Book1 - Microsoft Excel

	Home	Insert	Page Layout	Formulas	Data	Review	View	Developer	Add-Ins

Record Macro   Use Relative References   Macro Security
Visual Basic   Macros   Code
Insert   Design Mode   Controls
Properties   View Code   Run Dialog
Source   Map Properties   Expansion Packs   Refresh Data   XML   Import   Export
Document Panel   Modify

A22   fx   339

	A	B	C	D	E	F	G	H	I	J
1	Birthdays		Had at least one repeat	Total runs			Number of birthdays			
2	7		39	100			21			
3	7									
4	31									
5	32				Run Birthdays Once					
6	42									
7	65									
8	73									
9	80				Repeat Birthdays 100 times					
10	85									
11	101									
12	107									
13	115				Reset Counts					
14	174									
15	177									
16	177									
17	182									
18	213									
19	260									
20	285									
21	314									
22	339									
23										

Birthdays Simulation / UNI / Panthers

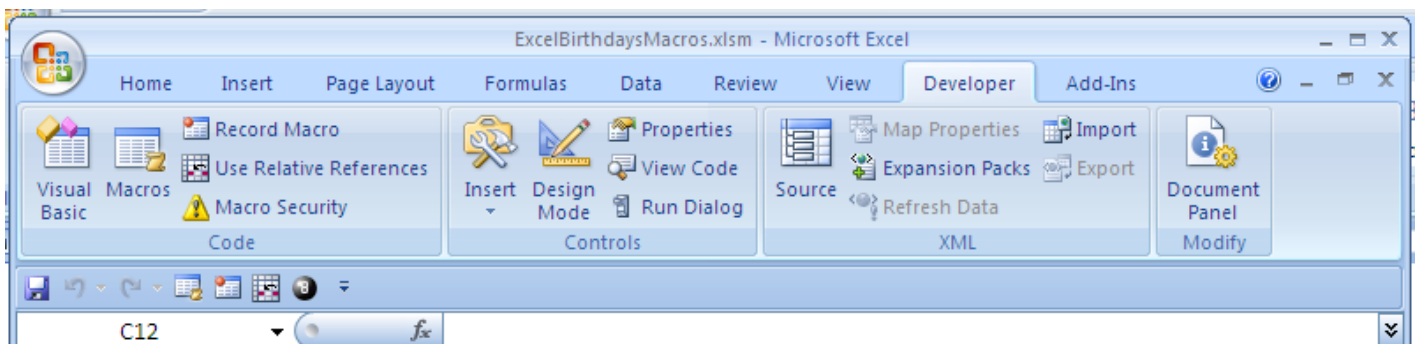Ready   100%

It can be established by using probability that the chances are even that any group of 23 people will have at least two persons with the same birthday (MM/DD). This Excel simulation program allows you to test that by simulating random groups of any size to see whether the group has or does not have at least one duplicated birthday.

ExcelBirthdaysMacros.xlsm - Microsoft Excel

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Properties   View Code   Run Dialog
Source   Map Properties   Expansion Packs   Refresh Data   XML   Import   Export
Document Panel   Modify

C12   fx

```vba
Function randomBirthday()

    randomBirthday = Int(Rnd * 365 + 1)

End Function


Sub birthdays100()
    Application.ScreenUpdating = False

    For i = 1 To 100
        birthdays
    Next i

    Application.ScreenUpdating = True
End Sub


Sub resetCountsToZero()
    Range("C2").Value = 0
    Range("D2").Value = 0
End Sub


Sub birthdays()

    Range("A2:A201").Interior.Pattern = xlNone
    Range("A2:A201").ClearContents

    For i = 2 To Range("G2").Value + 1
        Cells(i, 1).Value = randomBirthday
    Next i

    SortBirthdays

    showDuplicatesUpdateCounts

End Sub



Sub SortBirthdays()

    theRange = theRangeToSort()

    ActiveWorkbook.Worksheets("Sheet1").Sort.SortFields.Clear
    ActiveWorkbook.Worksheets("Sheet1").Sort.SortFields.Add Key:=Range("A2"), _
        SortOn:=xlSortOnValues, Order:=xlAscending, DataOption:=xlSortNormal

    With ActiveWorkbook.ActiveSheet.Sort
        .SetRange Range(theRange)
        .Header = xlNo
        .MatchCase = False
        .Orientation = xlTopToBottom
        .SortMethod = xlPinYin
        .Apply
    End With
End Sub

Function theRangeToSort() As String

    Range("A2").Select
    Selection.End(xlDown).Select
    theRow = ActiveCell.Row

    theRangeToSort = "A2:A" & theRow

End Function
```

```vba
Sub showDuplicatesUpdateCounts()

    hadDuplicate = False

    For i = 3 To Range("G2").Value + 1
        If Cells(i, 1).Value = Cells(i - 1, 1).Value Then
            hadDuplicate = True
            Cells(i, 1).Interior.Color = 65535
        End If
    Next i

    If hadDuplicate Then
        Range("C2").Value = Range("C2").Value + 1
    End If

    Range("D2").Value = Range("D2").Value + 1
End Sub
```

```vba
Sub yellow()                          ' Macro recorded only to learn YELLOW
    With Selection.Interior
        .Pattern = xlSolid
        .PatternColorIndex = xlAutomatic
        .Color = 65535
        .TintAndShade = 0
        .PatternTintAndShade = 0
    End With
End Sub

Sub clearColor()              ' Macro recorded to learn how to remove YELLOW

    Range("D4").Select
    With Selection.Interior
        .Pattern = xlNone
        .TintAndShade = 0
        .PatternTintAndShade = 0
    End With
End Sub
```

How would you go about adding the following feature to the above Excel VBA macro application?

Display in column B the formatted MM/DD month and day for any birthday date that was a repeat. For example, if there were two 33's in a row in column A, the 2nd 33 is the repeat. In column B, place a 33. Since column B will be using an MM/DD format, we would see either 02/02 or Feb-02 displayed and realize Ground Hog's Day was the repeated date.

364 would display Dec-30 (December 30th) and 63 would display as Mar-04 (March 4th), for example.