

The screenshot displays the Visual Studio IDE with a VB.NET code file open. The code defines two parallel arrays, `deptNumArray` and `deptArray`, and a search method `btnSearch_Click`. The search method iterates through the `deptNumArray` and checks if the value in `txtDeptNum.Text` matches any element in the array. If a match is found, it displays the corresponding department name from `deptArray`.

```
3 Dim deptNumArray(3) As Integer
4 Dim deptArray(3) As String
5
6 'Windows Form Designer generated code
7
8
9
102 Private Sub frmDept_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
103     deptNumArray(0) = 15
104     deptNumArray(1) = 26
105     deptNumArray(2) = 37
106     deptNumArray(3) = 56
107     deptArray(0) = "Books"
108     deptArray(1) = "Toys"
109     deptArray(2) = "Gifts"
110     deptArray(3) = "Cookware"
111 End Sub
112
113 Private Sub btnSearch_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnSearch.Click
114     Dim indFound As String = "N"
115     Dim wkSub As Integer = 0
116     Do While indFound = "N" And wkSub < deptArray.Length
117         If CInt(txtDeptNum.Text) = deptNumArray(wkSub) Then
118             indFound = "Y"
119         Else
120             wkSub = wkSub + 1
121         End If
122     Loop
123     If indFound = "Y" Then
124         lblShowDeptName.Text = deptArray(wkSub)
125     Else
126         lblShowDeptName.Text = "No match found"
127     End If
128 End Sub
129 End Class
```

A small application window titled "Dept Arra" is overlaid on the code. It contains a text box labeled "Enter Dept Number" with the value "15" entered. Below it is a label "Dept Name:" followed by the text "Books". A "Search Dept" button is at the bottom. Handwritten blue ink annotations are present on the window, including a checkmark over "15", and the numbers "86", "37", and "56" written vertically.

Basic search of two parallel arrays

The screenshot displays the Visual Studio IDE with a VB.NET code file open. The code defines an array of department names and a search function. A small application window titled 'Dept Arra' is running, showing the search results for department 37.

```
3 Dim deptNumArray(3) As Integer
4 Dim deptArray(3) As String
5
6 'Windows Form Designer generated code
7
8
9
102 Private Sub frmDept_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
103     deptNumArray(0) = 15
104     deptNumArray(1) = 26
105     deptNumArray(2) = 37
106     deptNumArray(3) = 56
107     deptArray(0) = "Books"
108     deptArray(1) = "Toys"
109     deptArray(2) = "Gifts"
110     deptArray(3) = "Cookware"
111 End Sub
112
113 Private Sub btnSearch_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnSearch.Click
114     Dim indFound As String = "N"
115     Dim wkSub As Integer = 0
116     Do While indFound = "N" And wkSub < deptArray.Length
117         If CInt(txtDeptNum.Text) = deptNumArray(wkSub) Then
118             indFound = "Y"
119         Else
120             wkSub = wkSub + 1
121         End If
122     Loop
123     If indFound = "Y" Then
124         lblShowDeptName.Text = deptArray(wkSub)
125     Else
126         lblShowDeptName.Text = "No match found"
127     End If
128 End Sub
129 End Class
```

The application window shows:

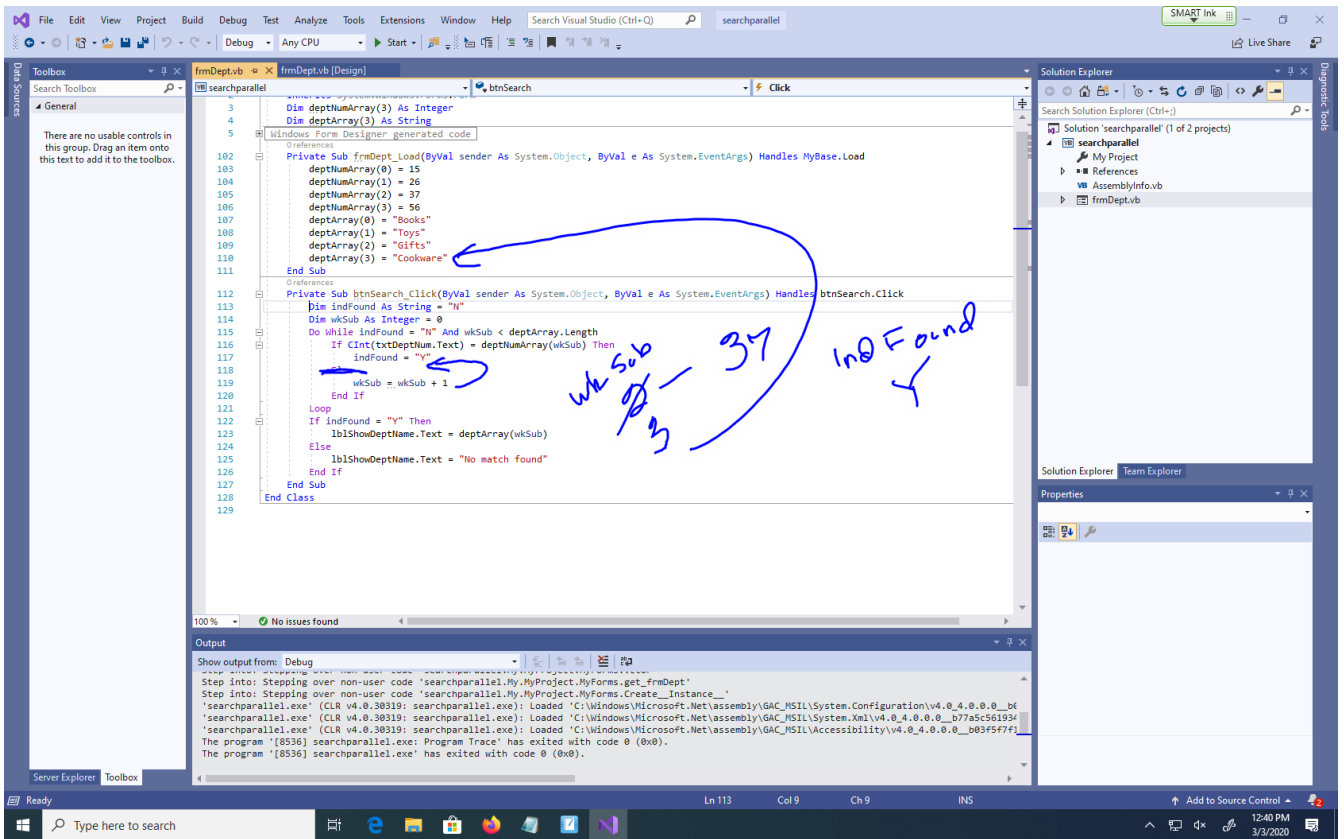
Enter Dept #

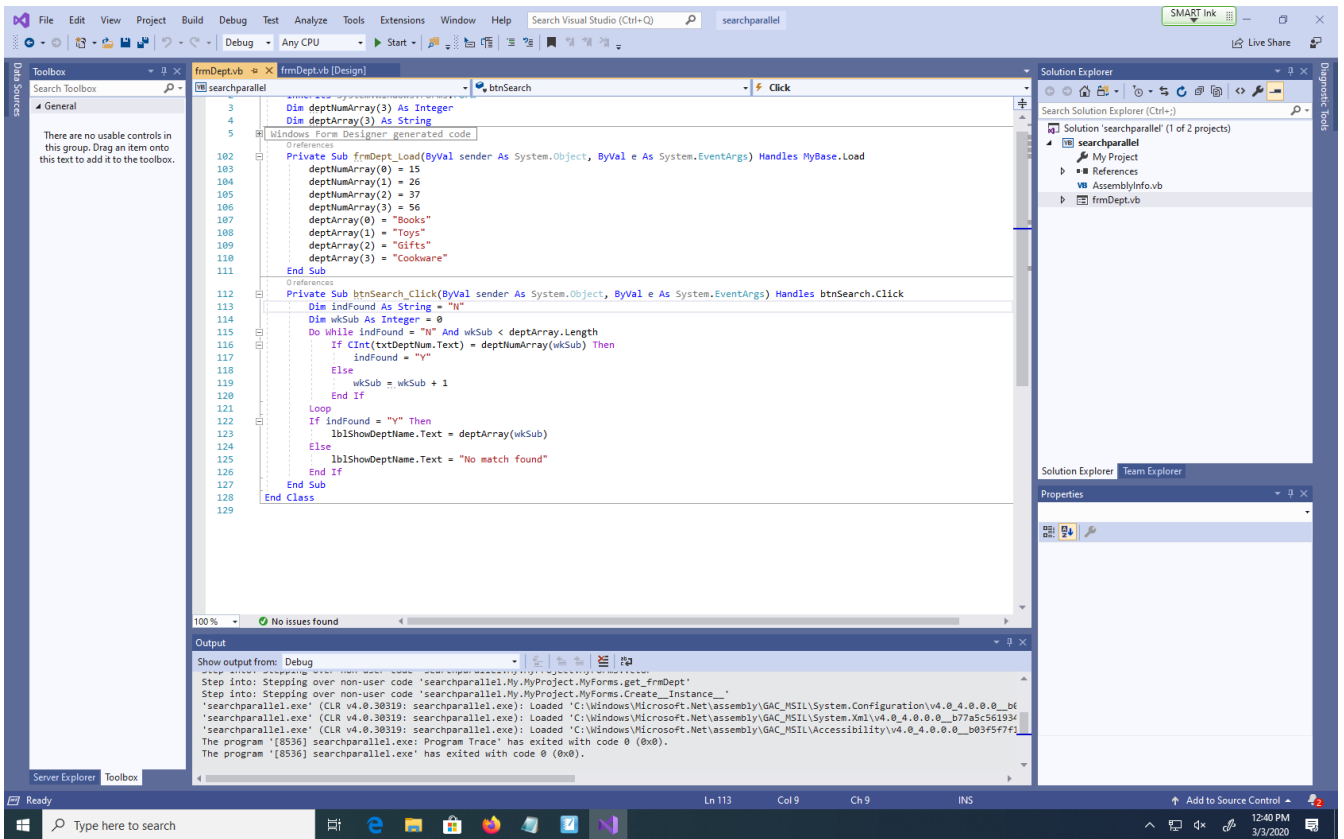
Dept Name: **Gifts**

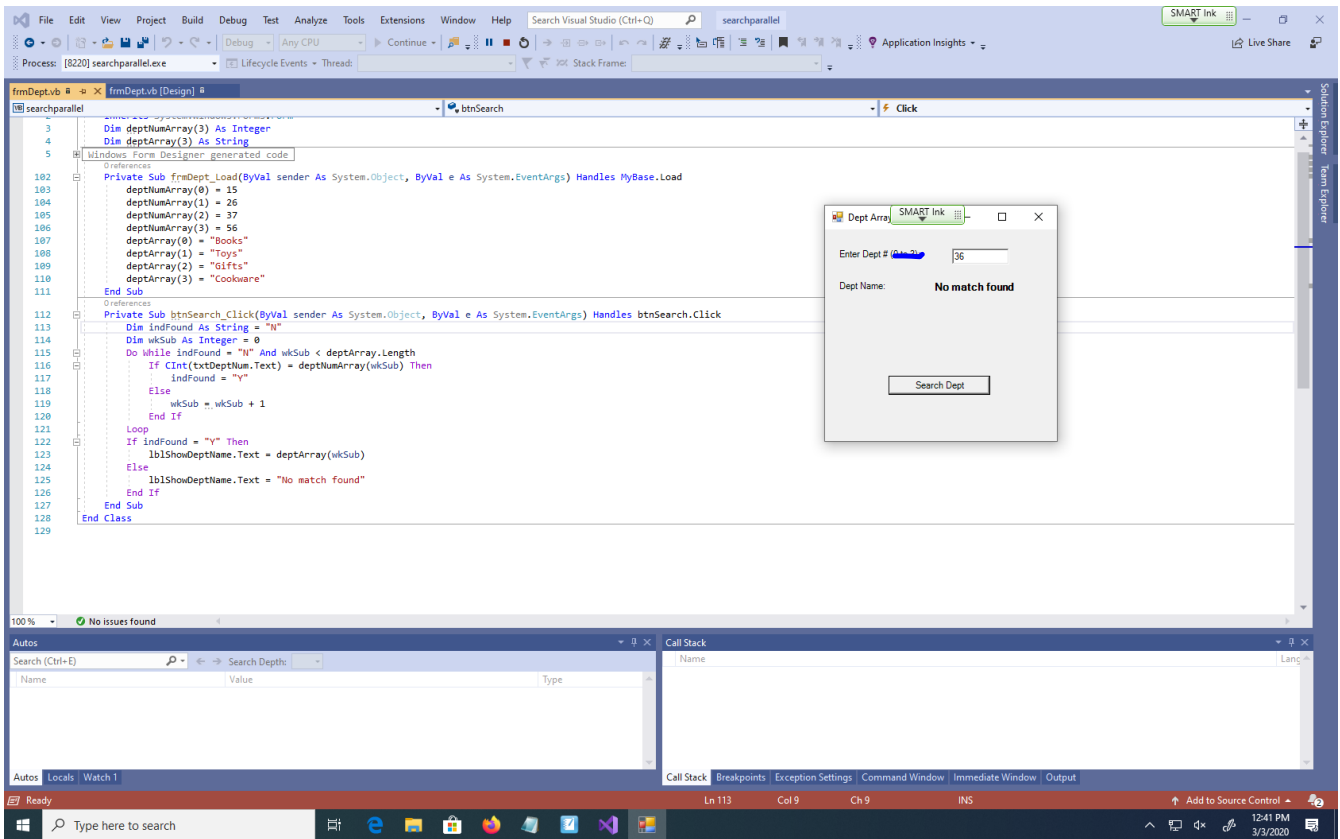
The screenshot shows the Visual Studio IDE with a VB.NET code file open. The code defines an array of department names and a search function. A dialog box is displayed over the code, showing the search results for department number 2.

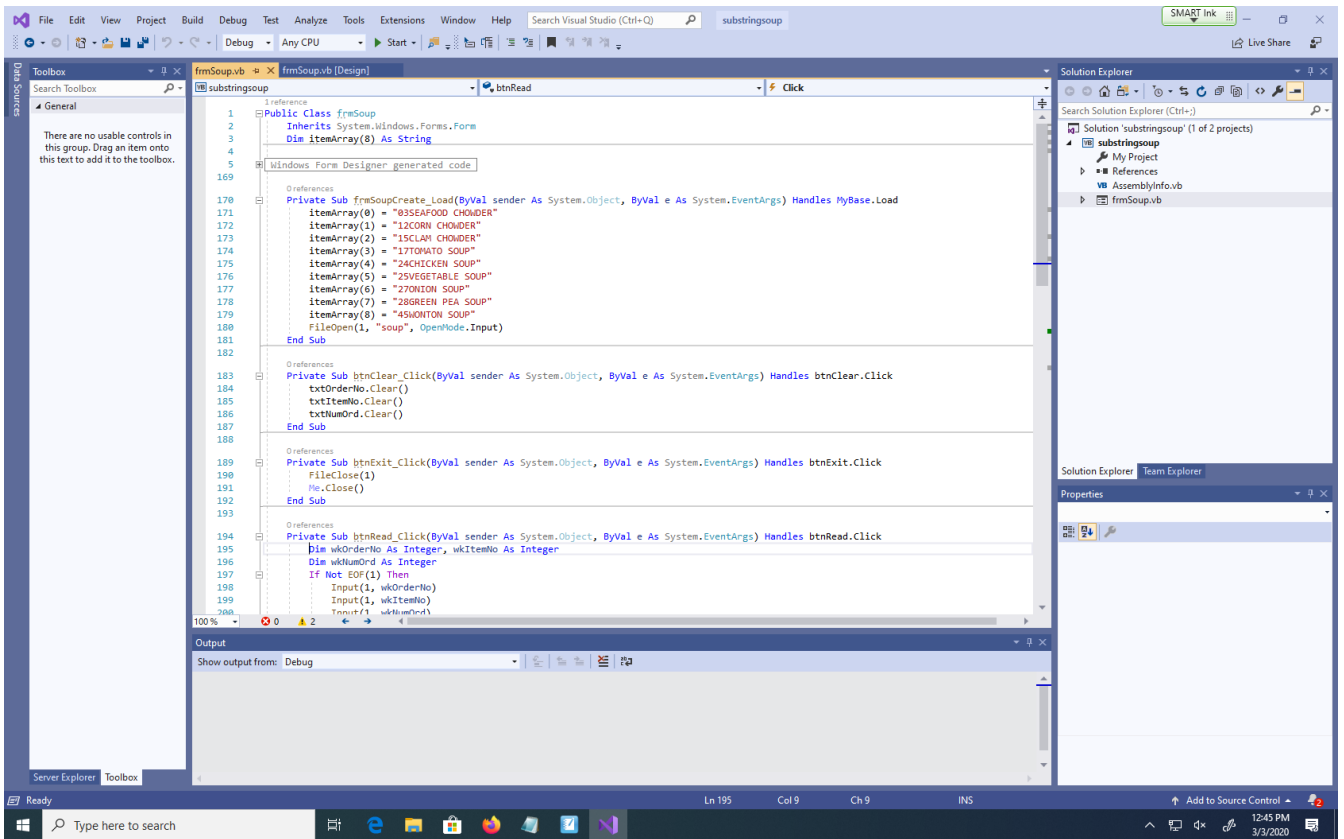
```
3 Dim deptNumArray(3) As Integer
4 Dim deptArray(3) As String
5
6 'Windows Form Designer generated code
7
8
9
102 Private Sub frmDept_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
103     deptNumArray(0) = 15
104     deptNumArray(1) = 26
105     deptNumArray(2) = 37
106     deptNumArray(3) = 56
107     deptArray(0) = "Books"
108     deptArray(1) = "Toys"
109     deptArray(2) = "Gifts"
110     deptArray(3) = "Cookware"
111 End Sub
112
113 Private Sub btnSearch_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnSearch.Click
114     Dim indFound As String = "N"
115     Dim wkSub As Integer = 0
116     Do While indFound = "N" And wkSub < deptArray.Length
117         If CInt(txtDeptNum.Text) = deptNumArray(wkSub) Then
118             indFound = "Y"
119         Else
120             wkSub = wkSub + 1
121         End If
122     Loop
123     If indFound = "Y" Then
124         lblShowDeptName.Text = deptArray(wkSub)
125     Else
126         lblShowDeptName.Text = "No match found"
127     End If
128 End Sub
129 End Class
```

The dialog box titled "Dept Arr" contains the following text:
Enter Dept # (Max=3): 2
Dept Name: **No match found**
Search Dept









The screenshot displays the Visual Studio IDE with the following components:

- Code Editor:** Shows the source code for `frmSoup.vb`. The code defines a `Public Class frmSoup` that inherits from `System.Windows.Forms.Form`. It includes a `Dim itemArray(8) As String` and a `FileOpen` call. Three event handlers are shown: `frmSoupCreate_Load` (initializing the `itemArray` with soup names), `btnClear_Click` (clearing text boxes), and `btnRead_Click` (reading from a file based on user input).
- Search Soup Dialog:** A modal dialog box with the following fields and buttons:
 - `Order #:`
 - `Item #:`
 - `Number Ordered:`
 - `Item Name:`
 - Buttons: `Read`, `Clear`, `Exit`
- Toolbars:** Includes `Autos`, `Locals`, `Watch`, `Call Stack`, `Breakpoints`, `Exception Settings`, `Command Window`, `Immediate Window`, and `Output`.
- Taskbar:** Shows the Windows taskbar with the search bar and system tray displaying the time as 12:48 PM on 3/2/2020.

```
194 Private Sub btnRead_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnRead.Click
195 Dim wkOrderNo As Integer, wkItemNo As Integer
196 Dim wkNumOrd As Integer
197 If Not EOF(1) Then
198     Input(1, wkOrderNo)
199     Input(1, wkItemNo)
200     Input(1, wkNumOrd)
201     txtOrderNo.Text = wkOrderNo
202     txtItemNo.Text = wkItemNo
203     txtNumOrd.Text = wkNumOrd
204     txtItemName.Text = SearchArray(wkItemNo)
205 Else
206     MessageBox.Show("EOF reached")
207     btnRead.Visible = False
208 End If
209 End Sub
210
211 Function SearchArray(ByVal wkItemNo)
212 Dim itemSub As Integer = 0
213 Dim matchInd As String = "NO"
214 Do Until itemSub > 8 Or matchInd = "YES"
215     If wkItemNo = Microsoft.VisualBasic.Left(itemArray(itemSub), 2) Then
216         matchInd = "YES"
217     Else
218         itemSub = itemSub + 1
219     End If
220 Loop
221 If matchInd = "YES" Then
222     Return Microsoft.VisualBasic.Mid(itemArray(itemSub), 3)
223     Return itemArray(itemSub).Substring(2)
224 Else
225     Return "Match Not Found"
226 End If
227 End Function
228 End Class
229
```

Search So SMART Ink

Order #: 1212
Item #: 27
Number Ordered: 2
Item Name: ONION SOUP

Read Clear Exit

Untitled - Notepad

```
itemArray(0) = "03SEAFOOD CHOWDER"  
itemArray(1) = "12CORN CHOWDER"  
itemArray(2) = "15CLAM CHOWDER"  
itemArray(3) = "17TOMATO SOUP"  
itemArray(4) = "24CHICKEN SOUP"  
itemArray(5) = "25VEGETABLE SOUP"  
itemArray(6) = "27ONION SOUP"  
itemArray(7) = "28GREEN PEA SOUP"  
itemArray(8) = "45WONTON SOUP"
```

Logic for the Bubble Sort

www.pgrocer.net/Cis56/bubble.html

5	Compare:	1	2	1	2
2	SUB1 pts to 5				5
3	SUB2 pts to 2				3
4	5 not < 2 so flip				4
6					6
2	Compare:	2	3	2	2
5	SUB1 pts to 5				3
3	SUB2 pts to 3				5
4	5 not < 3 so flip				4
6					6
2	Compare:	3	4	3	2
3	SUB1 pts to 5				3
5	SUB2 pts to 4				4
4	5 not < 4 so flip				5
6					6
2	Compare:	4	5		2
3	SUB1 pts to 5				3
4	SUB2 pts to 6				4
5	5<6 leave alone				5
6					6
2	SUB2>END-PT	5	6		
3	so pass complete				
4	5 & 6 locked at				
5	end so 1				
6	subtracted				
	from END-PT				
	for Pass 3				

Bubble sort logic

The screenshot shows a Visual Studio IDE with a C# program for bubble sort. The code is as follows:

```
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```

Handwritten annotations include:

- A red circle around the `Pass` label in the code.
- Blue arrows pointing from the `holdSlot` variable to the SMART Ink window.
- Handwritten text: `Sort`, `Pass`, `holdslot 5`, `sub1`, `sub2`, `flipct`, and `endPt`.
- Handwritten numbers: `0`, `1`, `2`, `3`, `4`, `5`, `2`, `3`, `4`, `5`, `2`, `3`, `4`, `5`.

The SMART Ink window shows a graphical representation of the bubble sort process with numbers 2, 5, 4, 7, 9 and 2, 4, 5, 7, 9. The numbers are arranged in two columns, with the first column containing 2, 5, 4, 7, 9 and the second column containing 2, 4, 5, 7, 9. A blue arrow points from the first column to the second column.

Notes for CIS56

www.pgrocer.net/Cis56/cis56notes.html

Notes for CIS56 - Visual Basic

Notes	Click on links to retrieve
Relational database rules	Relational database - normalization rules
Notes on DreamSpark	DreamSpark Register DreamSpark Account Download Access The same techniques apply to other things you need to download Burn ISO to CD Install and Register (Access)
SQL Server	Using SQL server database Smartboard notes Wiki creating SQL Server Database
Information on color	Color Codes Color chart Color code information and links - interesting information Another color reference
Logic notes	Notes on breaks Notes on top down sort Notes on bubble sort Minor, Intermediate and Major break logic and processing Separate speaker notes to accompany Minor, Intermediate, and Major break logic and processing
Notes on ADO and Access	Notes on ADO Data Controls
Notes on Access	<p>Many examples taken from CIS120:</p> <p>Sample Access 2010 database Note there is an accompanying Presentation explaining this database under presentations (scroll down to see) Note that the Access 2007 databases can be accessed using Access 2010. Sample payroll database using Access 2007 In class project database using Access 2007 Access Database for asgn1 Download steps for downloading Access Database Sample payroll database using Access 2007 In class project database using Access 2007</p> <p>Presentations to accompany examples of Access 2010/2007:</p> <p>Access 2010 example explanation - database is under examples Zipped version of Access 2010 presentation and the database Zipped version of Access 2007 Introduction Access 2007 Inventory example Presentation for asgn1 - Assignment #1 Separate speaker notes to accompany asgn1 Assignment #1 for Access 2007 in pdf format Presentation for if queries in Access Separate speaker notes to accompany if queries in Access Creating a DB in Access 2007 Zipped Donor DB and PowerPoint</p> <p>Earlier versions of Access: Intro to Access 97 Introduction to relationships</p> <p>These notes are from another course. They are provided as a resource. They are not a requirement of this course!</p>

Type here to search

1:19 PM 3/2/2020

Logic of Top-Down Sort: **Top down sort**

15 These are the numbers I want to sort.
 36
 24
 12
 20

Pass 1:

Before	Processing	After
	Set up: Establish 2 subscripts: SUB1=1 and SUB2 = 2	
	Compare:	
15	15 - what SUB1 is pointing to	15
36	36 - what SUB2 is pointing to	36
24	15 < 36 so leave alone	24
12		12
20		20
15	Add 1 to SUB2 so, SUB2 = 3	15
36	Compare:	36
24	15 - what SUB1 is pointing to	24
12	24 - what SUB2 is pointing to	12
20	15 < 24 so leave alone	20
15	Add 1 to SUB2 so, SUB2 = 4	12
36	Compare:	36
24	15 - what SUB1 is pointing to	24
12	12 - what SUB2 is pointing to	15
20	15 not < 12, so flip meaning move what SUB1 is pointing to, to the spot where SUB2 is pointing and	20

→ 15 (12)

36 36 ← 24 (15)

24 24 36 ← 25 (26)

12 15 25 36 ← (25)

20 20 26 25 36

Logic of Top-Down Sort:

15 These are the numbers I want to sort.
 36
 24
 12
 20

Pass 1:

Before	Processing	After
	Set up: Establish 2 subscripts: SUB1=1 and SUB2 = 2	
	Compare:	
15	15 - what SUB1 is pointing to	15
36	36 - what SUB2 is pointing to	36
24	15 < 36 so leave alone	24
12		12
20		20
15	Add 1 to SUB2 so, SUB2 = 3	15
36	Compare:	36
24	15 - what SUB1 is pointing to	24
12	24 - what SUB2 is pointing to	12
20	15 < 24 so leave alone	20
15	Add 1 to SUB2 so, SUB2 = 4	12
36	Compare:	36
24	15 - what SUB1 is pointing to	24
12	12 - what SUB2 is pointing to	15
20	15 not < 12, so flip meaning move what SUB1 is pointing to, to the spot where SUB2 is pointing and	20

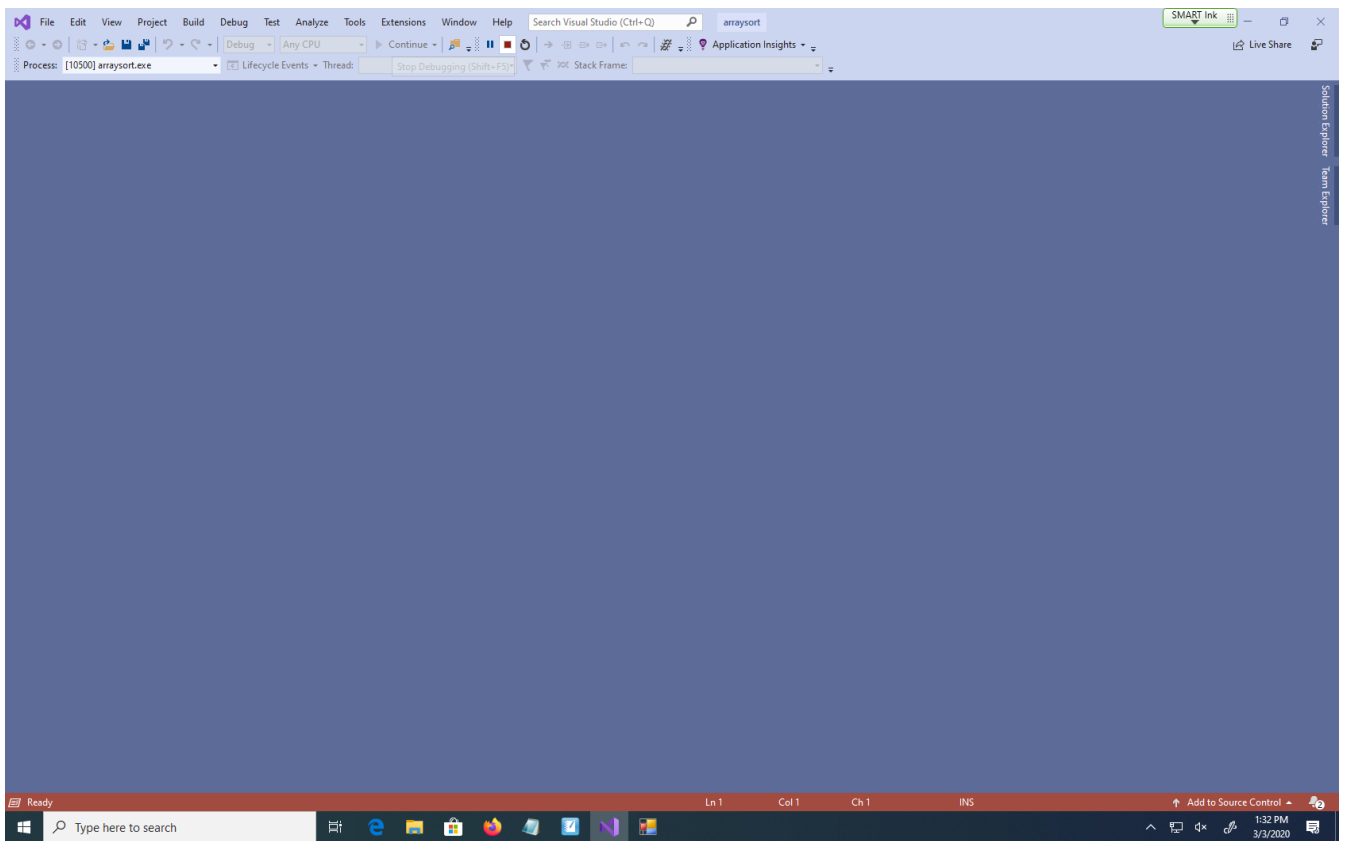
→ 15 (12)

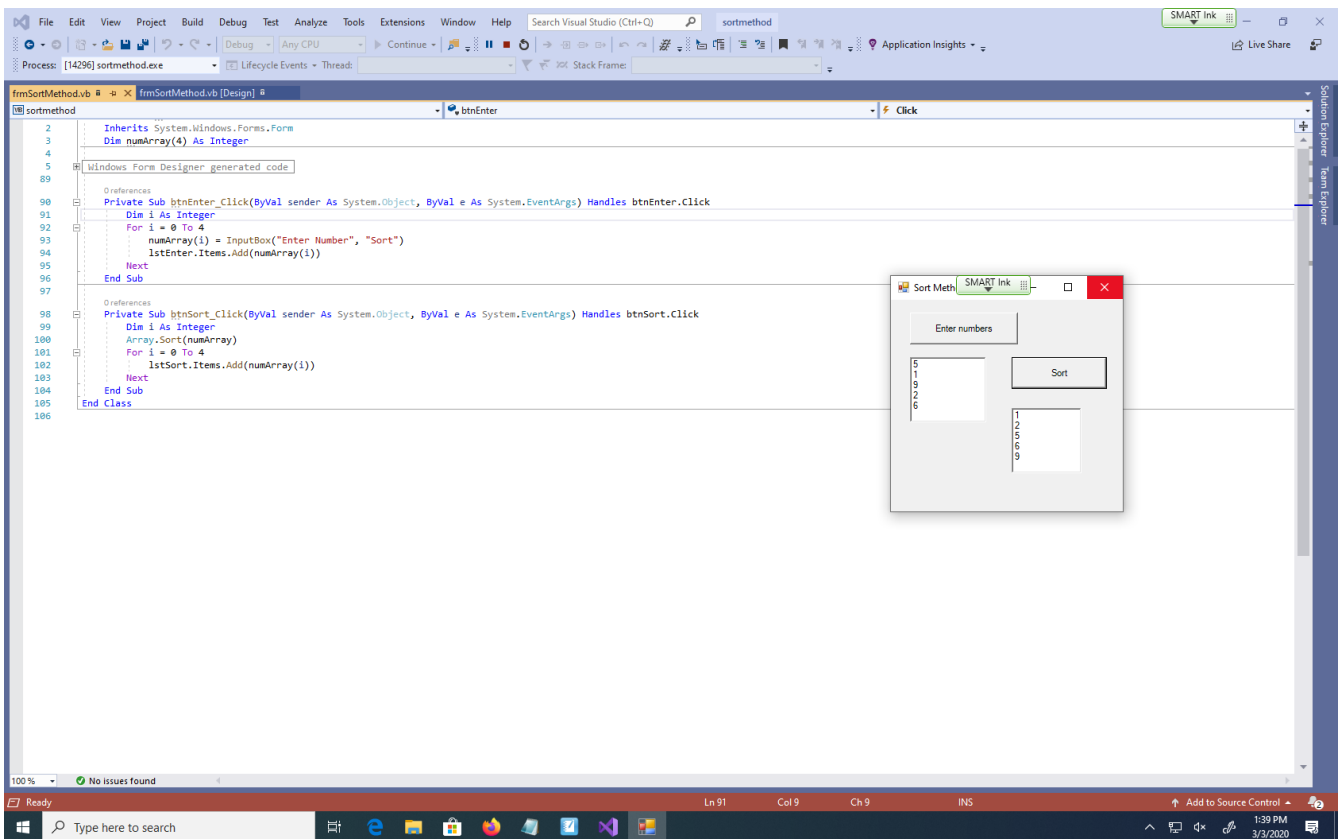
36 36 ← 24 (15)

24 24 36 ← 25 (26)

12 15 25 36 ← (25)

20 20 26 25 36





```
1 reference
2 Public Class frmTestReDim
3     Inherits System.Windows.Forms.Form
4     Dim accumArray() As Integer
5     Dim ct As Integer
6     Dim wkHowMany As Integer
7     Dim wkMore As Integer
8
9     Windows Form Designer generated code
10
11     References
12     Private Sub btnStartGather_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnStartGather.Click
13         wkHowMany = InputBox("Enter number of original entries", "Start")
14         ReDim accumArray(wkHowMany - 1)
15         lstOriginal.Items.Add("Entries: " & Cstr(accumArray.Length))
16         ct = 0
17         btnGatherAmount.Enabled = True
18         btnClear.Enabled = True
19         btnStartGather.Enabled = False
20         txtAmount.Focus()
21     End Sub
22
23     References
24     Private Sub btnGatherAmount_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnGatherAmount.Click
25         accumArray(ct) = CInt(txtAmount.Text)
26         lstOriginal.Items.Add(accumArray(ct))
27         ct = ct + 1
28         btnGatherAmount.Enabled = False
29     End Sub
30
31     References
32     Private Sub btnClear_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnClear.Click
33         txtAmount.Clear()
34         If ct < accumArray.Length Then
35             btnGatherAmount.Enabled = True
36             txtAmount.Focus()
37         Else
38             btnClear.Enabled = False
39             btnContinue.Enabled = True
40         End If
41     End Sub
42
43     References
44     Private Sub btnContinue_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnContinue.Click
45         wkMore = InputBox("How many more do you want to enter", "Continue Array")
46         ReDim Preserve accumArray(wkHowMany - 1 + wkMore)
47         lstSecond.Items.Add("Entries: " & Cstr(accumArray.Length))
48         btnContGather.Enabled = True
49         btnClearSecond.Enabled = True
50     End Sub
51
52     References
53     Private Sub btnContGather_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnContGather.Click
54
55     End Sub
56 End Class
```

