CHAPTER 6: Class X
GRAPHICS IN BASIC

4. Define Graphic. Give the names of graphic modes.

Ans: Graphics is an art to design and produce pictorial representation of information. There are two graphic modes. **(a). Medium Resolution / SCREEN 1.** (320 x 200)
(b). High Resolution / SCREEN 2. (640 x 200)

5. What are the coordinates of text mode, medium resolution mode and higher resolution mode?

Ans: **a)**. Text Mode (SCREEN 0) consists of **80 x 25** rows. It can display 16 colors.
b). Medium Resolution (SCREEN 1) consists of **320 x 200** rows. It has 4 colors. (0,1,2,3)
c). High Resolution (SCREEN 2) consists of **640 x 200** rows matrix.

6. Describe the SCREEN Statement.

Ans: **Purpose:** SCREEN statement is used to select a screen mode for text / graphics. F10 key is used to select text mode like SCREEN 0,0,0

Syntax: SCREEN [mode] [, [color switch]]

Where screen mode is a numeric value from 0,1,2,7,8,9,10. Screen 0 is by default mode, which is only text base. Screen mode 1 activates **Medium Resolution** graphic mode with **320 x 200** pixels. Screen mode 2 activates **High Resolution** graphic mode with **640 x 200** pixels.

7. Write the syntax of CIRCLE statement. Also give example for explanation.

Ans: Syntax: CIRCLE (x,y), radius, [color]
Example: CIRCLE(100,100),50,1

8. Compare and differentiate LINE and DRAW statements?

Ans: LINE statement is used to draw lines and boxes on the screen. Its simple syntax is
LINE [(x1,y1)]-(x2,y2) [,[attribute][,B[F]][,style]]

Attribute option can be color no. 1, 2 or 3
***B*:** switch is used to draw BOX and **BF** switch is to fill the box.
Style: It is used to make stylish box lines with 0, 1, 2, 3, 4, and 5 options.

DRAW: The DRAW statement is used to draw lines and other shapes on the screen. It is valid only in graphics mode. Its syntax is **DRAW string.** A string consists of single character command followed by a prefix that control the size, direction etc.

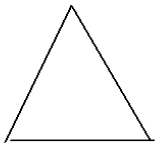
Un	up	Ln	left	En	diagonally up & right	Gn	diagonally down & left
Dn	down	Rn	right	Fn	diagonally down & right	Hn	diagonally up & left

9. Find out the errors in the following if any? (Try it yourself)

LIE (140, 100) – (200 – 100), 2, FB, 4 _____

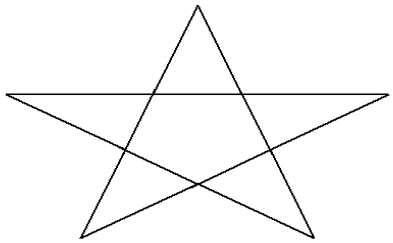
b). 10 SCREEN 2 **20 COLOR 1, 2** **30 DRAW "U10 410 D10 L10"** **40 END**	**C). 10 SCREEN 1** **20 LET A = 20** **30 DRAW "U=A R=A, D=A L=A"** **40 END**

10. What will be the output of the following. (Try it yourself)

10 SCREEN 2		**C). 10 SCREEN 2**
20 PSET (250, 50)		**20 FOR K = 30 TO 180**
30 DRAW "G50 R100 H50"		**30 CIRCLE (1,100),50**
40 END		**40 NEXT K**

11. Write a program to draw a star.

```
10 CLS
20 SCREEN 2
30 LINE (360,140)-(320,70)
40 LINE -(250,140)
50 LINE -(395,95)
60 LINE -(230,95)
70 LINE -(360,140)
```



12. Define the COLOR statement. How many color backgrounds are available with color state?
Ans: The COLOR statement is used to select display colors. There are 0-7 = 8 different colored backgrounds are available with color statement.

13. Define the Palette.
Ans: the Palette statement contains a set of colors, which are used to change colors of LINE, CIRCLE, PSET and DRAW statements. It also used to change background colors. i.e. PALETTE 0,0 0,1 0,2 0,3 (4 different Background colors) and 1,0 1,1 1,2 1,3 (4 different foreground colors)

14. Briefly discuss the PIXEL.
Ans. ***PIXEL*** (Picture Element) is one dot on the screen. Your computer screen is made with over 1-million litter square of colors (pixels). You can determine any coordinate as pixel.

15. Write a program to produce five concentric circles of different radii.

Ans.
```
10 CLS
20 SCREEN 2
30 FOR R = 20 TO 100 STEP 20
40 CIRCLE (250,90), R
50 NEXT
```

16. Write a program to draw a parallelogram by suing DRAW statement.

Ans.
```
10 SCREEN 2
20 PSET(250,50)
30 DRAW "R55 E20 L55 G20"
40 END
```