**Arab Academy For Science and Technology & Maritime Transport**

**College of Engineering & Technology**

**Computer Engineering Department**

**EXAMINATION PAPER – Week 12**

Course Title: Introduction to Programming

Course Code: CC114

Date: Thurs. April, 30-2015 Lecturer: Dr. Manal Helal

Time allowed: 60 mins Start Time: 12:30 p.m.

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| --- | --- |
| Student's name: | Reg.# : |

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| **Question #** | **Marks** |
| **Available** | **Actual** |
| MCQ | 5  |  |
| Trace  | 5 |  |
| Write Code | 5 |  |
| **Total** | **15** |  |
| **Lecturer** | Name: Dr. Manal Helal |
| Signature: |
| Date: |

ALL MCQ are worth 1 mark each.

**MPC6/1-1**

**MCQ [5 points]**

**1) The  \_\_\_\_\_\_\_\_\_\_\_\_ allows you to specify that an action should be repeated as long as the condition is True.**

A) decision condition B) repetition condition

C) loop-continuation condition D) loop-termination condition

E) None of the above.

**2. Assume that intCounter is an Integer variable initialized to 4. Which of the following loop termination conditions can be used in a Do While…Loop statement to print the values 4 through 16, inclusive?.**

A) intCounter > 16 B) intCounter < 16

C) intCounter < 17 D) intCounter <= 16

E) Both c. and d.

**3. Which of the following is the appropriate For…Next header for varying the control variable over the following sequence of values: 4, 8, 12, 16, 20?**

A) For I as Integer = 4 To 20 B) For I as Integer = 4 To 20 Step 4

C) For I as Integer = 4 To 20 Step 1 D) For I as Integer = 4 To 20 Step 2

E) None of the above.

**4. Relational operators that can be used in a loop condition are:**

A) < B) >=

C) + D) & E) AND

|  |
| --- |
| **5. Given the code below, what are the items that will appear in the ListBox:**  |
| **Dim** counter **As Integer** = 2**Do Until** counter < 12 resultListBox.Items.Add(counter) counter += 2 **Loop** | A) nothingB) 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12C) 2, 4, 6, 8, 10D) 2, 4, 6, 8, 10, 12 |

**Trace the following Code [5 points]**

**6) Trace the following code and answer the question below:**

**Dim** a, b **As** **Double**

a = 2

b = 10

**Do**

 resultListBox.Items.Add(a)

 a += 2

 b += 2

**Loop Until** a < b

**A) Can you count the number of iterations the loop will do? [1 points]**

**B) Is it possible that this loop is infinite? [2 points]**

**C) What will appear in the ListBox? [2 points]**

**Write Code to solve the following problem(s) [5 points]**

**7) The figure shows an app to calculate the total number of pages to study for the finals for all subjects. The user adds to the lists the input (Subject Name, Number of Chapters to Study, average chapter page count in this subject) from the text boxes any number of times as required. Write the code in the “Calculate Total Pages” button to calculate the total number of pages to appear in the Total textbox.**

**P.S. “Count” is the property to know the number of items in a list box control.**

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**Answers:**

1) c, 2) e, d, 3) b, 4) a, b, 5), a

6) the Loop uses a post-test Until, hence the termination condition used will stop the iterations once it becomes true after the first iteration.

a. Starting with a = 2 and b = 10, the loop will execute once, then tests the termination condition, which is true, there will be no more iterations of this loop. The answer is yes, we can count the loop iterations, which is one

b. No It is not.

c. 2 only.

7) **Private Sub** calculateButton \_Click(sender **As** System.Object, e **As** System.EventArgs) **Handles** calculateButton.Click

 **Dim** pages **As Double**

 **For** counter = 0 **To** subjListBox.Items.Count - 1

 pages += chapListBox.Items(counter) \* pagesListBox.Items(counter)

 **Next**

 totalPagesTextBox.Text = pages.toString

 **End Sub**