Lesson- 8: Graphics in QBasic

A. Fill in the blanks:

1. Basic was designed by professor John G. Kemeny and Thomas E.Kurtz in 1964.
2. Input command allows us to enter information when the program is being executed.
3. A variable is a meaningful name of data storage location in computer memory.
4. IF….THEN statement is used to make decisions based on comparisons.
5. A string variable contains value, symbols or text within double quotes and is represented by an alphabet followed by dollar sign.
6. The line statement is used to draw a straight line.

B. State True or False

1. The circle statement is used draw a circle. True
2. Play feature in QBasic is used to generate a movie. False
3. In high resolution mode, the computer screen is divided into 320*200 pixels. False
4. BASIC stands for Beginners All Purpose Symbolic Instructions Code. True
5. Integer constants are only positive numbers. False
6. Draw statement works similar to Line statement. True

7. To draw vertical lines, y-axis co-ordinates will remain the same for both starting and ending points of the line. False
8. The background colour code for Gray colour is 7. True

C. Applications based questions

1. Kareena wants to draw lines in eighth different directions but she is unable to do so. Suggest to her the command to perform this task.

Ans)
```
screen 7
Color 4, 14
Cls
Pset(80,80)
Draw “U60D120U60”
Draw” E60G120E60”
Draw “R60L120R60”
Draw” F60H120F60”
END
```

2. Kabir wants to draw a box filled with colour using the Line statement but he is unable to recollect the keyword for making a filled box. Help him to finish this task.

Ans)

SCREEN 7

COLOR 5,15

LINE (60,60)-(130,100), 6, BF

END

3. The computer teacher has asked Swati to draw vertical line in QBasic. Which co-ordinate will you suggest to her to set the same for both starting and ending points of the line?

Ans. X-axis

D. Multiple Choice Questions:

1. The_____ statement, displays messages or output of a program.

Ans) print

2. We use _____ statements to draw lines, figures and patterns of different shapes.

Ans) Line

3. To draw a fill box, the letter _____ is used with co-ordinates.

Ans) BF

4. _____ statement is used to set the screen resolution

Ans) Screen

5. No graphics can be created in _____ mode.

Ans) Screen 0

E. Answer the following:

1. What is the use of INPUT statement?
Ans) The input command is used to enter values (text, number) while the program is being executed. This command waits for the user to enter information and then assigns the values accordingly.

2. What is the difference between IF…THEN and IF…THEN…ELSE statements?
Ans) If…then statement is used to make decisions based on the results of comparisons while IF…THEN…. ELSE is a conditional decision-making statement. If the condition given after IF is true, statements specified after THEN is executed. But if the condition is false, the statements specified after ELSE will be executed.

3. What do you understand by the term Screen modes?

Ans) There are many screen modes that can be used in QBasic. Every mode has a different resolution and supports different number of colours.
For example, screen 1 supports 4 colours and screen 2 supports 2 colours.

4. What is the difference between B and BF options used with Line statement?
Ans) B indicates the box option and BF indicates the box filled option.

5.How can we draw a rectangle? Explain with an example.
Ans) We can draw rectangle using line statement.

```
Screen 7
Color 5, 15
Cls
Line (60, 60) -(130,100),6, B
END
```

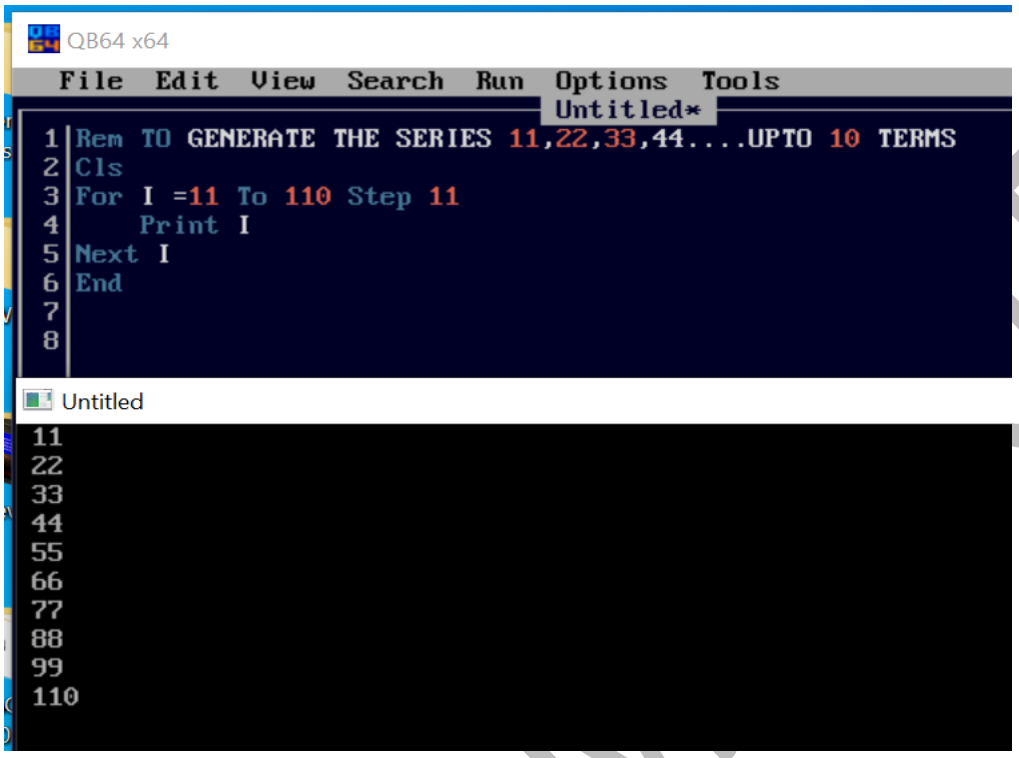
6. What is the use of PSET statement?
Ans) to set a point from where a particular drawing should start on the screen, PSET statement is used, PSET (X, Y), C, where X refers to column and Y refers to row coordinate and C refers to colour code.

ACTIVITY SECTION

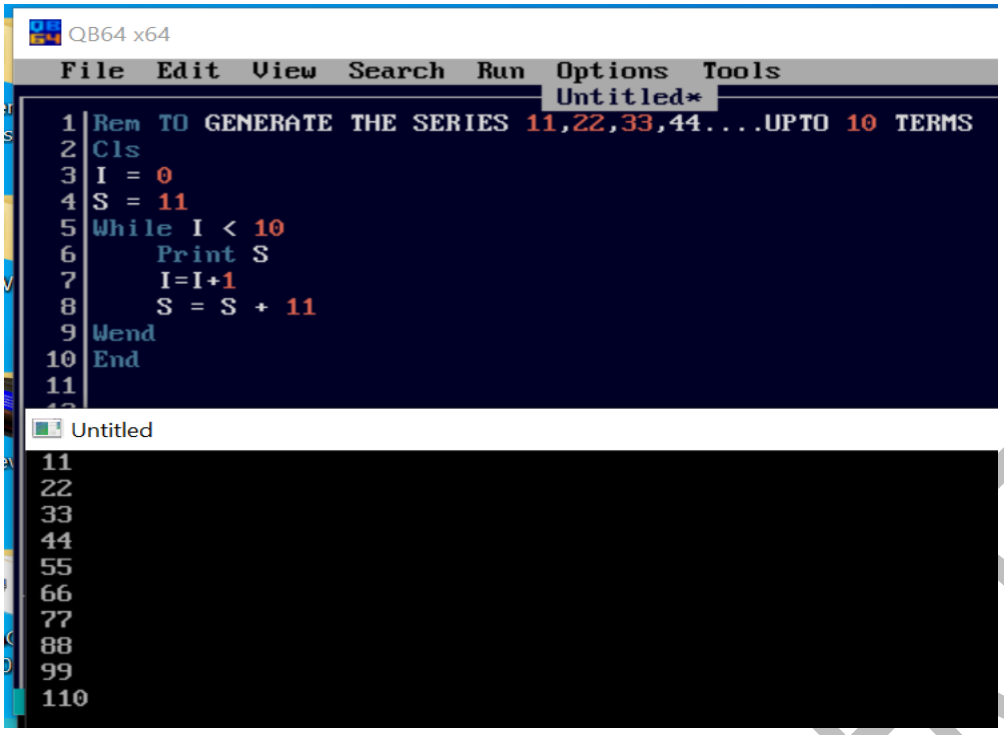
A. WRITE PROGRAMS TO GENERATE THE FOLLOWING SERIES:

(I) 11,22,33,44……..UPTO 10 TERMS.

Ans. (i) Generating the series 11,22,33,44……..upto 10 terms using For … Next statement.



(ii) Generating the series 11, 22, 33, 44……..upto 10 terms using While…wend.



(iii) Generating the series 11, 22, 33, 44……upto 10 terms using Do Until…….Loop.

QB64 x64

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```
1  Rem TO GENERATE THE SERIES 11,22,33,44....UPTO 10 TERMS
2  Cls
3  I = 0
4  S = 11
5  Do Until I = 10
6      Print S
7      I = I + 1
8      S = S + 11
9  Loop
10 End
```

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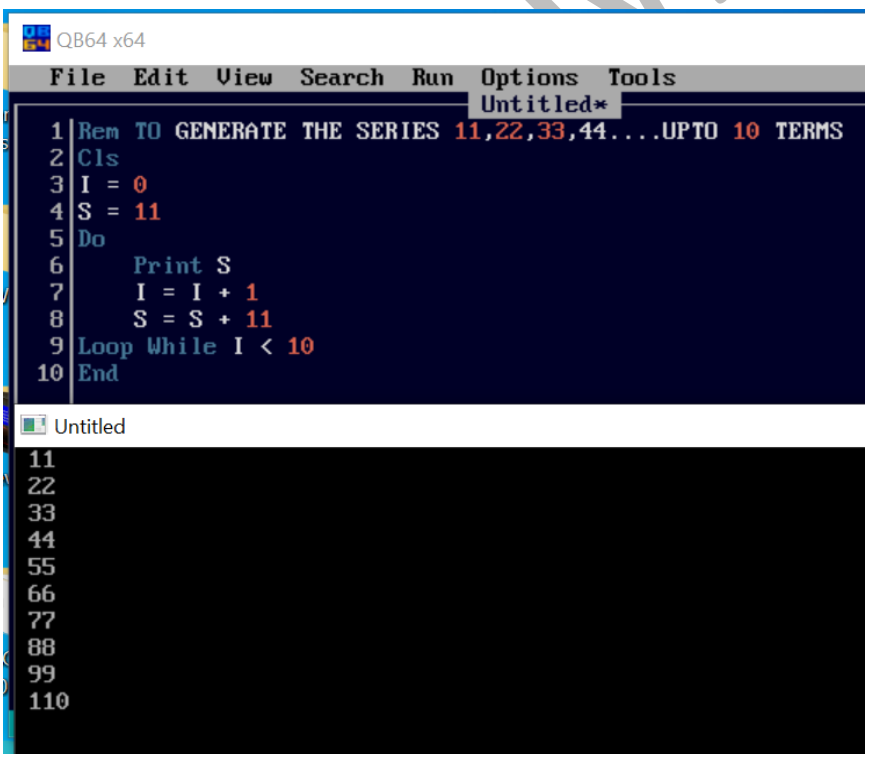
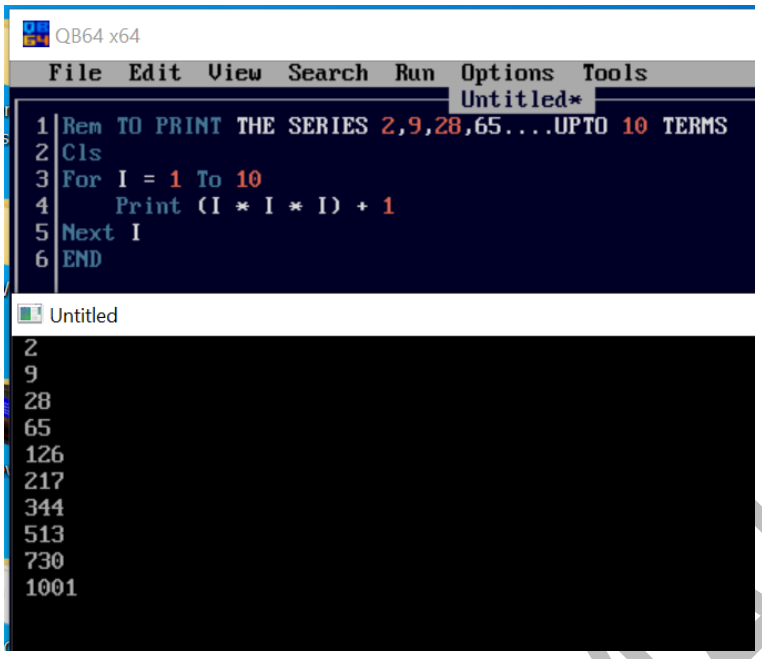
```
11
22
33
44
55
66
77
88
99
110
```

(iv) Generating the series 11, 22, 33, 44……upto 10 terms using Do…. Loop While statement.

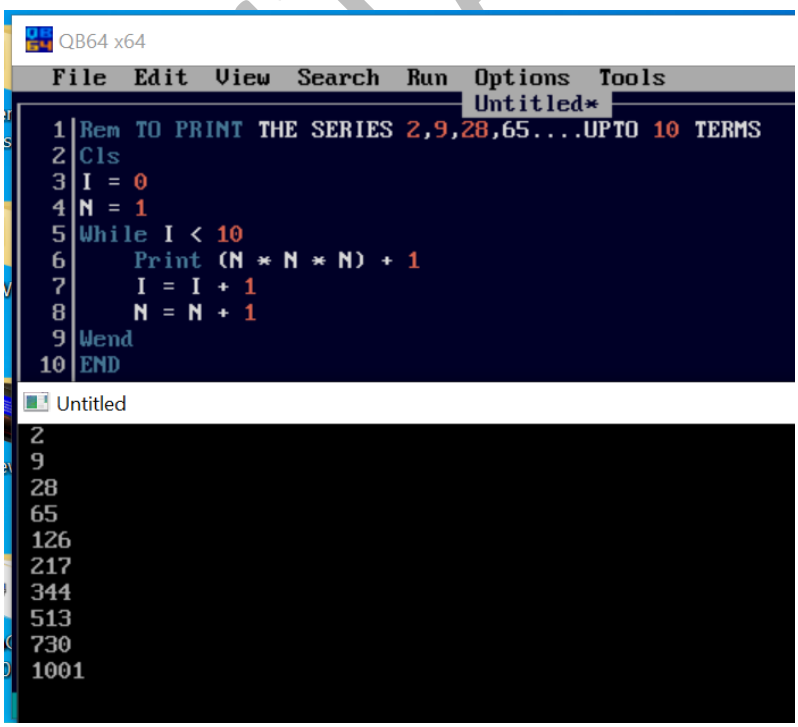


(II) 2, 9, 28, 65…….. upto 10 terms.

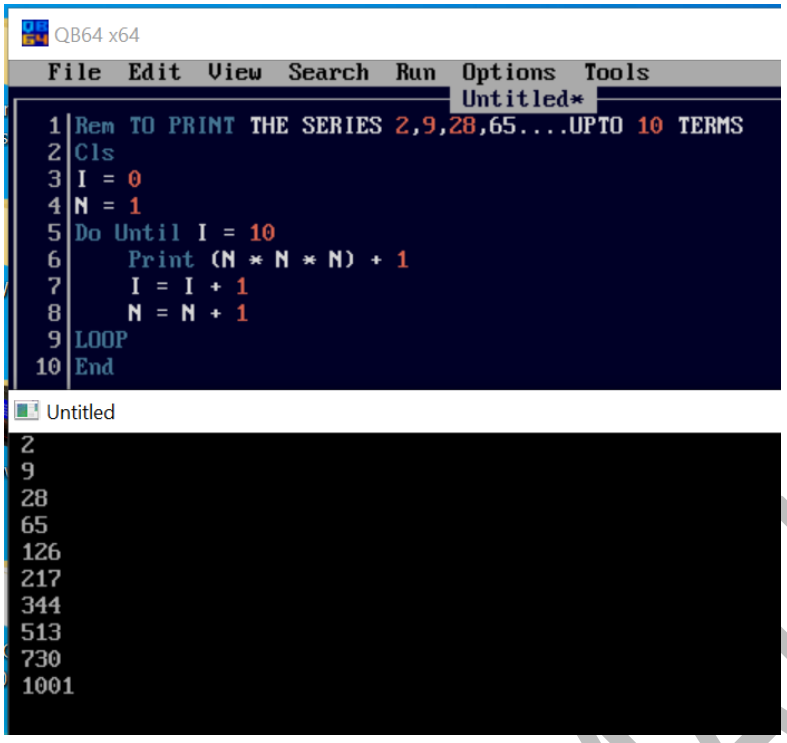
Ans. (i) Generating the series 2, 9, 28, 65…….. upto 10 terms using For … Next statement.



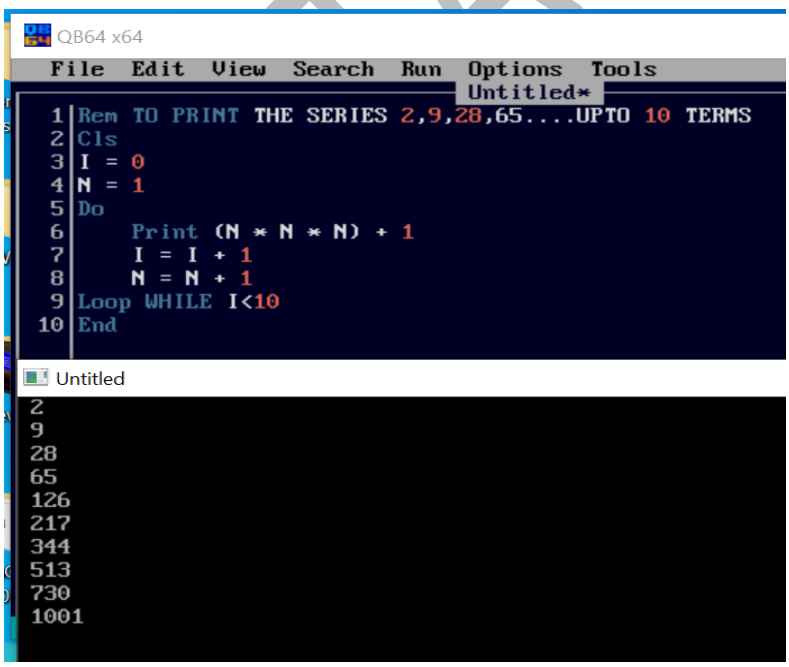
(ii) Generating the series 2, 9, 28, 65…….. upto 10 terms using While…….WEND.



(iii) Generating the series 2, 9, 28, 65…….. upto 10 terms using Do Until….Loop.

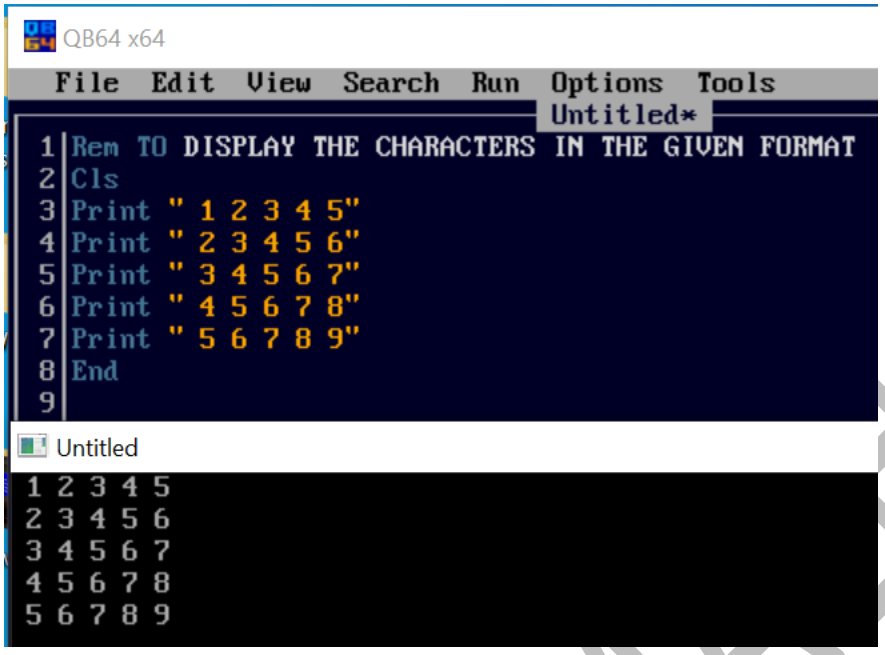


(iv) Generating the series 2, 9, 28, 65…….. upto 10 terms using Do….Loop While statement.

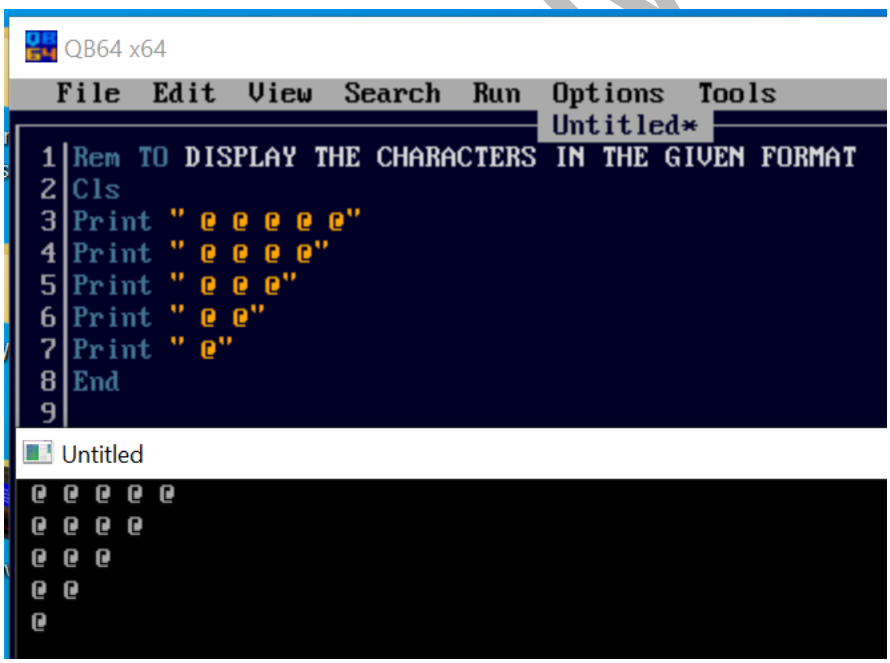


B. Write programs to display the characters in the given format:

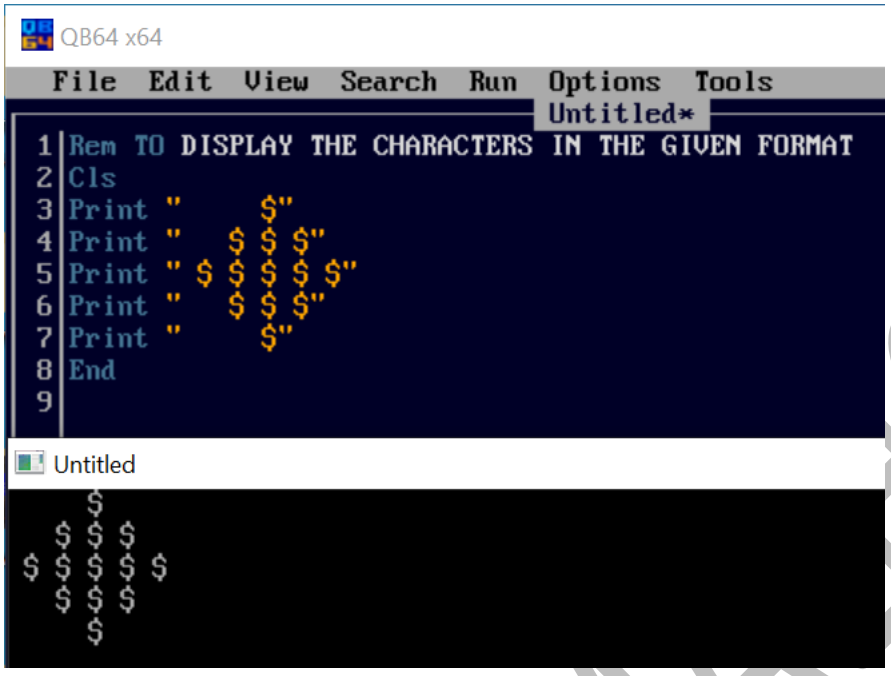
(i)



(ii)

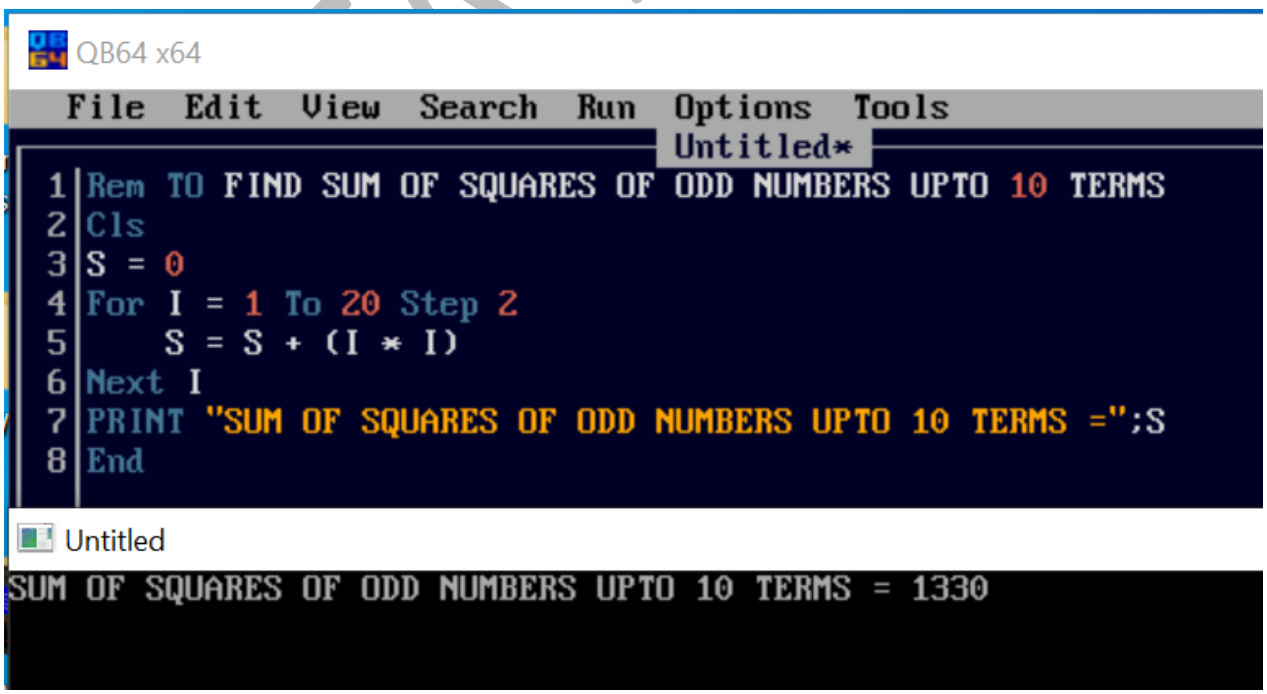


(iii)

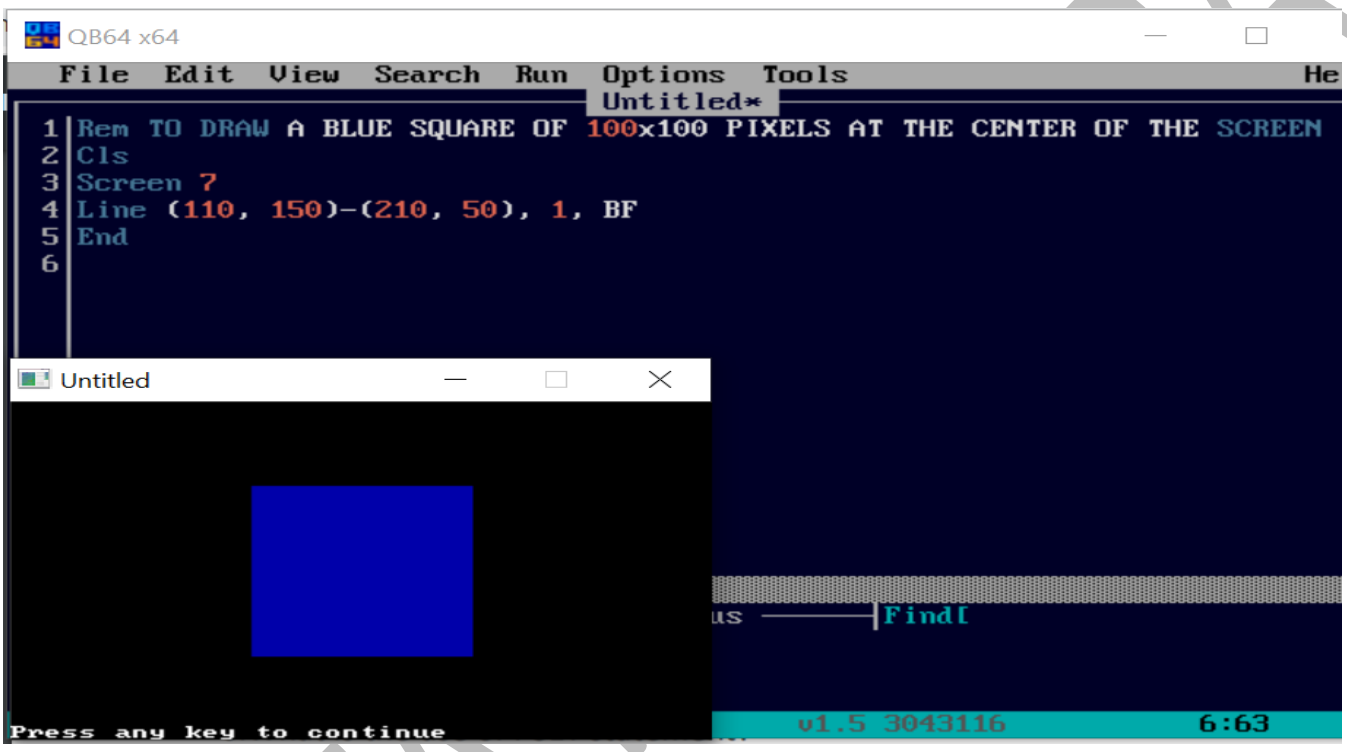


C. Write programs for the following:

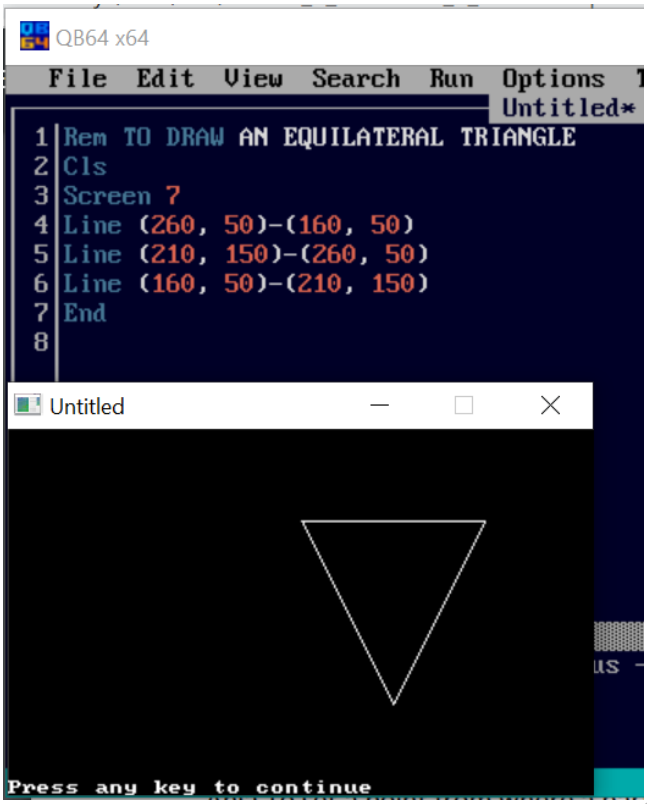
(I) To find the sum of squares of odd numbers upto 10 terms.



(II) To draw a square of 100X100 pixels whose centre lies at the center of the screen. Fill the square with blue colour.



(III) To draw an equilateral triangle.



(IV) To draw three concentric circles with equal distance between them.