

Migration_Data_Processing - 1

```
Sub Extract_Migration_Data()
```

```
'  
'  
State_List = Array("Alabama", "Alaska", "Arizona", "Arkansas", "California", "Colorado", "Connecticut", "Delaware", _  
    "District of Columbia ", "Florida", "Georgia", "Hawaii", "Idaho", "Illinois", "Indiana", "Iowa", _  
    "Kansas", "Kentucky", "Louisiana", "Maine", "Maryland", "Massachusetts", "Michigan", "Minnesota", _  
    "Mississippi", "Missouri", "Montana", "Nebraska", "Nevada", "New Hampshire", "New Jersey", _  
    "New Mexico", "New York", "North Carolina", "North Dakota", "Ohio", "Oklahoma", "Oregon", _  
    "Pennsylvania", "Rhode Island", "South Carolina", "South Dakota", "Tennessee", "Texas", "Utah", _  
    "Vermont", "Virginia", "Washington", "West Virginia", "Wisconsin", "Wyoming")
```

```
'  
Sheets("Table").Copy Before:=Sheets(1)      ' Work on a copy of the raw data and preserve the original downloaod
```

```
ActiveSheet.Name = "Working"
```

```
Cells.Select
```

```
With Selection      ' Reformat the copied worksheet
```

```
    .UnMerge
```

```
    .RowHeight = 20
```

```
    .Borders.LineStyle = xlNone
```

```
End With
```

```
Rows("1:6").Delete Shift:=xlUp      ' Delete the first six rows since they do not contain information worth saving
```

```
'  
Range("B1").Select
```

```
Columns_Found = 0
```

```
Safety_Counter = 0
```

```
' Keep columns that have state names and delete other columns
```

```
Do
```

```
    If IsNumeric(Application.Match(ActiveCell.Value, State_List, 0)) Then
```

```
        Columns_Found = Columns_Found + 1
```

```
        ActiveCell.Offset(0, 1).Select
```

```
        Safety_Counter = 0
```

```
    Else
```

```
        ActiveCell.EntireColumn.Delete
```

```
        Safety_Counter = Safety_Counter + 1
```

```
    End If
```

```
Loop Until Safety_Counter = 10      ' Stop looping after reviewing ten blank columns since you have reached the end of the data set
```

```
Range("A2").Select
```

```
Rows_Found = 0
```

```
Safety_Counter = 0
```

```
' Keep rows with state names and delete other rows
```

```
Do
```

```
    If IsNumeric(Application.Match(ActiveCell.Value, State_List, 0)) Then
```

```
        Rows_Found = Rows_Found + 1
```

```
        ActiveCell.Offset(1, 0).Select
```

```
        Safety_Counter = 0
```

```
    Else
```

```
        ActiveCell.EntireRow.Delete
```

```
        Safety_Counter = Safety_Counter + 1
```

```
    End If
```

```
Loop Until Safety_Counter = 20      ' Stop looping after reviewing twenty blank rows since you have reached the end of the data set
```

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

```
ActiveCell.Value = "DataSet"
```

```

'
' Read the formatted data into the 'Migration_Data' array as the first step toward creating input for the SQL database
Dim Migration_Data(0 To 51, 0 To 51) As Variant
For I_Count1 = 0 To 51      ' I_Count1 represents rows i.e. current state of residence
    For I_Count2 = 0 To 51  ' I_Count2 represents columns i.e. previous state of residence
        If ActiveCell.Offset(I_Count1, I_Count2).Value = "N/A" Then ActiveCell.Offset(I_Count1, I_Count2).Value = 0      ' Replace N/A values with zero
        Migration_Data(I_Count1, I_Count2) = ActiveCell.Offset(I_Count1, I_Count2).Value      ' Populate the Migration_Data array
    Next I_Count2
Next I_Count1
'
Data_Year_String = InputBox("Enter data year")      ' Enter the data year through an InputBox
Data_Year = CInt(Data_Year_String)      ' Convert the InputBox text into an integer
'
Dim Migration_Data_SQL(1 To 4, 0 To 2601) As Variant      ' Input for the SQL database will consist of four fields and 2601 records (equals 51 * 51)
Migration_Data_SQL(1, 0) = "Year"
Migration_Data_SQL(2, 0) = "Current State"
Migration_Data_SQL(3, 0) = "Previous State"
Migration_Data_SQL(4, 0) = "Value"
'
For I_Count3 = 1 To 51      ' Use I_Count3 for current state of residence
    For I_Count4 = 1 To 51  ' Use I_Count4 for previous state of residence
        Record_Number = ((I_Count3 - 1) * 51) + I_Count4      ' Record_Number for SQL input data
        Migration_Data_SQL(1, Record_Number) = Data_Year      ' First field contains the year
        Migration_Data_SQL(2, Record_Number) = Migration_Data(0, I_Count3)      ' Second field contains the current state of residence
        Migration_Data_SQL(3, Record_Number) = Migration_Data(I_Count4, 0)
        Migration_Data_SQL(4, Record_Number) = Migration_Data(I_Count3, I_Count4)
    Next I_Count4
Next I_Count3
'
' Print out the SQL database input for visual inspection
Sheets.Add Before:=Sheets(1)
ActiveSheet.Name = "SQL_Data_Input"
Range("A1").Select
For I_Count5 = LBound(Migration_Data_SQL, 2) To UBound(Migration_Data_SQL, 2)
    For I_Count6 = LBound(Migration_Data_SQL, 1) To UBound(Migration_Data_SQL, 1)
        ActiveCell.Offset(I_Count5, I_Count6 - 1).Value = Migration_Data_SQL(I_Count6, I_Count5)
    Next I_Count6
Next I_Count5
'
With Columns("A:A")
    .ColumnWidth = 12
    .HorizontalAlignment = xlCenter
End With
With Columns("B:C")
    .ColumnWidth = 16
    .HorizontalAlignment = xlLeft
End With
With Columns("D:D")
    .ColumnWidth = 12
    .HorizontalAlignment = xlRight
    .NumberFormat = "#,##0"
End With

```

,
End Sub