

**Introduction to Scientific Programming
Final Exam
Dr. Jennifer Kay
December 17, 2007**

Name: _____

Last 4 digits of your Rowan ID: _____

On my honor I promise that I will not discuss the contents of this exam with anyone other than those seated in this room until after 5pm on Tuesday December 18, 2007. I also affirm that I have no prior knowledge of the contents of this exam.

Signature: _____

Problem	Points	Score
1	20	
2	20	
3	20	
4	20	
5 (a or b)	20	

This exam is open book and open notes. You may NOT use a computer or calculator

Problem 1: Quiz Questions (10 questions, 2 points each)

For each of these questions, circle the correct answer

a) The color of the letters in a text box is the text box's

BackColor property

Color property

Appearance property

Text property

Name property

ForeColor property

b) To cause a program to display "Good morning" inside label lblGreeting, use the command

lblGreeting.Caption = "Good morning"

lblGreeting.Text = "Good morning"

lblGreeting.ForeColor = "Good morning"

lblGreeting.Name = "Good morning"

lblGreeting.Name = "Good morning"

c) What will this code print? (8 choices, circle one)

```
x = 3
y = 4
z = 5
picOutput.Print x; y; "z"
```

3 4 5	x 4 5	3 y 5
3 4 z	x y 5	3 y z
x 4 z	x y z	

d) What will this code print? (5 choices. Circle one)

```
x = 3
y = 2
x = x + y
picOutput.Print x; y
```

5 2	6 2	3 2
2	3	

e) If a function is defined this way:

```
Private Function f (x as Integer, y as Integer) as Integer
    f = 2 * (x + y)
End Function
```

What will be printed by the command:

```
picOut.Print f(4,10)
```

(5 choices, Circle one)

28	18	4 10
10 4	24	

f) If a function is defined this way:

```
Private Function f (x as String, y as Integer) as String
    F = Left(x, y)
End Function
```

What will be printed by the command:

```
picOut.Print f("Delaware", 4)
```

(6 choices. Circle one)

Lawa	ware	D
8	Dela	elawar

g) What will this code print?

```
x = 67
If x < 10 And x > 50 Then
    picOutput.Print "oak"
Else
    picOutput.Print "maple"
End If
```

(7 choices. Circle one)

67	10	5
maple	oak	maple oak
oak maple		

h) What will this code print?

```
x = 6
Select Case x
Case 2, 4, 6
    picOut.Print "Blue"
Case 5 To 7
    picOut.Print "Green"
Case Else
    PicOut.Print "Red"
End Select
```

(9 choices, circle one)

Blue	Green	Red
Blue Green	Blue Red	Green Red
Blue Green Red	6	x

i) What will this code print?

```
For x = 3 To -3 Step -2
    picOutput.Print x;
Next x
```

(6 options, circle one)

3	-2	3 1 -1 -3
-3 -1 1 3	3 2 1 0 -1 -2 -3	The loop will not print anything at all

j) What will this code print?

```
Sum = 0
Num = 1
Do While Num < 10
    Sum = Sum + Num
    Num = Num + 2
Loop
picOutput.Print Sum
```

(9 options, circle one)

9	10	11
16	25	36
55	1 3 5 7 9	2 4 6 8 10

Problem 3: (20 points)

Write a function that takes a number between 1 and 4 and returns the name of the season that represents according to the chart below. NOTE: you do not need to write the whole program or even a click event, just the function.

<u>Number</u>	<u>Season</u>
1	Winter
2	Spring
3	Summer
4	Fall

Problem 4 (20 points)

Write a sub that takes a single integer argument, and prints out a times table from 1 to 5 for that argument. For example, if the argument was 4, your sub would print:

```
1 * 4 = 4
2 * 4 = 8
3 * 4 = 12
4 * 4 = 16
5 * 4 = 20
```

NOTE 1: to get full credit you **MUST** use a loop

NOTE 2: to get full credit you **MUST** format your output just like I do above

Problem 5: 20 points (choose either a or b)

Important note: For this problem you must do either part a or part b, but not both. If you do both parts, I will grade part a and ignore part b

a) Write code that prints a random even integer between 6 and 12 inclusive. (NOTE: you can get half credit on this problem if you write code that prints out a random number between 6 and 12 that's not necessarily even)

b) Fill in the code for the function below. This function should return the biggest of the 3 numbers that are arguments. You may assume that the 3 numbers are all different from each other

```
Private Function FindBiggest (a as Integer, b as Integer, c as Integer) as Integer
```

```
End Function
```