American University of Beirut
Math209-Computer & Programming for the Sciences
Final – Fall 2001/2002

Time: 1 h 30 min
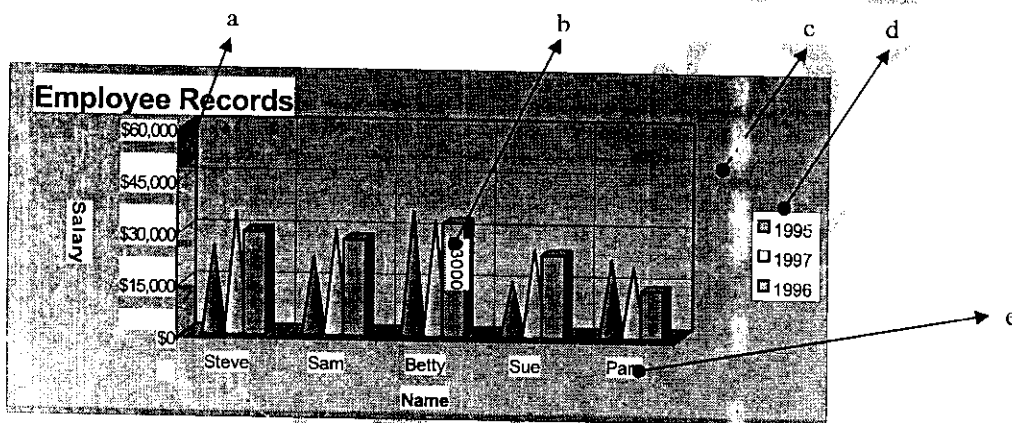
Name   : _____

Id   : _____

Instructor: Mrs. Bohsali   _____

Mrs. Tabsh   _____

Mr. Mukaddam _____

Use the back of the paper as a scratch
PENALTY IS CONSIDERED AS 4 TO 1

A. MS. EXCEL (35 pts)

I- Label the following chart :

II- Multiple Choice: Circle one answer.

1) A column chart has been created to illustrate sales for four regions in a quarterly period. The sales values for each region are called _____, and the different colored columns used to differentiate one region from the other are called _____
   a) plot values; data series
   b) data labels; categories
   c) data series; data markers
   d) data markers; data series

2) Which chart would best illustrate a part to whole relationship between each region's sales and total sales each month in a six month period.
   a) a pie chart
   b) a stacked-column chart
   c) a column chart
   d) a line chart

3) A line chart has been created to show a change in temperature over a 12 month –period for four countries. Where would you expect to find the numbered scale of temperatures?
   a) on the x-axis
   b) on the legend
   c) in the chart title
   d) on the y-axis

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4) One of the most important features of spreadsheets is the ability to
   a) cut and paste.
   b) undo errors.
   c) dynamically link files.
   d) recalculate values.

5) The _____ feature makes entering long headings easier by repeating and extending the series.
   a) AutoComplete
   b) AutoFill
   c) AutoType
   d) None of the above

6) You should select _____ if you want to freeze the headings in row 9.
   a) Row 8
   b) Row 10
   c) Col 8
   d) Col 9

7) You want to display the lowest bowling score in the league. The fastest way to do this would be to use the _____ function.
   a) MIN
   b) LOW
   c) SUM
   d) COUNT

8) The Autofit feature:
   a) completes a sequence such as Jan, Feb, Mar, …
   b) copies cells by dragging the borders of a cell
   c) sets the row height to the minimum necessary height to display the contents of the selected cell.
   d) none of the above

9) Column B displays a series of number signs (#) across the width of several cells. You should:
   a) erase the cells.
   b) change the numeric format of the cells to display dollar signs and two decimals
   c) increase the column width.
   d) decrease the column width.

10) Pressing the Del key on the keyboard will:
   a) Clear the format of a cell without deleting its contents
   b) Delete the cell
   c) Clear only the contents of a cell
   d) Clear the contents, format, and comments related to the cell(if any)

11) In the IF function =IF(ANSWER>230, ANSWER*2, 0), ANSWER>230 is an example of a _____, and 0 is an example of a _____.
   a) false argument; true argument
   b) logical test; false argument
   c) true argument; false argument
   d) logical test; true argument

12) An IF function, IF(SALES>=10000,SALES*.06,0), has been entered into cell B5 to calculate commission. If SALES is $10,000, B5 will display the value ___ as a result.
   a) 600
   b) 6000
   c) 0
   d) 60

13) In the function =SUM(B12:B20), the argument is
   a) the overall structure of the function.
   b) B12:B20
   c) SUM.
   d) the "=" sign.

14) The formula H9*G3 +D5 has been copied from cell E4 to F2, the formula bar will display _____ when the cell selector is in cell F2.

   a) I9*H3+E5
   b) I7*H1+E3
   c) F7*E1+B3
   d) H2*G2+D2

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15) Row 21 contains total sales values for the first quarter period. C21, D21, and E21 contain totals for January, February, and March respectively. F21 contains a formula that calculates a grand total for the quarter. C23 contains the formula =C21/F21 calculating the percent of January's sales to the grand total. You want to adjust this formula so you can copy it to cells D23 and E23. Which of the following formulas should you use?

a) =$C$21/F21

b) =$C21/F21

c) =C21/$F$21

d) =C21/F$21

B. Visual Basic (65 pts)

I- Multiple choice (33 pts)

1. When two procedures in different forms need to use the same variable, you declare the variable as a _____ variable.
   a) module-level
   b) global-level
   c) local-level
   d) static-level
   e) None of the above

2. Which of the following is the best data Type to use for a variable that will always contain whole numbers in the range 0 to 20,000?
   a) Currency
   b) Integer
   c) Long
   d) Single
   e) Variant

3. Which of the following constants tells Visual Basic to advance to the next line?
   a) Advance
   b) VbGoToNewLine
   c) VbAdvance
   d) VbReturn
   e) None of the above

4. You can use a(n) _____ control to execute code at regular intervals.
   a) Clock
   b) Interval
   c) Time
   d) Timer
   e) None of the above

5. Assume the form contains two frame controls: one frame control contains two option buttons; the other frame control contains three check boxes. What is the total number of option buttons and check boxes that can be selected at any one time?
   a) One
   b) Two
   c) Three
   d) Four
   e) Five

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6. A _____ is a local variable that retains its value when a procedure ends.
   a) constant variable
   b) static variable
   c) consistent variable
   d) literal variable
   e) none of the above

7. What is the result of the expression $23 - 32 / 4 \wedge 2 + 6$
   a) -47
   b) 27
   c) –2
   d) 11.0625
   e) none of the above

8. Assume you want to compare the string contained in the Text property of the txtName control. With the name Bob. Which of the following conditions should you use in the If....Then...Else statement?(Be sure the condition will handle Bob, BOB, bob, and so on.)
   a) TxtName.text="BOB"
   b) Txtname.text=Ucase("BOB")
   c) Txtname.text=Ucase("Bob")
   d) Ucase(txtName.Text)="Bob"
   e) Ucase(txtName.Text)= "BOB"

9. Which of the following will prompt the user for a number, then correctly assign the user's response to the sngNum Variable?
   a) InputBox("Enter the street number:","Number") = sngNum
   b) sngNum= InputBox("Enter the street number:","Number")
   c) Number= val(InputBox("Enter the street number:","sngNum"))
   d) sngNum= val(InputBox("Enter the street number:","Number"))
   e) None of the above

10. Which of the following is a valid condition for an If..Then.. Else statement
   a) Val(txtAge.txt > 65)
   b) Val(lblprice.caption) > 0 and < 10
   c) Cursales > 100 and curCost <=1000
   d) UCase(strState) = "Alaska" Not and Ucase(strState)= "Hawaii"
   e) None of the above

11. Assume the intNumber variable contains the number 200. What value will be in the intNumber variable after the following selection structure is processed?

```
If  intNumber <=100 Then
     intNumber= intNumber*2
ElseIf  intNumber >500 Then
     intNumber= intNumber*3
EndIf
```

   a) 0   b) 90
   c) 180   d) 270

4

```
        End If
```

___

III-Fill in the Blanks (16 pts)

1. What follows are the steps for an event procedure that will calculate a lucky number based on user input. Replace the English statements, given as comments, with their corresponding VB statements. **You can only use the variables declared.**(8 pts)

```
Private Sub cmdLucky_Click()

Dim luckyNum as Integer
Dim user_Input as Single
```

a) ' *Ask the user to enter a number and store it in user_Input. In case he did enter something other* '*than a number, Keep on prompting him for input until he does.*

___

___

___

___

b) '*In case the given number is negative, use a built-In VB function to change it to positive.*

___

___

c) ' *Add 5 to the variable* user_Input, *then multiply it by 7.5 and assign the value to* '*LuckyNum.*

___

___

d) ' *Display the value of the LuckyNum on a message box, that has the title "Lucky Number",* '*and has one button "OK".*
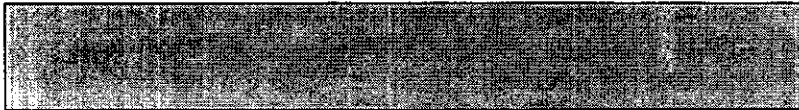
___

```
End Sub
```

II- Output (16 pts)

1. What is the output of the following nested if statement when X=209 ?
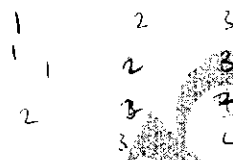
```
If X>10 then
      MsgBox "X is in the order of 10's"
Elseif  X>100
      MsgBox "X is in the order of 100's"
Elseif X>1000
      MsgBox "X is in the order of 1000's"
Else
      MsgBox "X is  between 0 and 10 "
End If
```

2. What are the values of *n* and *i* after executing the following loop?

```
i = 1
Do While i < 4
   For j=1 To i
      n = n + 1
   Next j
   i = i + 1
Loop
```
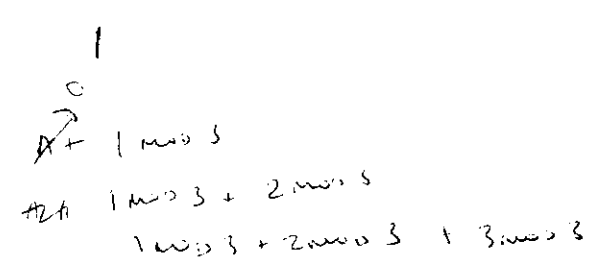
n = _____   i = _____

3. Given the following code:
```
Private sub cmdTest_click()
n = 0
a = 1
b = 3
For i = 1 To 100
If i = (a + b) Then
   MsgBox ("n is " & n)
   Exit Sub
End If
n = n + (i Mod 3)
Next i
End Sub
```

   a) How many iterations will this loop execute? _____

   b) What is the value of **n** after the loop is done? _____

4. What is the value of s after the following code executes?

```
Dim temp As Integer
Dim s As String, out As String
s = "ABRacadaBRA"
temp = Len(s)
If Mid(s, 2, 1) < Left(s, 2) Then
   s = LCase(s)&s
   s = Left(Right(s, temp),5)
Else
   s = UCase(s)&s
   s = Right(Left(s, temp),4)
```

5

2. A palindrome is a number or text phrase that reads the same backward as forward. For example each of the following words is a palindrome: radar, toot, madam. (8 pts).

One way of checking if a word is a palindrome or not, is to reverse it, and then check if the reversed word is the same as the original one.

Complete the following piece of code in order to check if the input word is a palindrome:

Private Sub CheckPalindrome_Click()

Dim word As String, reverseWord As String
Dim I As Integer

word = InputBox ("enter a word and I'll tell you if it is a palindrome")

a) *'Reverse the word*

For I = _____

Next _____

b) *'Check whether it is a palindrome, and display an appropriate message.*

_____
_____
_____
_____

End Sub

Good Luck ☺