IOE 373 Homework 5 Due Friday, Oct 4 11:59pm Suppose you're working with data listing various country names. The list is shown in the excel file "ioe373-hw5." You have the following task to organize the information:

• Save the file as a macro-enabled workbook (.xlsm), rename it using the following format: [youruniqname]-ioe373f24-hw5 (e.g. lgguzmanioe373f24-hw5.xlsm)

• Eliminate duplicate names using VBA code. The list of names is in sheet1 and some of the names are duplicated

• Add a button control in Sheet 1 to activate your subroutine

• Once you remove duplicates, display a message box with the number of names that were eliminated and the count of unique country names

• Add the previous information to Sheet 1 in cells G1 and G2.

Hints:

1) To remove duplicates in a range, you can use the RemoveDuplicates method. The following is an example to remove duplicates in the range A1:A100 ActiveSheet.Range("A1:A100").RemoveDuplicates Columns:=1, Header:=xlYes Columns indicates the index of the column containing the duplicates, Header is to indicate if the column has a title or header (default is xlNo)

2) To count in a range, you can use the count method. The following example will count the number of cells in cells A1 through A10 and assign that to a variables called NumEntries: NumEntries = Range("A1:A10").Count

3) The following will select all cells down from the current active cell: Range(ActiveCell, ActiveCell.End(xlDown)).Select This range can be referred to as the shortcut Selection. Selection can be used instead of a specific range for most methods (e.g. Selection.Count would be valid syntax to count the number entries in a current selection)

Deliverables: 1) Copy your VBA code and paste to this word file, submit it on Canvas. 2) Save your VBA code and worksheet with the values as a Macro-Enabled workbook. Submit it along with your word file on Canvas

VBA CODE

```vba
Option Explicit

Sub RemoveDuplicate()

Dim initialCount As Long

Dim duplicateCountries As Long

Dim numUniqueCountries As Long

Range("A2:A106").Select

initialCount = Selection.Count

ActiveSheet.Range("A1:A106").RemoveDuplicates Columns:=1, Header:=xlYes

Range(ActiveCell, ActiveCell.End(xlDown)).Select

numUniqueCountries = Selection.Rows.Count

duplicateCountries = initialCount - numUniqueCountries

MsgBox "Number of unique countries: " & numUniqueCountries & vbNewLine & "Number of
duplication: " & duplicateCountries

Range("G1") = "Number of unique countries: " & numUniqueCountries

Range("G2") = "Number of duplication: " & duplicateCountries


End Sub
```