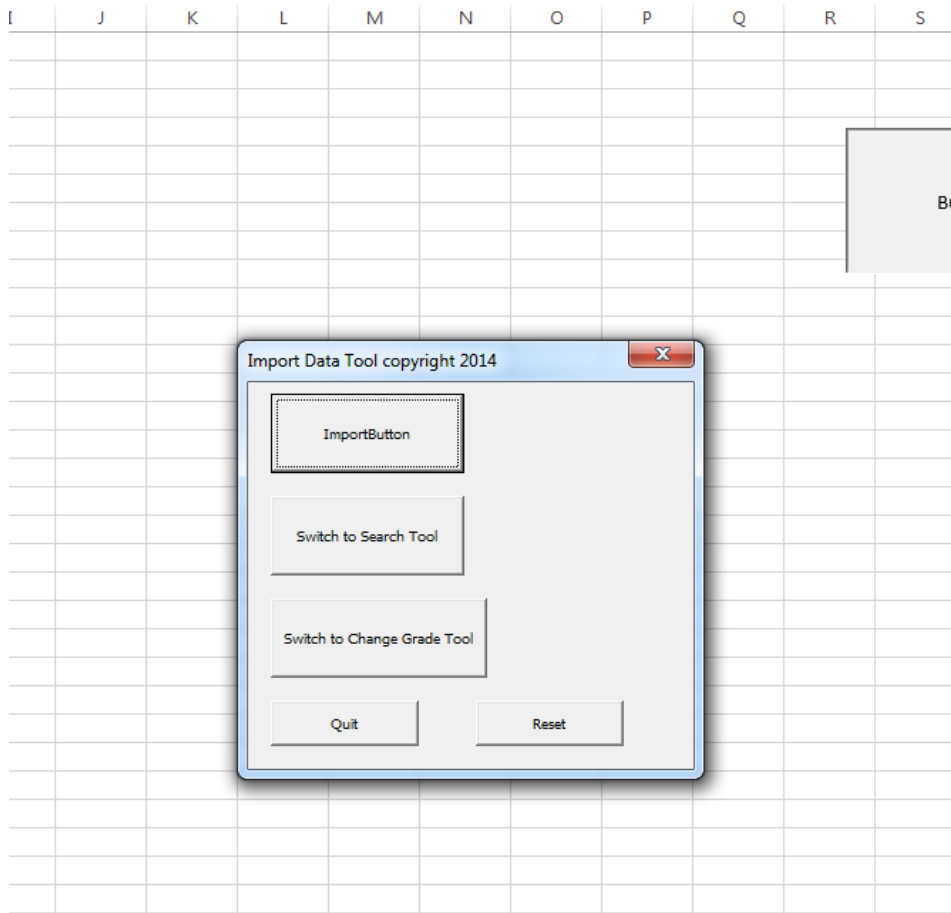


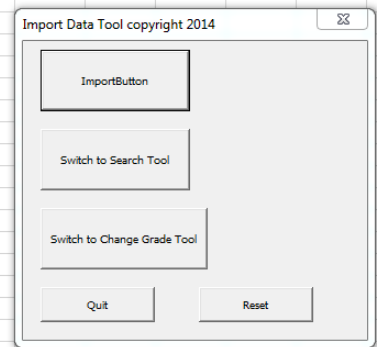
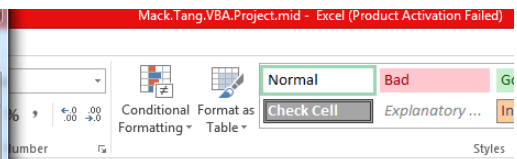
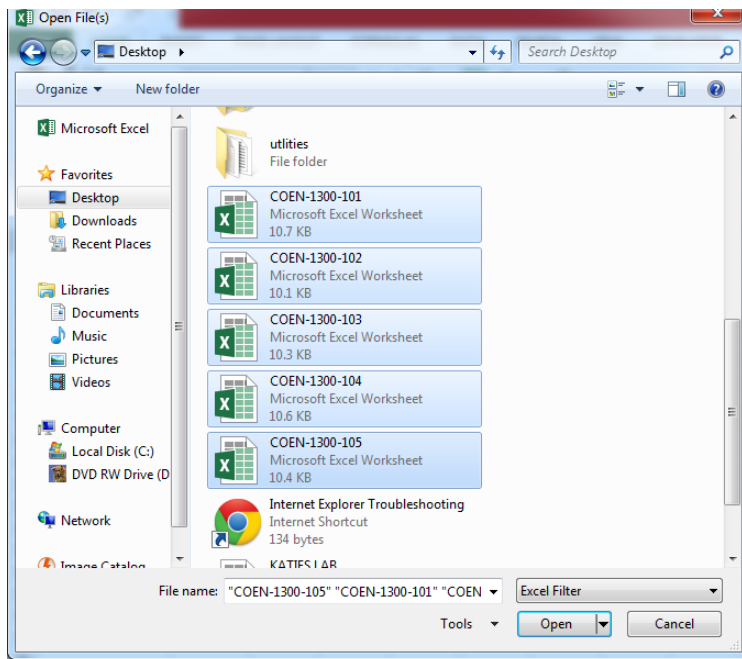


Example Results

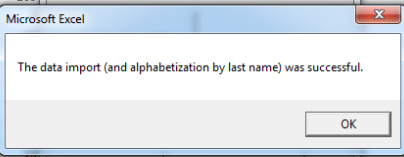
The following is the sequence the user follows:

Open file/press button to bring up userform > click “Import Tool” > Select several TA’s section files > wait for files to be configured > click ok at msg “successful import”





1	Name	Student ID	Homework	Homework	Homework	Homework	Homework	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Quiz 1	Quiz 2	Quiz 3	Project
2	Apple, Arnold	706812786	55	55	45	55	55	22	66	55	55	66	55	44	22	44
3	Arnot, Amy	438251259	1	2	3	4	5	6	7	8	9	10	11	12	13	14
4	Atkins, Albert	457969088	9	20	7	6	5	4	3	2	1	0	1	1	1	56
5	Bear, Betty	405541455	11	22	0.352	66	22	37	44	0	44	61.2	22	0.05	55	44
6	Berry, Barry	110547086	-121	-77	-133.592	99	-77	82	-22	-165	11	46.8	-77	-131.8	154	4
7	Blanch, Barry	366045004	5	7	9	11	13	15	17	19	21	23	25	27	29	31
8	Britches, Beth	407030356	2	3	4	5	6	7	8	9	10	11	12	13	14	15
9	Chocolate, Charlie	576678083	-33	-11	-44.296	77	-11	52	22	-55	33	56.4	-11	-43.9	88	44
10	Cougar, Charlie	691004029	-165	-110	-178.24	110	-110	97	-44	-220	0	42	-110	-175.75	187	7
11	Coyote, Carl	813358813	5	4	5	5	5	4	-66	-275	-11	37.2	-143	5	2	5
12	Crawford, Carrie	268286162	22	23	24	25	26	27	28	29	30	31	32	33	34	35
13	Crutch, Carrie	279203124	8	19	30	41	52	63	74	85	96	107	118	129	140	151
14	Duck, Donald	763817457	3	4	5	6	7	8	9	10	11	12	13	14	15	16
15	Duke, Dan	392256316	4	5	6	7	8	9	10	11	12	13	14	15	16	17
16	Emmons, Emma	957847851	5	18	31	44	57	70	83	96	109	122	135	148	161	174
17	Ernst, Emma	609812788	-253	3	2	132	-176	2	5	-330	-363	-396	-429	-462	-495	-528
18	Flowers, Fletcher	719505465	-297	-209	-312.184	143	-209	142	-110	-385	-458	-531	-604	-677	-750	-823
19	Godfrey, Gilbert	892556147	-341	-242	8	154	-242	157	-132	-440	-513	-586	-659	-732	-805	-878
20	Griber, Gretchen	404368887	7	17	27	37	47	57	67	77	87	97	107	117	127	137
21	Grizzwald, Grizzly	120302860	-385	-275	-401.48	165	-275	172	-154	-495	-568	-641	-714	-787	-860	-933
22	Henry, Henry	443438415	-429	-308	-446.128	176	-308	187	-176	-550	-623	-696	-769	-842	-915	-988
23	Hansel, Henry	804646143	-77	-44	-88.944	88	-44	67	0	-110	-183	-256	-329	-402	-475	-548
24	Harold, Harry	539243992	5	6	7	8	9	10	11	12	13	14	15	16	17	18
25	Jacob, Jake	280386085	-121	-77	4	99	-77	82	5	5	11	16	21	26	31	36
26	Jenson, Jill	923942347	5	16	27	38	49	60	71	82	93	104	115	126	137	148
27	Jenson, Jim	600820388	5	15	25	35	45	55	65	75	85	95	105	115	125	135
28	Jolt, Jerry	449372495	24	25	26	27	28	29	30	31	32	33	34	35	36	37
29	Kime, Kim	547061401	6	7	8	9	10	11	12	13	14	15	16	17	18	19



From here they may choose to do a search

Click “Switch to Search Tool” Button > pick SID or Last Name from drop down menu > user types in a text box a SID# or a student’s last name

33	56.4	-11	-43.9	88	44
0	42	-110	-175.75	187	7

Search Tool copyright 2014

Switch to Import Tool

Switch to Grade Change Tool

Select Search Criteria
(SID or Last Name):

Enter SID or Last Name

See All Assignments

OR Select Specific Assignment:

GO

Quit

Reset

32	33	34	35	36	37
----	----	----	----	----	----

0	42	-110	-175.75	187	7
---	----	------	---------	-----	---

Search Tool copyright 2014

Switch to Import Tool Switch to Grade Change Tool

Select Search Criteria (SID or Last Name): Last Name ▼

Enter SID or Last Name Bear

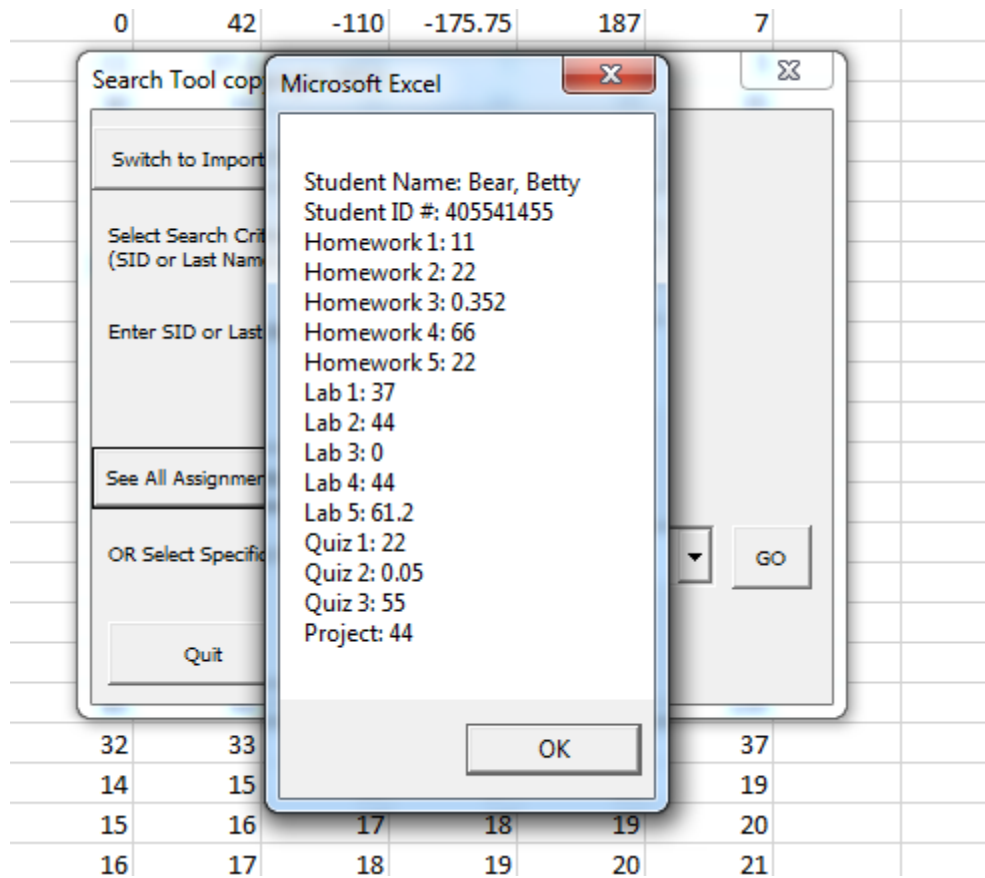
See All Assignments

OR Select Specific Assignment: ▼ GO

Quit Reset

32	33	34	35	36	37
----	----	----	----	----	----

The user may want the full scores record, or a specific assignment. For full record:
User clicks “See all assignments” button > msg box appears showing all scores



For specific assignment

User picks from drop down menu an assignment name > user presses "Go" > msg box appears with score

-275					
29					
85					
10					
11					
96					
-330					
-385					
-440					
77					
-495					
-550					
-110					
12					
5					
82					
75					
31	32	33	34		37
13	14	15	16		19

Search Tool copyright 2014

Switch to Import Tool

Switch to Grade Change Tool

Select Search Criteria (SID or Last Name):

Last Name

Enter SID or Last Name

Bear

See All Assignments

OR Select Specific Assignment:

Homework 1

Homework 2

Homework 3

Homework 4

Homework 5

Lab 1

Lab 2

Lab 3

GO

Quit

Reset

32	33	34	35	36	37
----	----	----	----	----	----

Search Tool copyright 2014

Switch to Import Tool

Switch to Grade Change Tool

Select Search Criteria (SID or Last Name):

Last Name

Enter SID or Last Name

See All Assignments

OR Select Specific Assignment:

GO

Quit

Reset

Microsoft Excel

Homework 5: 22

OK

Or, from the import page, they may choose to change a grade:

User clicks “Switch to Grade Change Tool” button > User picks from drop down menu either SID or Last Name > user types in an SID# or a last name > User picks from drop down menu an assignment > User

types in the updated score > user presses go > value on spreadsheet is changed, and “success” msgbox appears.

The screenshot shows the 'Grade Change Tool' dialog box with the title 'Grade Change Tool copyright 2014'. It features two buttons at the top: 'Switch to Import Tool' (highlighted with a dashed border) and 'Switch to Search Tool'. Below these are four input fields: 'Select Search Criteria (SID or Last Name):' with a dropdown arrow, 'Enter SID or Last Name' with a text box, 'Select Assignment:' with a dropdown arrow, and 'Change to score of:' with a text box. A 'GO' button is positioned to the right of the score input field. At the bottom are 'Quit' and 'Reset' buttons. The dialog is overlaid on a spreadsheet background.

This screenshot shows the same 'Grade Change Tool' dialog box, but with data entered into the fields. The 'Select Search Criteria' dropdown now shows 'SID'. The 'Enter SID or Last Name' text box contains '405541455'. The 'Select Assignment' dropdown shows 'Quiz 3'. The 'Change to score of:' text box contains '3.14'. The 'GO' button remains to the right of the score field. The 'Quit' and 'Reset' buttons are still at the bottom. The dialog is overlaid on the same spreadsheet background.

Grade Change Tool copyright 2014

Switch to Import Tool Switch to Search Tool

Select Search Criteria
(SID or Last Name): SID

Enter SID or Last Name 405541455

Select Assignment: Quiz 3

Change to score of: 3.14 GO

Quit Reset

Switch to Import Tool Switch to Search Tool

Select Search Criteria
(SID or Last Name): SID

Enter SID or Last Name

Select Assignment

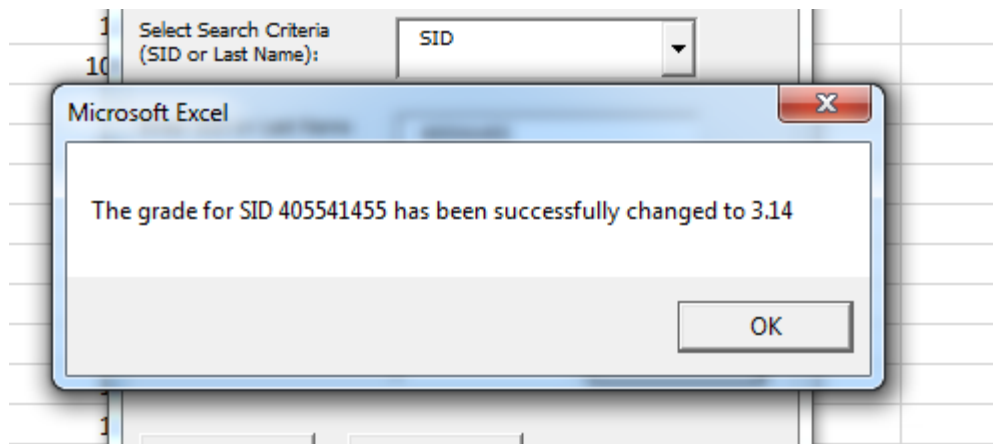
Change to score of

Quit Reset

VBA Expert or Not

Are you sure you want to change this grade?

Yes No

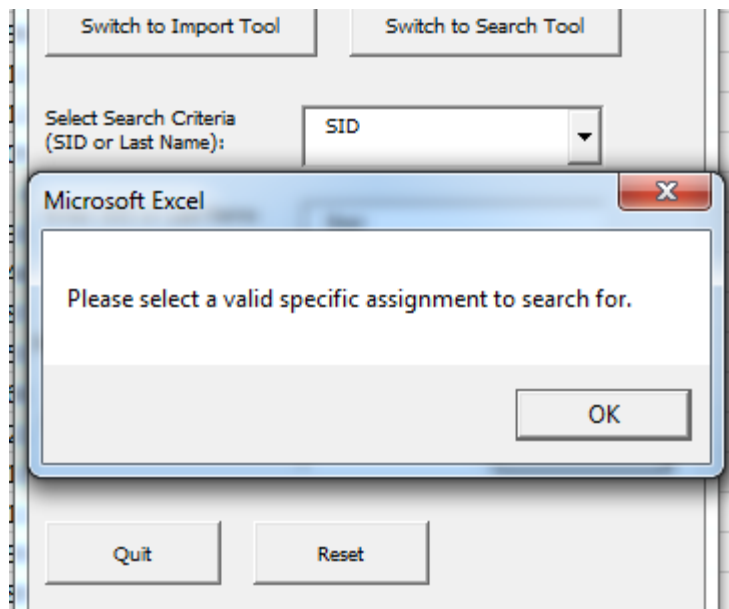


Input Validation

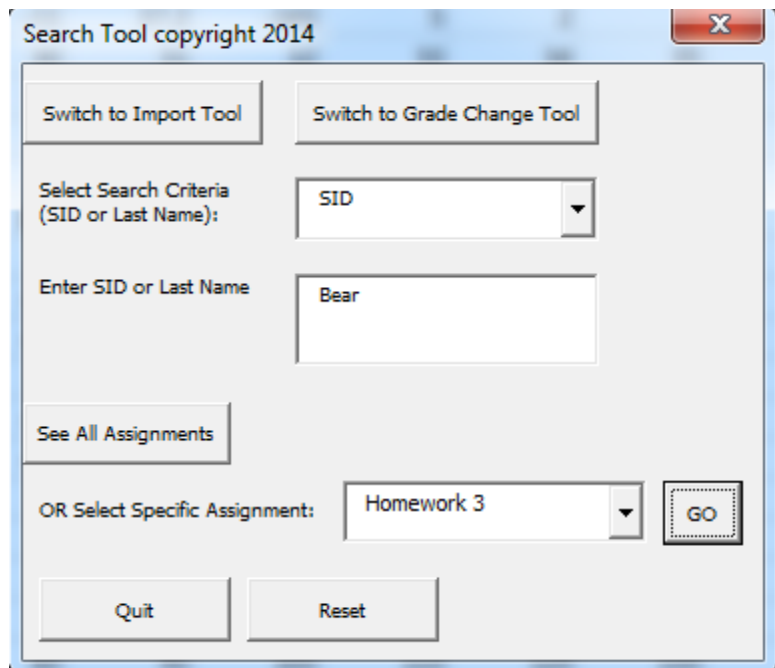
To assure that all input validations were met, I essentially just started the userform and did everything and anything to break the system or get an error message. A few examples will be shown below:

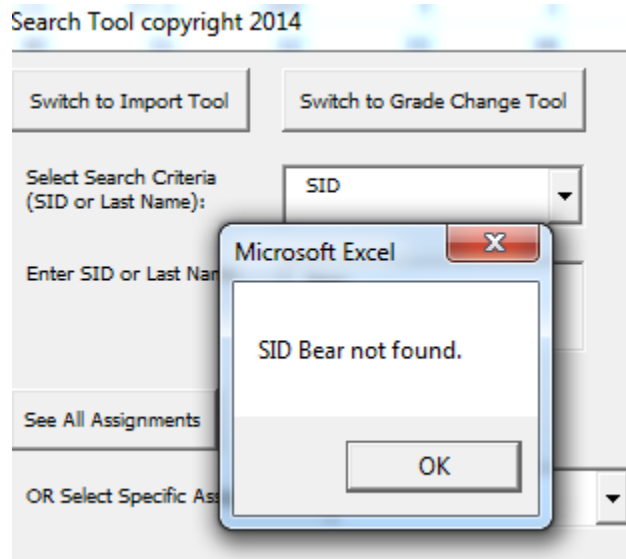
User fails to enter an actual assignment (or leaves it blank):

A screenshot of a userform titled "Grade Change Tool copyright 2014". The form has a title bar with a close button (X). It contains several input fields and buttons. At the top are two buttons: "Switch to Import Tool" and "Switch to Search Tool". Below these are four input fields: "Select Search Criteria (SID or Last Name):" with a dropdown menu showing "SID"; "Enter SID or Last Name" with a text box containing "Bear"; "Select Assignment:" with a dropdown menu showing "asda;sdlk vjseljflaskdjf"; and "Change to score of:" with a text box containing "99.5". To the right of the "Change to score of:" text box is a "GO" button. At the bottom of the form are two buttons: "Quit" and "Reset".

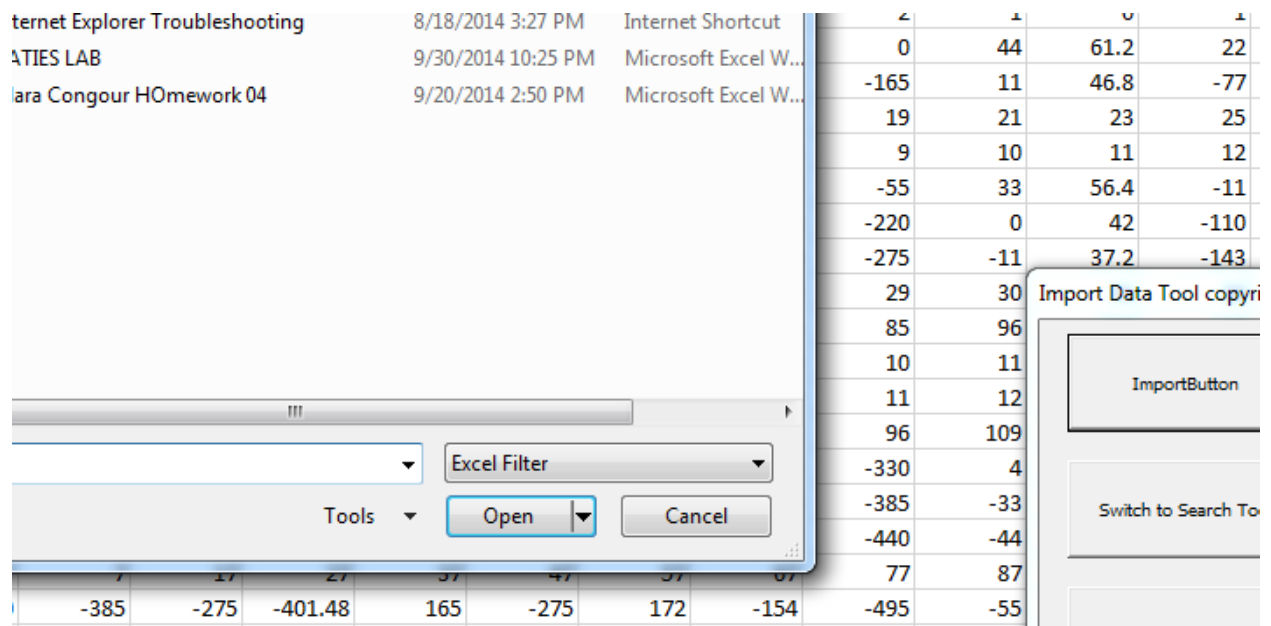


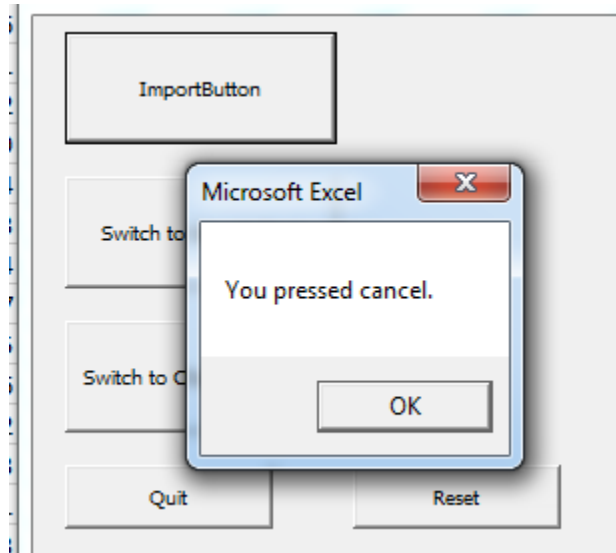
Also, if the VBA code cannot find a certain SID because the user accidentally selected SID but typed a student's last name, it will become obvious to the user what their mistake was through the following error message.





...And if the user presses cancel instead of selecting files, they are simply redirected to the Import Tool:





Validation

The ability of this project to function successfully and to meet all requirements has been tested extensively. To validate results, one simply must test multiple file sets of various student sets. The adaptability of this code to any class size comes from a macro-recording of the useful keyboard shortcut, “Shift + *”. This keyboard shortcut selects an entire block of code.

Limitations of the Solution

There is one very large limitation of this code. Suppose there were 10 homeworks instead of 5. If all the TA’s added more columns to their files, the code would not work, because certain values such as “homeworks 1 through 5” have been hardwired into the drop down menus. However, it would be possible to adapt the code such that, if all TA’s added another homework column, the search tools would still work. This would be very difficult.

An alternative that works around this “dynamic column” situation while still using the static style of code would be to just add some placeholders. So, one could write the code for 10 homework columns, but just tell the TA’s not to enter anything into them. Then the code could just return blank values.

One more limitation is that, if a lone TA decides to change his or her grades, the user must re-upload ALL the files, including the ones which were not changed. This has to do with the way the code copies and pastes everything in on top of what was already there.

One more limitation is that, say we have 2 students with last name “Smith” and “Smithey”. Because we are using the Find() function, we will always find Smith and not Smithey. Same for Mickey and Minnie Mouse, we only ever find Mickey. So, it is always safer to search by SID#, which works 100% of the time.

The whole idea of this VBA Project was to meet all given project requirements. To my knowledge (through my own testing), there was nothing within the requirements that this code couldn’t do. So, the limitations of the code lies mainly how few the project requirements were.

VBA Code (There is code for ImportTool, GradeChangeTool, and SearchTool, and auxiliary code, all labeled in bold)

ImportTool

Option Explicit

Private Sub ImportButton_Click()

Dim FileNames As Variant

Dim i As Integer

Dim nrows As Integer, ncols As Integer

On Error GoTo Err1

Range("A1").Activate

Selection.CurrentRegion.Select

Selection.ClearContents

Application.DisplayAlerts = False

'Application.ScreenUpdating = False

Range("A1").Select

FileNames = Application.GetOpenFilename(FileFilter:="Excel Filter (*.xlsx), *.xlsx", Title:="Open File(s)",
MultiSelect:=True)

For i = 1 To UBound(FileNames)

 Workbooks.Open FileNames(i)

Range("A1").Select

Range(Selection, Selection.End(xlToRight)).Select

Selection.Delete Shift:=xlUp

Selection.CurrentRegion.Select

nrows = Selection.Rows.Count

ncols = Selection.Columns.Count

Selection.Copy

Windows("Mack.Tang.VBA.Project.mid.xlsm").Activate

ActiveSheet.Paste

Workbooks.Open FileNames(i)

ActiveWorkbook.Close SaveChanges:=False

ActiveCell.Offset(nrows, 0).Activate

Next i

Range("A1").Select

ActiveWorkbook.Worksheets("Sheet1").Sort.SortFields.Clear

ActiveWorkbook.Worksheets("Sheet1").Sort.SortFields.Add Key:=Range("A1:A50") _
 , SortOn:=xlSortOnValues, Order:=xlAscending, DataOption:=xlSortNormal

With ActiveWorkbook.Worksheets("Sheet1").Sort

 .SetRange Range("A1:P50")

 .Header = xlGuess

 .MatchCase = False

 .Orientation = xlTopToBottom

 .SortMethod = xlPinYin

 .Apply

End With

```
Range("A1").Select
Range(Selection, Selection.End(xlToRight)).Select
Selection.Insert Shift:=xlDown, CopyOrigin:=xlFormatFromLeftOrAbove
```

```
For i = 1 To UBound(FileNames)
    Workbooks.Open FileNames(i)
```

```
Range("A1").Select
Range(Selection, Selection.End(xlToRight)).Select
```

```
Selection.Copy
Windows("Mack.Tang.VBA.Project.mid.xlsm").Activate
```

```
ActiveSheet.Paste
```

```
Workbooks.Open FileNames(i)
ActiveWorkbook.Close SaveChanges:=False
Exit For
Next i
```

```
MsgBox "The data import (and alphabetization by last name) was successful."
```

```
Exit Sub
```

```
Err1:
MsgBox "You pressed cancel."
Unload ImportTool
ImportTool.Show
```

```
End Sub
```

```
Private Sub QuitButton_Click()
```

```
Unload ImportTool
```

```
End Sub
```

```
Private Sub ResetButton_Click()
```

```
Unload ImportTool
```

```
ImportTool.Show
```

```
End Sub
```

```
Private Sub ShowSearchTool_Click()
```

```
Unload ImportTool
```

```
SearchTool.Show
```

```
End Sub
```

```
Private Sub ChangeTool_Click()
```

```
Unload ImportTool
```

```
GradeChangeTool.Show
```

```
End Sub
```

```
Private Sub UserForm_Click()
```

```
End SubOption Explicit
```

```
Private Sub ImportButton_Click()
```

```
Dim FileNames As Variant
```

```
Dim i As Integer
```

```
Dim nrows As Integer, ncols As Integer
```

```
On Error GoTo Err1
```

```
Range("A1").Activate
```

```
Selection.CurrentRegion.Select
```

```
Selection.ClearContents
```

```
Application.DisplayAlerts = False
```

```
'Application.ScreenUpdating = False
```

```
Range("A1").Select
```

```
FileNames = Application.GetOpenFilename(FileFilter:="Excel Filter (*.xlsx), *.xlsx", Title:="Open File(s)",  
MultiSelect:=True)
```

```
For i = 1 To UBound(FileNames)
```

```
    Workbooks.Open FileNames(i)
```

```
Range("A1").Select
```

```
Range(Selection, Selection.End(xlToRight)).Select
```

```
Selection.Delete Shift:=xlUp
```

```
Selection.CurrentRegion.Select
```

```
nrows = Selection.Rows.Count
```

```
ncols = Selection.Columns.Count
```

```
Selection.Copy
```

```
Windows("Mack.Tang.VBA.Project.mid.xlsm").Activate
```

ActiveSheet.Paste

Workbooks.Open FileNames(i)

ActiveWorkbook.Close SaveChanges:=False

ActiveCell.Offset(nrows, 0).Activate

Next i

Range("A1").Select

ActiveWorkbook.Worksheets("Sheet1").Sort.SortFields.Clear

ActiveWorkbook.Worksheets("Sheet1").Sort.SortFields.Add Key:=Range("A1:A50") _
 , SortOn:=xlSortOnValues, Order:=xlAscending, DataOption:=xlSortNormal

With ActiveWorkbook.Worksheets("Sheet1").Sort

 .SetRange Range("A1:P50")

 .Header = xlGuess

 .MatchCase = False

 .Orientation = xlTopToBottom

 .SortMethod = xlPinYin

 .Apply

End With

Range("A1").Select

Range(Selection, Selection.End(xlToRight)).Select

Selection.Insert Shift:=xlDown, CopyOrigin:=xlFormatFromLeftOrAbove

For i = 1 To UBound(FileNames)

 Workbooks.Open FileNames(i)

Range("A1").Select

Range(Selection, Selection.End(xlToRight)).Select

Selection.Copy

Windows("Mack.Tang.VBA.Project.mid.xlsm").Activate

ActiveSheet.Paste

Workbooks.Open FileNames(i)

ActiveWorkbook.Close SaveChanges:=False

Exit For

Next i

MsgBox "The data import (and alphabetization by last name) was successful."

Exit Sub

Err1:

MsgBox "You pressed cancel."

Unload ImportTool

ImportTool.Show

End Sub

Private Sub QuitButton_Click()

Unload ImportTool

End Sub

Private Sub ResetButton_Click()

Unload ImportTool

ImportTool.Show

End Sub

Private Sub ShowSearchTool_Click()

Unload ImportTool

SearchTool.Show

End Sub

Private Sub ChangeTool_Click()

Unload ImportTool

GradeChangeTool.Show

End Sub

Private Sub UserForm_Click()

End Sub

SearchTool

Option Explicit

Option Base 1

Private Sub GoSearch_Click()

Dim Comboinput As String

Dim Typeinput As String

Dim cell As Range

Dim studentname As String, studentid As String

Dim homework1 As String, homework2 As String, homework3 As String, homework4 As String, homework5 As String

Dim lab1 As String, lab2 As String, lab3 As String, lab4 As String, lab5 As String

Dim quiz1 As String, quiz2 As String, quiz3 As String

Dim project As String

Typeinput = SearchTool.Typeinput.Value

```
Comboinput = ComboBox1.Value
```

```
Sheets("Sheet1").Select
```

```
If SearchTool.Typeinput.Value = "" Then
```

```
MsgBox "You must enter a SID # or last name to search for."
```

```
Exit Sub
```

```
End If
```

```
If Comboinput = "SID" Then
```

```
Columns("B:B").Select
```

```
Set cell = Selection.Find(What:=SearchTool.Typeinput.Value, After:=ActiveCell, LookIn:=xlFormulas, _  
    LookAt:=xlWhole, SearchOrder:=xlByRows, SearchDirection:=xlNext, _  
    MatchCase:=False, SearchFormat:=False)
```

```
If cell Is Nothing Then
```

```
    'do it something
```

```
MsgBox "SID " & Typeinput & " not found."
```

```
Else
```

```
    'do it another thing
```

```
studentname = cell.Offset(0, -1).Value
```

```
studentid = cell.Offset(0, 0).Value
```

```
homework1 = cell.Offset(0, 1).Value
```

```
homework2 = cell.Offset(0, 2).Value
```

```
homework3 = cell.Offset(0, 3).Value
```

```
homework4 = cell.Offset(0, 4).Value
```

```
homework5 = cell.Offset(0, 5).Value
```

```
lab1 = cell.Offset(0, 6).Value
```

```
lab2 = cell.Offset(0, 7).Value
lab3 = cell.Offset(0, 8).Value
lab4 = cell.Offset(0, 9).Value
lab5 = cell.Offset(0, 10).Value
quiz1 = cell.Offset(0, 11).Value
quiz2 = cell.Offset(0, 12).Value
quiz3 = cell.Offset(0, 13).Value
project = cell.Offset(0, 14).Value
```

```
'cell.Offset(0, 1) = homework1
```

```
MsgBox "Student Name: " & studentname & vbCrLf & _
    "Student ID #: " & studentid & vbCrLf & _
    "Homework 1: " & homework1 & vbCrLf & _
    "Homework 2: " & homework2 & vbCrLf & _
    "Homework 3: " & homework3 & vbCrLf & _
    "Homework 4: " & homework4 & vbCrLf & _
    "Homework 5: " & homework5 & vbCrLf & _
    "Lab 1: " & lab1 & vbCrLf & _
    "Lab 2: " & lab2 & vbCrLf & _
    "Lab 3: " & lab3 & vbCrLf & _
    "Lab 4: " & lab4 & vbCrLf & _
    "Lab 5: " & lab5 & vbCrLf & _
    "Quiz 1: " & quiz1 & vbCrLf & _
    "Quiz 2: " & quiz2 & vbCrLf & _
    "Quiz 3: " & quiz3 & vbCrLf & _
    "Project: " & project
```

```
End If
```

```
End If
```

```
If Comboinput = "Last Name" Then
```

```
'Application.WorksheetFunction.VLOOKUP(lookup_value, table_array, column_index, range_lookup)
'I3,Data1,3,FALSE
Columns("A:A").Select

Set cell = Selection.Find(What:=SearchTool.Typeinput.Value, After:=ActiveCell, LookIn:=xlFormulas, _
    LookAt:=xlPart, SearchOrder:=xlByRows, SearchDirection:=xlNext, _
    MatchCase:=False, SearchFormat:=False)
```

```
'-----
```

```
If cell Is Nothing Then
```

```
    'do it something
```

```
    MsgBox "Student Last Name " & SearchTool.Typeinput.Value & " not found."
```

```
Else
```

```
    'do it another thing
```

```
    studentname = cell.Offset(0, 0).Value
```

```
    studentid = cell.Offset(0, 1).Value
```

```
    homework1 = cell.Offset(0, 2).Value
```

```
    homework2 = cell.Offset(0, 3).Value
```

```
    homework3 = cell.Offset(0, 4).Value
```

```
    homework4 = cell.Offset(0, 5).Value
```

```
    homework5 = cell.Offset(0, 6).Value
```

```
    lab1 = cell.Offset(0, 7).Value
```

```
    lab2 = cell.Offset(0, 8).Value
```

```
    lab3 = cell.Offset(0, 9).Value
```

```
    lab4 = cell.Offset(0, 10).Value
```

```
    lab5 = cell.Offset(0, 11).Value
```

```
    quiz1 = cell.Offset(0, 12).Value
```

```
    quiz2 = cell.Offset(0, 13).Value
```

```
    quiz3 = cell.Offset(0, 14).Value
```

```
    project = cell.Offset(0, 15).Value
```

```
MsgBox "Student Name: " & studentname & vbCrLf & _
```

```
    "Student ID #: " & studentid & vbCrLf & _
```

```
    "Homework 1: " & homework1 & vbCrLf & _
```

```
"Homework 2: " & homework2 & vbCrLf & _  
"Homework 3: " & homework3 & vbCrLf & _  
"Homework 4: " & homework4 & vbCrLf & _  
"Homework 5: " & homework5 & vbCrLf & _  
"Lab 1: " & lab1 & vbCrLf & _  
"Lab 2: " & lab2 & vbCrLf & _  
"Lab 3: " & lab3 & vbCrLf & _  
"Lab 4: " & lab4 & vbCrLf & _  
"Lab 5: " & lab5 & vbCrLf & _  
"Quiz 1: " & quiz1 & vbCrLf & _  
"Quiz 2: " & quiz2 & vbCrLf & _  
"Quiz 3: " & quiz3 & vbCrLf & _  
"Project: " & project
```

```
'cell.Offset(0, 1) = homework1
```

```
End If
```

```
End If
```

```
End Sub
```

```
Private Sub GOSpecific_Click()
```

```
Dim Comboinput As String, Combo2input As String
```

```
Dim Typeinput As String
```

```
Dim cell As Range
```

```
Dim studentname As String, studentid As String
```

```
Dim homework1 As String, homework2 As String, homework3 As String, homework4 As String, homework5 As String
```

```
Dim lab1 As String, lab2 As String, lab3 As String, lab4 As String, lab5 As String
```

```
Dim quiz1 As String, quiz2 As String, quiz3 As String
```

```
Dim project As String
```

```
Comboinput = ComboBox1.Value
```

```
Combo2input = ComboBox2.Value
```

```
Sheets("Sheet1").Select
```

```
If SearchTool.ComboBox2.Value <> "Homework 1" _
```

```

And SearchTool.ComboBox2.Value <> "Homework 2" _
And SearchTool.ComboBox2.Value <> "Homework 3" _
And SearchTool.ComboBox2.Value <> "Homework 4" _
And SearchTool.ComboBox2.Value <> "Homework 5" _
And SearchTool.ComboBox2.Value <> "Lab 1" _
And SearchTool.ComboBox2.Value <> "Lab 2" _
And SearchTool.ComboBox2.Value <> "Lab 3" _
And SearchTool.ComboBox2.Value <> "Lab 4" _
And SearchTool.ComboBox2.Value <> "Lab 5" _
And SearchTool.ComboBox2.Value <> "Quiz 1" _
And SearchTool.ComboBox2.Value <> "Quiz 2" _
And SearchTool.ComboBox2.Value <> "Quiz 3" _
And SearchTool.ComboBox2.Value <> "Project" Then
MsgBox "Please select a valid specific assignment to search for."
Exit Sub
End If

```

```

If SearchTool.ComboBox1.Value <> "SID" And SearchTool.ComboBox1.Value <> "Last Name" Then
    MsgBox "Please select a valid Search Criteria (SID or Last Name)"
    Exit Sub
End If

```

```

If Comboinput = "SID" Then

```

```

Columns("B:B").Select

```

```

Set cell = Selection.Find(What:=SearchTool.Typeinput.Value, After:=ActiveCell, LookIn:=xlFormulas, _
    LookAt:=xlWhole, SearchOrder:=xlByRows, SearchDirection:=xlNext, _
    MatchCase:=False, SearchFormat:=False)

```

If cell Is Nothing Then

 'do it something

 MsgBox "SID " & SearchTool.Typeinput.Value & " not found."

Else

 'do it another thing

 studentname = cell.Offset(0, -1).Value

 studentid = cell.Offset(0, 0).Value

 homework1 = cell.Offset(0, 1).Value

 homework2 = cell.Offset(0, 2).Value

 homework3 = cell.Offset(0, 3).Value

 homework4 = cell.Offset(0, 4).Value

 homework5 = cell.Offset(0, 5).Value

 lab1 = cell.Offset(0, 6).Value

 lab2 = cell.Offset(0, 7).Value

 lab3 = cell.Offset(0, 8).Value

 lab4 = cell.Offset(0, 9).Value

 lab5 = cell.Offset(0, 10).Value

 quiz1 = cell.Offset(0, 11).Value

 quiz2 = cell.Offset(0, 12).Value

 quiz3 = cell.Offset(0, 13).Value

 project = cell.Offset(0, 14).Value

If Combo2input = "Homework 1" Then

 MsgBox "Homework 1: " & homework1

End If

If Combo2input = "Homework 2" Then

 MsgBox "Homework 2: " & homework2

End If

If Combo2input = "Homework 3" Then

 MsgBox "Homework 3: " & homework3

End If


```
If Combo2input = "Homework 4" Then
    MsgBox "Homework 4: " & homework4
End If
```

```
If Combo2input = "Homework 5" Then
    MsgBox "Homework 5: " & homework5
End If
```

```
If Combo2input = "Lab 1" Then
    MsgBox "Lab 1: " & lab1
End If
```

```
If Combo2input = "Lab 2" Then
    MsgBox "Lab 2: " & lab2
End If
```

```
If Combo2input = "Lab 3" Then
    MsgBox "Lab 3: " & lab3
End If
```

```
If Combo2input = "Lab 4" Then
    MsgBox "Lab 4: " & lab4
End If
```

```
If Combo2input = "Lab 5" Then
    MsgBox "Lab 5: " & lab5
End If
```

```
If Combo2input = "Quiz 1" Then
    MsgBox "Quiz 1: " & quiz1
End If
```

```
If Combo2input = "Quiz 2" Then
```

```
    MsgBox "Quiz 2: " & quiz2
```

```
End If
```

```
If Combo2input = "Quiz 3" Then
```

```
    MsgBox "Quiz 3: " & quiz3
```

```
End If
```

```
If Combo2input = "Project" Then
```

```
    MsgBox "Project: " & project
```

```
End If
```

```
'cell.Offset(0, 1) = homework1
```

```
End If
```

```
End If
```

```
If Comboinput = "Last Name" Then
```

```
'Application.WorksheetFunction.VLOOKUP(lookup_value, table_array, column_index, range_lookup)
```

```
'I3,Data1,3,FALSE
```

```
Columns("A:A").Select
```

```
    Set cell = Selection.Find(What:=SearchTool.Typeinput.Value, After:=ActiveCell, LookIn:=xlFormulas, _
```

```
        LookAt:=xlPart, SearchOrder:=xlByRows, SearchDirection:=xlNext, _
```

```
        MatchCase:=False, SearchFormat:=False)
```

```
'-----
```

```
If cell Is Nothing Then
```

```
    'do it something
```

```
    MsgBox "Student Last Name " & SearchTool.Typeinput.Value & " not found."
```

```
Else
```

```
    'do it another thing
```

```
    studentname = cell.Offset(0, 0).Value
```

```
studentid = cell.Offset(0, 1).Value
homework1 = cell.Offset(0, 2).Value
homework2 = cell.Offset(0, 3).Value
homework3 = cell.Offset(0, 4).Value
homework4 = cell.Offset(0, 5).Value
homework5 = cell.Offset(0, 6).Value
lab1 = cell.Offset(0, 7).Value
lab2 = cell.Offset(0, 8).Value
lab3 = cell.Offset(0, 9).Value
lab4 = cell.Offset(0, 10).Value
lab5 = cell.Offset(0, 11).Value
quiz1 = cell.Offset(0, 12).Value
quiz2 = cell.Offset(0, 13).Value
quiz3 = cell.Offset(0, 14).Value
project = cell.Offset(0, 15).Value
```

```
If Combo2input = "Homework 1" Then
    MsgBox "Homework 1: " & homework1
End If
```

```
If Combo2input = "Homework 2" Then
    MsgBox "Homework 2: " & homework2
End If
```

```
If Combo2input = "Homework 3" Then
    MsgBox "Homework 3: " & homework3
End If
```

```
If Combo2input = "Homework 4" Then
    MsgBox "Homework 4: " & homework4
End If
```

```
If Combo2input = "Homework 5" Then
```

```
    MsgBox "Homework 5: " & homework5
```

```
End If
```

```
If Combo2input = "Lab 1" Then
```

```
    MsgBox "Lab 1: " & lab1
```

```
End If
```

```
If Combo2input = "Lab 2" Then
```

```
    MsgBox "Lab 2: " & lab2
```

```
End If
```

```
If Combo2input = "Lab 3" Then
```

```
    MsgBox "Lab 3: " & lab3
```

```
End If
```

```
If Combo2input = "Lab 4" Then
```

```
    MsgBox "Lab 4: " & lab4
```

```
End If
```

```
If Combo2input = "Lab 5" Then
```

```
    MsgBox "Lab 5: " & lab5
```

```
End If
```

```
If Combo2input = "Quiz 1" Then
```

```
    MsgBox "Quiz 1: " & quiz1
```

```
End If
```

```
If Combo2input = "Quiz 2" Then
```

```
    MsgBox "Quiz 2: " & quiz2
```

```
End If
```

```
If Combo2input = "Quiz 3" Then
```

```
    MsgBox "Quiz 3: " & quiz3
```

End If

If Combo2input = "Project" Then

MsgBox "Project: " & project

End If

'cell.Offset(0, 1) = homework1

End If

End If

If SearchTool.Typeinput.Value = "" Then

MsgBox "You must enter a SID # or last name to search for."

End If

End Sub

Private Sub GradeChangeToolButton_Click()

Unload SearchTool

GradeChangeTool.Show

End Sub

Private Sub ImportToolButton_Click()

Unload SearchTool

ImportTool.Show

End Sub

Private Sub QuitButton_Click()

Unload SearchTool

End Sub

Private Sub ResetButton_Click()

Unload SearchTool

SearchTool.Show

End Sub

```
Private Sub Typeinput_Change()
```

```
End Sub
```

```
'End Sub
```

```
Private Sub UserForm_Initialize()
```

```
With ComboBox1
```

```
    .AddItem "SID"
```

```
    .AddItem "Last Name"
```

```
End With
```

```
With ComboBox2
```

```
    .AddItem "Homework 1"
```

```
    .AddItem "Homework 2"
```

```
    .AddItem "Homework 3"
```

```
    .AddItem "Homework 4"
```

```
    .AddItem "Homework 5"
```

```
    .AddItem "Lab 1"
```

```
    .AddItem "Lab 2"
```

```
    .AddItem "Lab 3"
```

```
    .AddItem "Lab 4"
```

```
    .AddItem "Lab 5"
```

```
    .AddItem "Quiz 1"
```

```
    .AddItem "Quiz 2"
```

```
    .AddItem "Quiz 3"
```

```
    .AddItem "Project"
```

```
End With
```

```
End Sub
```


GradeChangeTool

```
Private Sub GoSearch_Click()
```

```
Dim answer As Integer
```

```
Dim Comboinput As String
```

```
Dim Combo2input As String
```

```
Dim Typeinput As String, ScoreInput As String
```

```
Dim cell As Range
```

```
Typeinput = GradeChangeTool.Typeinput.Value
```

```
Comboinput = ComboBox1.Value
```

```
Combo2input = ComboBox2.Value
```

```
Sheets("Sheet1").Select
```

```
answer = MsgBox("Are you sure you want to change this grade?", vbYesNo, "VBA Expert or Not")
```

```
If answer = vbNo Then
```

```
Exit Sub
```

```
Else
```

```
    If GradeChangeTool.ComboBox2.Value <> "Homework 1" _  
    And GradeChangeTool.ComboBox2.Value <> "Homework 2" _  
    And GradeChangeTool.ComboBox2.Value <> "Homework 3" _  
    And GradeChangeTool.ComboBox2.Value <> "Homework 4" _  
    And GradeChangeTool.ComboBox2.Value <> "Homework 5" _  
    And GradeChangeTool.ComboBox2.Value <> "Lab 1" _  
    And GradeChangeTool.ComboBox2.Value <> "Lab 2" _  
    And GradeChangeTool.ComboBox2.Value <> "Lab 3" _  
    And GradeChangeTool.ComboBox2.Value <> "Lab 4" _  
    And GradeChangeTool.ComboBox2.Value <> "Lab 5" _  
    And GradeChangeTool.ComboBox2.Value <> "Quiz 1" _  
    And GradeChangeTool.ComboBox2.Value <> "Quiz 2" _  
    And GradeChangeTool.ComboBox2.Value <> "Quiz 3" _
```



```
And GradeChangeTool.ComboBox2.Value <> "Project" Then
```

```
MsgBox "Please select a valid specific assignment to search for."
```

```
Exit Sub
```

```
End If
```

```
If GradeChangeTool.ComboBox1.Value <> "SID" And GradeChangeTool.ComboBox1.Value <> "Last  
Name" Then
```

```
MsgBox "Please select a valid Search Criteria of SID or Last Name"
```

```
Exit Sub
```

```
End If
```

```
If Comboinput = "SID" Then
```

```
Columns("B:B").Select
```

```
Set cell = Selection.Find(What:=GradeChangeTool.Typeinput.Value, After:=ActiveCell, LookIn:=xlFormulas, _  
LookAt:=xlWhole, SearchOrder:=xlByRows, SearchDirection:=xlNext, _  
MatchCase:=False, SearchFormat:=False)
```

```
If cell Is Nothing Then
```

```
MsgBox "SID " & Typeinput & " not found."
```

```
'do it something
```

```
Exit Sub
```

```
End If
```

```
If Combo2input = "Homework 1" Then
```

```
cell.Offset(0, 1).Value = GradeChangeTool.ScoreInput.Value
```

```
MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "  
& _
```

```
GradeChangeTool.ScoreInput.Value
```

End If

If Combo2input = "Homework 2" Then

cell.Offset(0, 2).Value = GradeChangeTool.ScoreInput.Value

& _
MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Homework 3" Then

cell.Offset(0, 3).Value = GradeChangeTool.ScoreInput.Value

& _
MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Homework 4" Then

cell.Offset(0, 4).Value = GradeChangeTool.ScoreInput.Value

& _
MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Homework 5" Then

cell.Offset(0, 5).Value = GradeChangeTool.ScoreInput.Value

& _
MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Lab 1" Then

cell.Offset(0, 6).Value = GradeChangeTool.ScoreInput.Value

& _
MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Lab 2" Then

cell.Offset(0, 7).Value = GradeChangeTool.ScoreInput.Value

& _
MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Lab 3" Then

cell.Offset(0, 8).Value = GradeChangeTool.ScoreInput.Value

& _
MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Lab 4" Then

cell.Offset(0, 9).Value = GradeChangeTool.ScoreInput.Value

& _
MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Lab 5" Then

cell.Offset(0, 10).Value = GradeChangeTool.ScoreInput.Value

& _
MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Quiz 1" Then

cell.Offset(0, 11).Value = GradeChangeTool.ScoreInput.Value

& _
MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Quiz 2" Then

cell.Offset(0, 12).Value = GradeChangeTool.ScoreInput.Value

MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
& _
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Quiz 3" Then

cell.Offset(0, 13).Value = GradeChangeTool.ScoreInput.Value

MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
& _
GradeChangeTool.ScoreInput.Value

End If

If Combo2input = "Project" Then

cell.Offset(0, 14).Value = GradeChangeTool.ScoreInput.Value

MsgBox "The grade for SID " & GradeChangeTool.Typeinput.Value & " has been successfully changed to "
& _
GradeChangeTool.ScoreInput.Value

End If

End If

' _____
If Comboinput = "Last Name" Then

Columns("A:A").Select

```
Set cell = Selection.Find(What:=GradeChangeTool.Typeinput.Value, After:=ActiveCell, LookIn:=xlFormulas, _  
    LookAt:=xlPart, SearchOrder:=xlByRows, SearchDirection:=xlNext, _  
    MatchCase:=False, SearchFormat:=False)
```

```
    If cell Is Nothing Then
```

```
        MsgBox "Last Name " & Typeinput & " not found."
```

```
    'do it something
```

```
    Exit Sub
```

```
End If
```

```
    If Combo2input = "Homework 1" Then
```

```
        cell.Offset(0, 2).Value = GradeChangeTool.ScoreInput.Value
```

```
        MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _
```

```
        GradeChangeTool.ScoreInput.Value
```

```
    End If
```

```
    If Combo2input = "Homework 2" Then
```

```
        cell.Offset(0, 3).Value = GradeChangeTool.ScoreInput.Value
```

```
        MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _
```

```
        GradeChangeTool.ScoreInput.Value
```

```
    End If
```

```
    If Combo2input = "Homework 3" Then
```

```
        cell.Offset(0, 4).Value = GradeChangeTool.ScoreInput.Value
```

```
        MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _
```

```
        GradeChangeTool.ScoreInput.Value
```

```
    End If
```

```
    If Combo2input = "Homework 4" Then
```

```
cell.Offset(0, 5).Value = GradeChangeTool.ScoreInput.Value  
MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _  
GradeChangeTool.ScoreInput.Value  
End If
```

```
If Combo2input = "Homework 5" Then  
cell.Offset(0, 6).Value = GradeChangeTool.ScoreInput.Value  
MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _  
GradeChangeTool.ScoreInput.Value  
End If
```

```
If Combo2input = "Lab 1" Then  
cell.Offset(0, 7).Value = GradeChangeTool.ScoreInput.Value  
MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _  
GradeChangeTool.ScoreInput.Value  
End If
```

```
If Combo2input = "Lab 2" Then  
cell.Offset(0, 8).Value = GradeChangeTool.ScoreInput.Value  
MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _  
GradeChangeTool.ScoreInput.Value  
End If
```

```
If Combo2input = "Lab 3" Then  
cell.Offset(0, 9).Value = GradeChangeTool.ScoreInput.Value  
MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _  
GradeChangeTool.ScoreInput.Value  
End If
```

```
If Combo2input = "Lab 4" Then
```

```
cell.Offset(0, 10).Value = GradeChangeTool.ScoreInput.Value  
MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _  
GradeChangeTool.ScoreInput.Value  
End If
```

```
If Combo2input = "Lab 5" Then  
cell.Offset(0, 11).Value = GradeChangeTool.ScoreInput.Value  
MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _  
GradeChangeTool.ScoreInput.Value  
End If
```

```
If Combo2input = "Quiz 1" Then  
cell.Offset(0, 12).Value = GradeChangeTool.ScoreInput.Value  
MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _  
GradeChangeTool.ScoreInput.Value  
End If
```

```
If Combo2input = "Quiz 2" Then  
cell.Offset(0, 13).Value = GradeChangeTool.ScoreInput.Value  
MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _  
GradeChangeTool.ScoreInput.Value  
End If
```

```
If Combo2input = "Quiz 3" Then  
cell.Offset(0, 14).Value = GradeChangeTool.ScoreInput.Value  
MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed  
to " & _  
GradeChangeTool.ScoreInput.Value  
End If
```

```
If Combo2input = "Project" Then
```

```

        cell.Offset(0, 15).Value = GradeChangeTool.ScoreInput.Value
        MsgBox "The grade for last name " & GradeChangeTool.Typeinput.Value & " has been successfully changed
to " & _
        GradeChangeTool.ScoreInput.Value
    End If

End If

End If

End Sub

Private Sub ImportTool_Click()

Unload GradeChangeTool
ImportTool.Show

End Sub

Private Sub ImportToolButton_Click()
Unload GradeChangeTool
ImportTool.Show
End Sub

Private Sub QuitButton_Click()
Unload GradeChangeTool
End Sub

Private Sub ResetButton_Click()
Unload GradeChangeTool
GradeChangeTool.Show
End Sub

Private Sub SearchToolButton_Click()
Unload GradeChangeTool

```



```
SearchTool.Show
```

```
End Sub
```

```
Private Sub Typeinput_Change()
```

```
End Sub
```

```
Private Sub UserForm_Initialize()
```

```
With ComboBox1
```

```
    .AddItem "SID"
```

```
    .AddItem "Last Name"
```

```
End With
```

```
With ComboBox2
```

```
    .AddItem "Homework 1"
```

```
    .AddItem "Homework 2"
```

```
    .AddItem "Homework 3"
```

```
    .AddItem "Homework 4"
```

```
    .AddItem "Homework 5"
```

```
    .AddItem "Lab 1"
```

```
    .AddItem "Lab 2"
```

```
    .AddItem "Lab 3"
```

```
    .AddItem "Lab 4"
```

```
    .AddItem "Lab 5"
```

```
    .AddItem "Quiz 1"
```

```
    .AddItem "Quiz 2"
```

```
    .AddItem "Quiz 3"
```

```
    .AddItem "Project"
```

```
End With
```

```
End Sub
```

Auxiliary Code (Hardwired “save as” upon closing, open userform at start)

Option Explicit

Private Sub Workbook_BeforeClose(Cancel As Boolean)

 ThisWorkbook.Close SaveChanges:=True

End Sub

Private Sub WorkBook_Open()

ImportTool.Show

End Sub