

الإسم ..... الرقم .....

أجب عن جميع الأسئلة  
\*ورقة الامتحان تشتمل على 10 صفحات\*

**Question One (35 marks):**

Read the following Pseudo code carefully and answer the following questions (**Answer using English or Arabic language**):

اقرأ الـ pseudo code التالي جيداً وأجب عن الأسئلة التالية (أجب باستخدام اللغة العربية أو الإنجليزية)

1. Begin
2. Declare arrNum[3][3]
3. Set summation to 0
4. For i = 0 to 2
5.     For k = 0 to 2
6.         arrNum[i][k] = i + 1
7.         k = k + 1
8.     EndLoop
9.     i = i + 1
10. EndLoop
  
11. For i = 0 to 2
12.     summation = 0
13.     For k = 0 to 2
14.         summation = summation + arrNum[i][k]
15.         k = k + 1
16.     EndLoop
17.     Display summation
18.     Display NewLine
19.     i = i + 1
20. EndLoop
21. End

1. The above pseudocode deal with two-dimensional arrays. Write the usage of this pseudocode (2 marks)

الـ pseudocode فى الأعلى يتعامل مع المصفوفات ذات البعدين. أكتب وظيفة هذا pseudocode

.....  
.....

2. What the different between one-dimensional arrays and two-dimensional arrays (2 marks)

ما هو الإختلاف بين المصفوفات ذات البعد الواحد والمصفوفات ذات البعدين

.....  
.....

3. The above pseudocode contains keywords used only in pseudocode. List five of them  
ال pseudocode فى الأعلى يحتوى على كلمات مفتاحية تستخدم فقط مع pseudocode . أذكر خمسة منها  
(5 marks)

- a. ....
- b. ....
- c. ....
- d. ....
- e. ....

4. Line 2 and line 3 used to initialize data. explain why we use set in line2 and use declare in line3  
(2 marks)

السطر 2 والسطر 3 يستخدمان لتهيئة البيانات. وضح لماذا استخدمنا set فى السطر 3 وإستخدمنا declare فى السطر 2

.....  
.....  
.....  
.....

5. The above pseudocode contains two counters. List them  
(2 marks)  
ال pseudocode فى الأعلى يحتوى على عددين. أذكرها

- a. ....
- b. ....

6. The above pseudocode contains One Accumulator. Write it.  
(2 marks)  
ال pseudocode فى الأعلى يحتوى على مجمع واحد. أذكره

- a. ....

7. Write three keywords do the same function like the keyword in line 17.  
(3 marks)  
أكتب ثلاث كلمات مفتاحية تقوم بنفس الوظيفة التى تقوم بها الكلمة المفتاحية فى السطر 17.

- a. ....
- b. ....
- c. ....

8. Write the output of the above pseudocode  
(3 marks)  
أكتب المخرج من ال pseudocode فى الأعلى

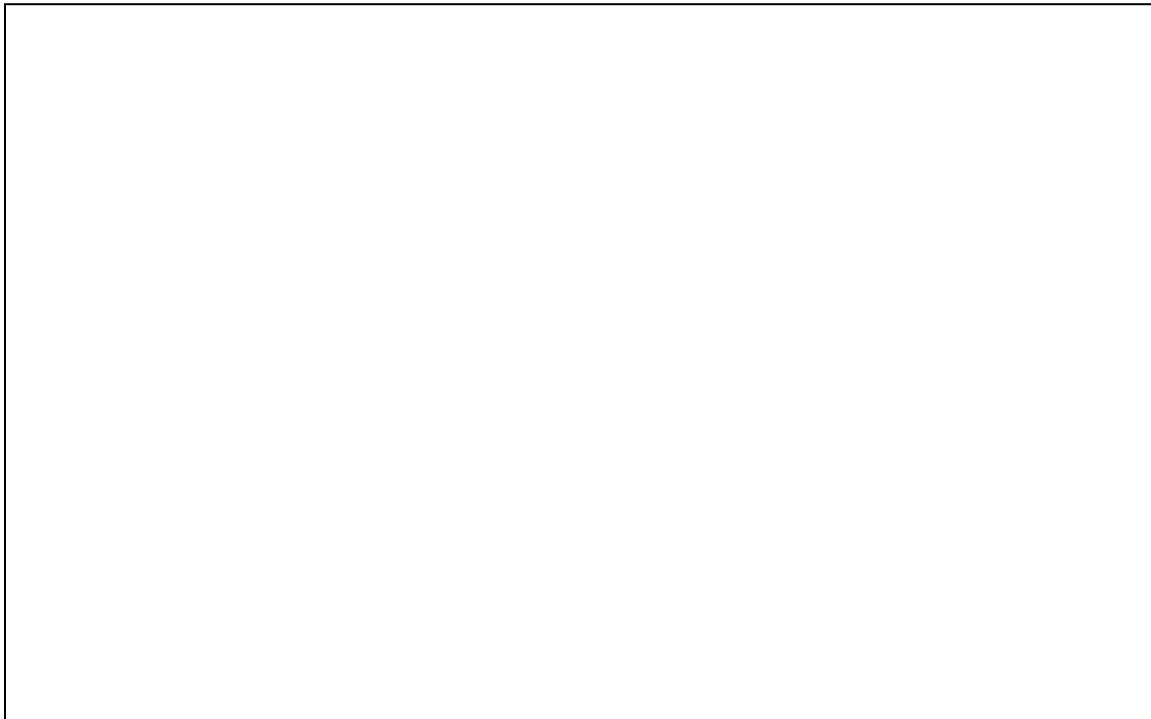
9. If we delete line 18 from pseudocode. Write the output after deletion (3 marks)  
إذا حذفنا السطر 18 من الـ pseudocode . أكتب المخرج بعد الحذف



10. Convert line 5, 6, 7 and 8 by using while loop (5 marks)  
حوّل الأسطر 5، 6، 7 و8 باستخدام حلقة while



11. Convert line from 11 to 21 to flowchart (6 marks)  
حوّل الأسطر من 11 إلى 21 إلى flowchart



**Question Two (16 marks):**

1. Write the output of the following Pseudocodes

(10 marks)

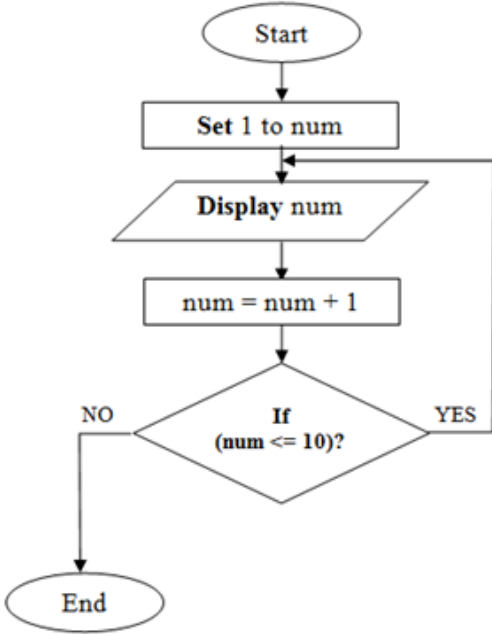
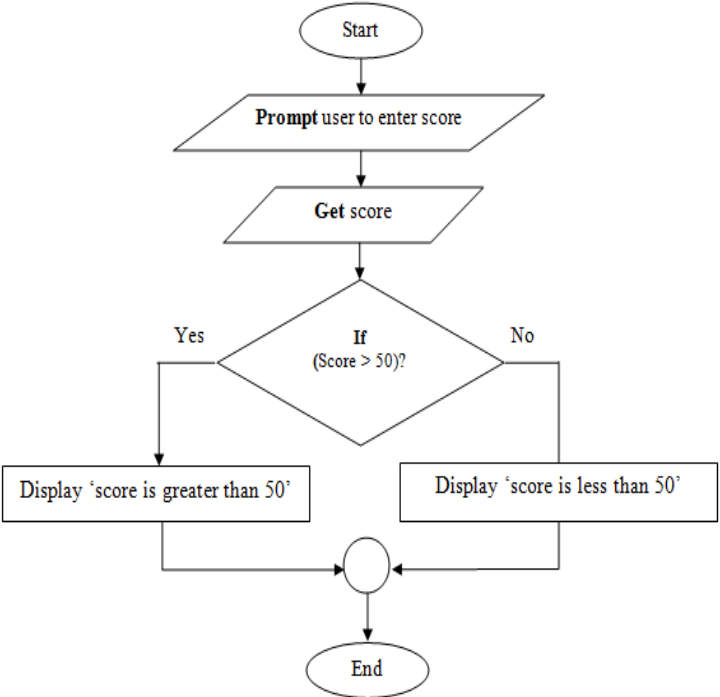
أكتب المخرج للـ Pseudocodes التالية

Pseudocodes	Output (المخرج)
<pre>1. Begin 2. Get number_one, number_two 3. sum ← number_one + number_two 4. Display "SUM = ", sum*sum 5. End</pre>	<p><u>The output if user enter 3 and 4</u> <u>أكتب المخرج إذا المستخدم أدخل 3 و 4</u></p>
<pre>1. Begin 2. For num = 0 to 6     Display num,"* 6 = ", num*6     Display NewLine     num = num + 1 EndLoop 4. End</pre>	
<pre>1. Begin 2. For i = 1 to 3     For j = 1 to 4         Display j,"*"         j = j + 1     EndLoop     i = i + 1     Display NewLine EndLoop 3. End</pre>	
<pre>1. Begin 2. For i = 1 to 4     Set j to 1     While(j &lt;= i)         Display '*'         j = j + 1     EndLoop     i = i + 1     Display NewLine EndLoop 3. End</pre>	
<pre>1. Begin 2. Declare arr[10] 3. For count = 0 to 4     arr[count] = count     count =count + 2 EndLoop 4. For count = 0 to 4     sq = arr [count] * arr [count]     Display sq, " "     count =count + 1 EndLoop 5. End</pre>	

2. Write the output of the following Flowcharts

(6 marks)

أكتب المخرج للـ Flowcharts التالية

Flowcharts	Output (المخرج)
 <pre> graph TD     Start([Start]) --&gt; Set1[Set 1 to num]     Set1 --&gt; Display[Display num]     Display --&gt; Inc[num = num + 1]     Inc --&gt; Dec{If (num &lt;= 10)?}     Dec -- YES --&gt; Display     Dec -- NO --&gt; End([End])         </pre>	
 <pre> graph TD     Start([Start]) --&gt; Prompt[/Prompt user to enter score/]     Prompt --&gt; Get[/Get score/]     Get --&gt; Dec{If (Score &gt; 50)?}     Dec -- Yes --&gt; Display1[Display 'score is greater than 50']     Dec -- No --&gt; Display2[Display 'score is less than 50']     Display1 --&gt; Merge(( ))     Display2 --&gt; Merge     Merge --&gt; End([End])         </pre>	<p><u>The output if user enter 100</u>  <u>أكتب المخرج اذا المستخدم أدخل 100</u></p>

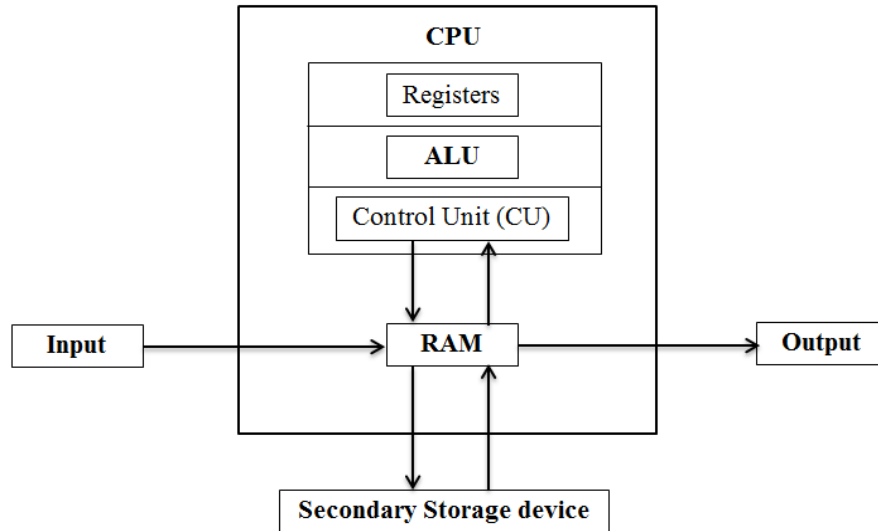
**Question Three (15 marks):**Indicate whether the sentence or statement is **True (T)** or **False (F)**

1. System software is the collection of hardware that must be available to any computer system for it to operate	( )
2. Problem definition mean breaking up the problem into smaller and simpler sub-problems	( )
3. Algorithm is not clear or unambiguous specification of the steps needed to solve a problem	( )
4. Variable is a value that never changes as the instructions in a program are followed. Variable can be any type of data	( )
5. Constant is a value that does change as the instructions in a program are followed. Constant can be any type of data	( )
6. Computer is a machine that performs multi tasks according to specific instructions.	( )
7. Computer hardware is the collection of physical elements that constitutes a computer system	( )
8. Input unit allow the user to enter information into the system, or control its operation	( )
9. Each computer contains memory of two main types RAM and ROM	( )
10. Secondary storage devices are used to be permanent storage area for programs and data	( )
11. Software is computer programs that run on a computer	( )
12. Programming languages is a languages used to create computer programs	( )
13. Computer programming mean writing a computer programs by a programmer using programming language	( )
14. Machine languages and assembly languages are called low-level languages since they are closest to computer hardware	( )
15. Compiler is a program that translates programming code written in a low-level language into a high -level format	( )

**Question Four (20 marks):**

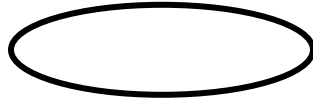
Put a circle around the number of the **correct** answer

1. The following figure shows.



- a) Basic hardware units of a computer
  - b) Basic Software units of a computer
  - c) Basic hardware/ Software units of a computer
  - d) CPU
2. Algorithm may be expressed in either Human language, pseudocode or.....
- a) Graphical keywords
  - b) Flowchart
  - c) Symbols
  - d) English or Arabic language
3. ....is wrong variable name
- a) X2
  - b) Xtwo
  - c) 2x
  - d) twoX
4. The ALU performs all the arithmetic and logic operations like
- a) Addition
  - b) Subtraction
  - c) Comparison
  - d) All answer correct
5. The following mathematical words mean
- Multiply Length by Width to Compute Area
- a)  $\text{Area} = \text{Length} * \text{Width}$
  - b)  $\text{Length} = \text{Area} * \text{Width}$
  - c)  $\text{Width} = \text{Length} * \text{Area}$
  - d)  $\text{Multiply} = \text{Length} / \text{Width} + \text{Compute} * \text{Area}$

6. The following figure shows



- a) Connector Symbol
- b) Terminal Symbol
- c) Start Symbol
- d) End Symbol

7. If we have a code that we sometimes want to execute and sometimes we want to skip we can use....

- a) Nested if statement
- b) If else statement
- c) If statement
- d) All answer wrong

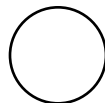
8. To perform repetition successfully need to know two things.....

- a) Initial value and Stop condition
- b) Stop condition and Increase/decrease statement
- c) Increase/decrease statement and The instructions are to be repeated
- d) The instructions are to be repeated and When to stop looping

9. There are many reasons for using arrays in the programs.....not one of these reasons

- a) Knowing number of variables needed before runtime.
- b) For a large number of variables that would be difficult to assign unique names.
- c) Requirement to implement a search or sort mechanism within your program logic.
- d) A need to improve program performance.

10. The following figure show .....



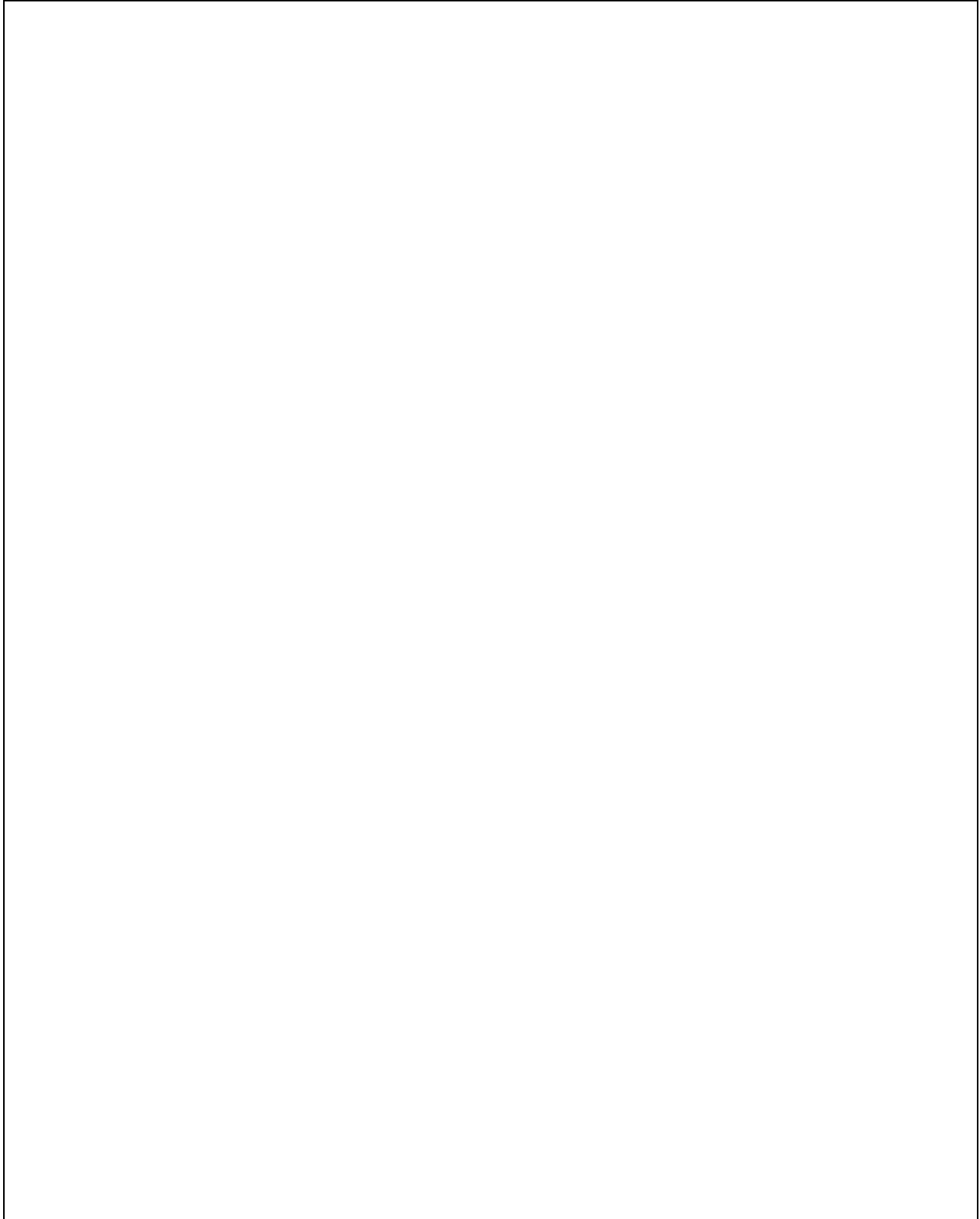
- a) Decision symbol
- b) Connector symbol
- c) Terminal symbol
- d) Annotation symbol



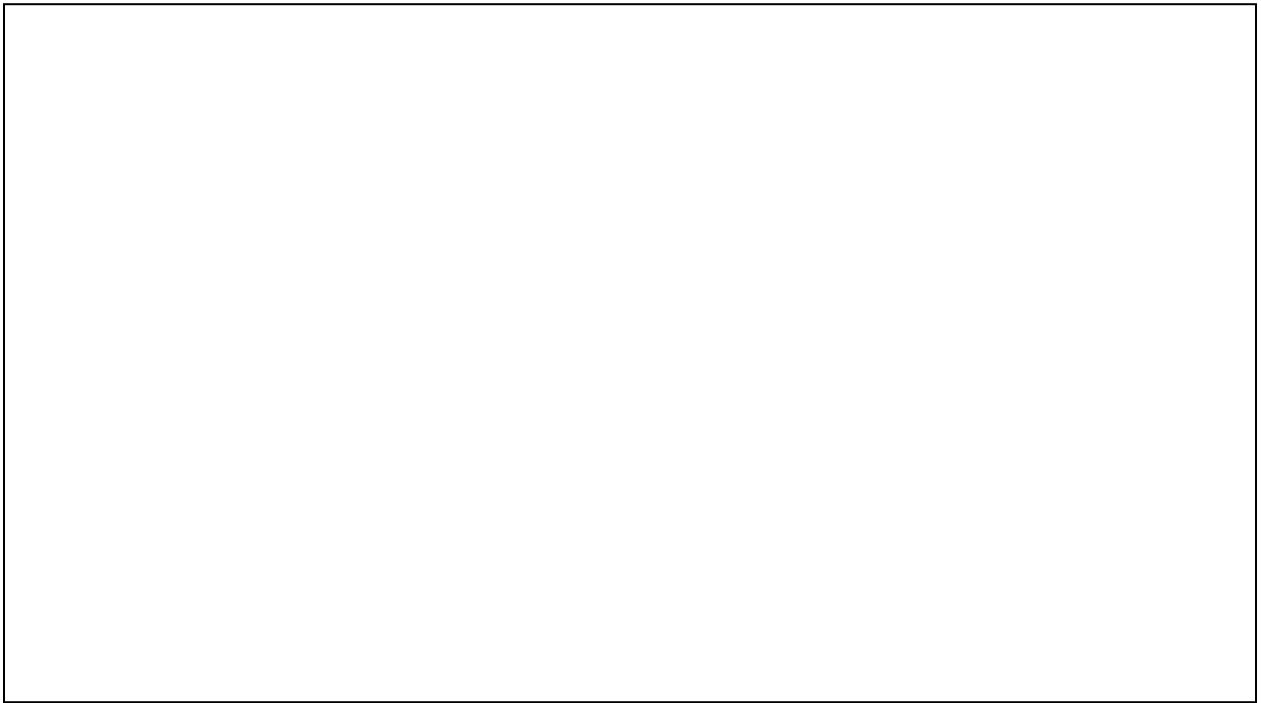
**Question Five (14 marks):**

1. Write **Pseudo code** and draw **Flowchart** calculate the circle area.

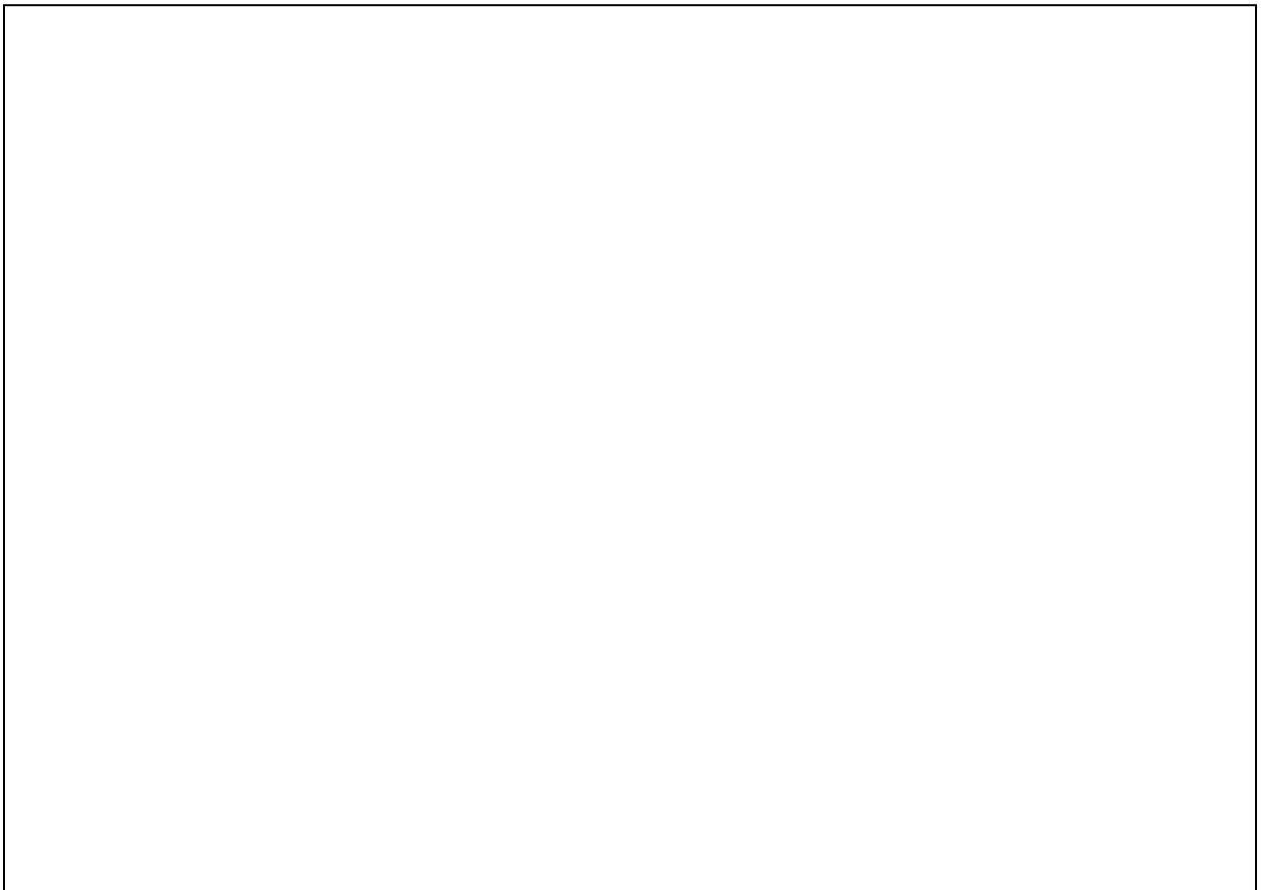
(6 marks)



2. Using Counted loop draw **Flowchart** that output number from 1 to 100. (4 marks)



3. Write **Pseudo code** to display the even elements in the array of five elements. (4 marks)



بالتوفيق ،،،