

# Chapter 4

## പൈത്തൺ ഗ്രാഫിക്സ് (Python Graphics)

Program	Instruction	Output
<pre>File Edit Format Run Options Window Help from turtle import* for i in range(3):     forward(100)     left(120) Ln: 5 Col: 0</pre> <p>Program 4.2 (a)</p>		<p>Triangle</p>
<pre>File Edit Format Run Options Window Help from turtle import* for i in range(5):     forward(100)     left(72)</pre>		

their uses are tabulated below with examples.

Instruction	Used for	Example
forward()	Moving the turtle to the right	forward(50) or fd(50)
circle()	For moving the turtle in a circle	circle(100)
dot()	Marking a point on the graphic screen	dot (20, "blue")
pencolor()	Specifying the colour of the line to be drawn on the screen	pencolor("blue")
pensize()	Specifying the thickness of the line to be drawn on the screen	pensize(5)
right()	Turning the turtle to the right as per the angle specified. right(90) turns the turtle to the right by 90 degrees.	rt(120) or right(120)
left()	Turning the turtle to the left by the angle specified. right(90) turns the turtle to the	lt(120) or left(120)

<code>left()</code>	Turning the turtle to the left by the angle specified. <code>right(90)</code> turns the turtle to the left by 90 degrees.	<code>lt(120)</code> or <code>left(120)</code>
<code>color(a)</code>	Specifying the colour of the shapes to be drawn in the Python Graphics window	<code>color("blue")</code>
<code>color(a,b)</code>	Instructing python to give different colours to the border and the body of shapes drawn.	<code>color("black","blue")</code>
<code>clear()</code>	Removing all the lines and colours in the graphic screen	<code>clear()</code>
<code>from turtle import*</code>	This instruction is to be given at the beginning of the program to activate turtle graphics in the computer	<code>from turtle import*</code>

### Short forms

Some Python Graphic commands can be written in short form. For example, `forward(100)` can be written as `fd(100)` and the instruction `left(90)`, as `lt(90)`.

1. When we run this program, how many circles will be drawn in the Graphics Window?

```
from turtle import*  
for i in range (40, 101, 20):  
    circle (i)
```

- a) 40
- b) 101
- c) 20
- d) 4**

2. Nived wants to create a regular Hexagon using Python program. What is the size of the angle to be given in the statement right()?

- a) 60**
- b) 72
- c) 90

d) 120

3. What will be the output of the given python program?

```
from turtle import*  
for i in range (3):  
    forward(50)  
    right(120)
```

a) Square

**b) Triangle**

c) Rectangle

d) Regular Pentagon

4. What does the instruction for i in range (4): In the given python program indicate?

```
from turtle import*  
for i in range(4):  
    forward(100)  
    right(90)
```

a) Draw for rectangles

b) Draw a line with four unit length.

c) For running the commands in for loop 100 times repeatedly

**d) For running the commands in for loop 4 times repeatedly**

5. Identify the output of the given Python Graphics program?

```
from turtle import*
for i in range(6):
    forward(100)
    right(60)
```

a) Square

b) Rectangle

c) Regular pentagon

**d) Regular Hexagon**

6. Which of the following instructions is to be used in a Python Graphics program to give different colours to geometrical figures?

a) pen-color()

b) pencolour()

c) colour()

**d) color()**

7. Identify the instruction to be given in the Python Graphics program to mark a blue dot in the Graphics window?

**a) dot(20,"blue")**

b) dot("blue", 20)

c) point(20,"blue")

d) point("blue", 20)

8. Which of the following commands can be used to give blue colour for the lines in a pattern drawn

in python programme?

a) color(blue)

b) color blue

c) color("blue")

d) color "blue"

9. Which of the following is the first command to be given in a python graphics programme?

a) clear()

b) begin\_fill()

c) from turtle import\*

d) forward()

9. How many circles will be there in the output of the python program is given above?

```
from turtle import*  
for i in range (10,51,20):  
    circle (i)
```

a) 10

b) 51

**c) 3**

d ) 20

10. Which one of the following is a command to specify the thickness of a line (3 units) in a geometric figure created in python graphics?

**a) pensize(3)**

b) pen\_size(3)

c) pensize("3")

d) pen\_size("3")

11. Which of the following is an additional software used to create geometric shapes in the python programming?

**a) turtle**

b) python shell

c) import

d) IDLE



12. Which one of the statements related to IDLE is correct?

- a) IDLE is an animation software
- b) IDLE is a programming language
- c) IDLE is a graphic software
- d) IDLE is IDE software**

13. Where do we get the output of python graphic commands?

- a) In python shell
- b) In python graphics window**
- c) In IDLE window
- d) In browsers

14. Which one of the following is used for repeating a command in program?

- a) forward()
- b) for**
- c) right()

d) range()

15. Which one of the following is not a programming language?

a) java

b) C++

c) python

**d) Gimp**

16. Which one of the following is a correct python command?

a) for c in range(4)

**b) for c in range(4):**

c) for c in range 4,

d) for c in range (4)\*

17. Which of the following commands is used for drawing a figure in blue colour and filling is with in green colour?

a) pencolor("blue", "green")

b) pencolor("green", "blue")

**c) color("blue", "green")**

d) color("green", "blue")

18. While running the above given program for drawing a square, error message appears. To rectify, which of the following commands should be added?

```
for i in range (4):  
    fd(100)  
    right(90)
```

a) color("blue")

**b) from turtle import\***

c) left(90)

d) forward(100)

19. What is the function of the command 'rt(30)' in a python graphics program?

**a) To turn turtle 30° right.**

- b) To draw a line of length 30 unit at right.
- c) To draw a circle with 30 unit radius at right.
- d) To mark a point at 30 unit distance.

20. The text editors used for writing and running computer programs are called.....

a) Video editor

**b) Integrated Development Environment**

**(IDE)**

c) image editor

d) turtle

21. Which of the following measures should be given inside the command 'right()' while drawing a square in the python program?

a) 60

b) 120

c) 72

**d) 90**

22. What is the function of command 'for i in range (3): ' in the below given program?

```
from turtle import*
for i in range (3):
    forward(50)
    right(120)
```

- a) To draw three squares
- b) To draw a line of length 120 unit.
- c) To repeat 50 times the commands in 'for loop'
- d) To repeat 3 times the commands in 'for loop'**

23. Which one of the following commands is used to clear off the text and lines on a python graphics screen?

- a) clear screen()
- b) clearall()
- c) clrscr()

**d) clear()**

24. Identify the statement used in python program to construct the geometrical with green border and fill color red.

a) pencolor("green", "red")

**c) color("green", "red")**

b) pencolor("green", "red")

d) color("green", "red")

25. Which of the following is the correct loop command in python language?

a) for i in range(4)

b) for c in range:

**c) for i in range(4):**

d) range for i in(5):

26. In a python program, one loop statement is included with another loop. This type of loop

statement is known

as.....

a) Loop

b) Loop Statement

**c) Nested Loop**

d) Statement

27.

```
from turtle import*  
for i in range(6):  
forward(100)  
right(60)
```

While running the above python graphics program, the message “expected an indented block” was displayed on the screen. Which of the following program can be used to solve this problem?

An:

```
from turtle import*  
for i in range(6):  
    forward(100)  
    right(60)
```

---

```
from turtle import*
for i in range(6):
    forward(100)
    right(60)
```

```
from turtle import*
for i in range(6)
forward(100)
right(60)
```

```
from turtle import*
for i in range(6):
forward(100)
    right(60)
```

28. Which one of the following instruction can be used to draw a red dot of 20 unit in python graphics window?

**a) dot(20,"red")**

b) circle(20,"red")



c) dot("red",20)

d) circle("red",20)

29.

```
from turtle import  
for i in range(6):  
    forward(100)  
    right(60)
```

While running the above python program, because of an error in a statement, the message Syntax Error-Invalid syntax was displayed on the screen. Which statement is incorrect?

**a) from turtle import**

b) forward(100)

c) right(60)

d) for in range (6):

30. Pick out the instruction from the following to enable turtle graphics in Python graphics programming.

a) begin\_fill

b) forward()

c) clear()

**d) from turtle import\***

31.

```
from turtle import*
-----
begin_fill()
for i in range(3):
    right(120)
    forward(100)
end_fill()
```

A python program for drawing a triangle with blue colour and filling it with violet colour is given. Fill in the missing statement in the program choosing from the options below.

a) pencolor ("blue","violet")

b) pencolor ("violet","blue")

**c) color("blue","violet")**

d) color("violet","blue")

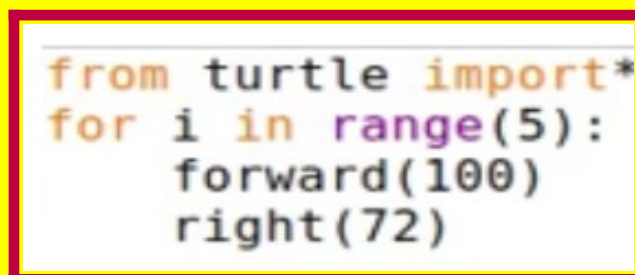
32.



While running the given python program, an error message as in image appears. A statement in the program is not correct. Choose that incorrect statement in the program from the options below.

- a) for i in range (4)
- b) from turtle import\*
- c) forward(100)
- d) right(90)

33.



Which geometric shape will you get while running the given program?

- a) Square
- b) Rectangle
- c) Regular pentagon**
- d) Regular Hexagon

34.

```
from turtle import*  
for i in range(3):  
    forward(100)  
    left(120)
```

Which geometric shape will you get while running the given program?

- a) triangle**
- b) Rectangle

c) Regular pentagon

d) Regular Hexagon

```
from turtle import*  
for i in range(4):  
    forward(100)  
    right(90)
```

35. Which geometric shape will you get while running the given program?

**a) Square**

b) Rectangle

c) Regular pentagon

d) Regular Hexagon

36.

```
.from turtle import*  
for i in range(6):  
    forward(100)  
    right(60)
```

Which geometric shape will you get while running the given program?

- a) Square
- b) Rectangle
- c) Regular pentagon
- d) **Regular Hexagon**

37. Which of the following instructions is suitable for drawing a red circle and filling it with green color in a Python graphics program as shown in the image?



- a) **color ("red", "green")**
- b) pencolor ("red", "green")

- c) color ("green", "red")
- d) pencolor ("green", "red")

38. Which of the following is an IDE that helps you create and run programs in the Python language?

- a) Geany**
- b) GIMP
- c) LibreOffice Impress
- d) Synfig Studio

Very Short Answer

39. rathnakar has prepared the given Python program to create square with side 100 unit length. But the program didn't work as there are

some errors. Identify the correct statements from the following to make the program?

```
from turtle import*  
for k in range(3):  
    forward(100)  
    right(60)
```

a) from turtle import\* should be changed to from import turtle\*

b) forward(100) should be changed to forward(200)

**c) right(60) should be changed to right(90).**

**d) for k in range(3): should be changed to for k in range(4):**

e) right(60) should be changed to left(60)

40. The below statements are taken from a Python program for creating a geometric figure. Which of the following statements are true



regarding the statement `color("black", "blue")` in the program?

```
from turtle import*  
color("black", "blue")  
begin_fill()  
circle(60)  
end_fill()
```

a) The geometric figure is displayed with blue as out line color.

b) The geometric figure is displayed in black and blue colours alternately with equal distance.

c) The geometric figure is displayed with black as fill colour.

**d) The geometric figure is displayed with black as out line color.**

**e) The geometric figure is displayed with blue as fill color.**

41. Which of the following are correct related to Python.

**a) Turtle: An additional software to create geometric figures.**

b) Geany: A programming language.

**c) IDLE: An editor to type and run Python programs.**

d) Python shell: The window on which the geometric figures are displayed when we run a python program.

e) Loop statement: Statement only for creating geometric figures.

42. Which of the following statements are true regarding the Python programming language?

a) Python Programming language is an example of Application software.

b) We can type and run python programs in Python Graphic window.

**c) To create geometric figures using, some additional software are needed.**

d) The output of all the Python programs is displayed in Python Shell window.

**e) When we create geometric figures using Python, they are displayed in Python Graphics window.**

43. Identify two most correct statements from the following about the given Python program.

```
from turtle import*
for k in range(6):
    right(60)
    color("black","blue")
    begin_fill()
    for j in range(4):
        forward(100)
        rt(90)
    end_fill()
```

a) It is NOT mandatory that the instructions `begin_fill` and the `end_fill()` should be in same tab position.

b) The output of the program is a pattern filled with Black colour and Blue outline.

**c) The program contains Nested Loop Statements.**

**d) The output of the program is a pattern filled with Blue colour and Black outline.**

e) The output of the program is a pattern with four squares.

44. Choose from the following the two true statements related with python graphics program given below?

```
from turtle import*
for i in range (40,100,20):
    circle (k)
```

a) The program would be functionable if we omit the instruction from turtle import\*

**b) The out put of the program would be three circles.**

c) The output of the program would be five circles.

**d) The out put circles would be of different radius.**

e) The output of the program would be more than three circles.

45. Python program for creating an Equilateral Triangle is given, If two instructions are changed, it would be a program for creating an Equilateral hexagon. Find out those instructions from the following.

```
from turtle import*
for k in range(3):
    forward(100)
    right(120)|
```

a) Instead of 'forward(100)', use 'forward(60)'

b) Instead of `from turtle import*`, use `from turtle import`

**c) instead of `for k in range (3):`, use `for k in range (6):`**

**d) Instead of `right(120)`' , use `right(60)`**

e) Instead of `right (120)`, use `right(90)`

46. Which of the following commands should be added along with the command ("`red`", "`green`") in order to draw and colour a square in a python program?

**a) `begin_fill()`**

b) `stop_fill`

c) `begin_end_fill()`

d) `color_fill()`

**e) `end_fill`**

47. A python program is prepared for creating a square. Two of the instructions are wrong.

Choose the right command to replace them from the following.

```
from turtle import*
for k in range (3):
    forward(50)
    right(60)|
```

a) from turtle import instead of turtle import\*

b) forward (100) instead of forward (50)

**c) right (90) instead of right (60)**

**d) for k in range (4): instead of k in range (3):**

e) left (60) instead of right (60)

48. A program to create an equilateral triangle is given. Two of the commands are found wrong in the program. Which are they?

```
from turtle import*
clear()
for k in range (3):
    forward(100)
    right(90)
```

**a) from turtle import**

b) clear()

c) for k in range(3):

d) forward(100)

**e) right(90)**

49. Choose the right statements regarding the given python program.

```
from turtle import*  
for i in range (10,100,10):  
    circle (i)
```

a) The program can run successfully without the command, ' from turtle import\*'

**b) The output of the program will be 9 circles.**

**c) The circles will be of different sizes.**

d) The circles will be of same sizes.

e) The output of the program will be 10 circles.



50. Some instructions and their functions in Python Programming Language are given. Choose correct option from them?

a) `clear()`: To clear the lines and text on the screen.

b) `right()`: To move the turtle to the right.

**c) `width()` : Specifying the thickness of the line to be drawn on the screen.**

**d) `color()`: To define the colour of the objects that appear on the graphics window.**

e) `forward()`: Marking a point on the graphic Screen

51. Choose from the following the instruction in python programming language to turn the turtle to left by 100 degrees.

a) right(100)

**b) lt(100)**

c) fd(100)

**d) left(100)**

e) rt(100)

52. Choose from the following the instruction in python programming language to turn the turtle to right by 100 degrees.

**a) right(100)**

b) lt(100)

**c) rt(100)**

d) left(100)

e) rt(100)

53. Which of the following are the programming Language.

a) Linux

b) Calc

**c) CPP**

**d) Java**

e) Android

54. Which of the following instruction in python programming language can be used to colour the objects drawn using python graphics?

a) clr()

**b) color()**

c) pen

d) colour()

**e) pencolor()**

55. The given incomplete python program is for creating a regular hexagon with sides of 60 units length. To complete the program, which of the following commands can be used?

```
from turtle import*
for i in range(6):
    .....
    .....
```

a) Forward(6)

**b) forward(60)**

c) right(72)

d) right(50)

**e) right(60)**

56. Some of the Python graphics commands can be used in short forms. Then, which of the following statements can be correct?

a) frd(100) can be used for forward(100).

b) fw(100) can be used for forward(100).

**c) rt(100) can be used for right(100).**

**d) fd(100) can be used for forward(100)**

e) ri(100) can be used for right(100).

57. The given python program is for creating equilateral triangle. If we change two commands

in the program, a square can be created. Choose those commands from the following?

```
from turtle import*  
for k in range(3):  
    forward(100)  
    right(120)
```

- a) Use from import turtle\* instead of from turtle import\*
- b) Use forward (90) instead of forward(100)
- c) Use for k in range(4): instead of for k in range(3):**
- d) Use right (90) instead of right(120)**
- e) Use left(120) instead of right(120)

58. Identify the correct python commands from the following.

- a) colour()
- b) color()**
- c) crl()

d) clean()

**e) clear()**

59. Some of the commands and their purposes in Python programming language are given below.

Choose the correct ones.

a) clear(): To remove the colour of the figures on graphics screen.

**b) color() : To define the colour of the figures on graphics screen**

c) dot(): To turn the turtle rightwards

d) forward(): To mark a point on graphics screen.

**e) pensize(): To define the width of the lines printed on graphics screen.**

60. Choose the correct statements about the given python graphics program.

```
from turtle import*
for k in range(11,71,10):
    circle(k)
```

a) When the program runs, 7 circles will be created.

**b) When the program runs, 6 circles will be created.**

c) When the program runs, 5 circles will be created.

d) Circles will be of equal size.

**e) Circles will be of different size.**

61. Which of the following commands can be used for drawing a line with a length of 100 units in

Python graphics program?

**a) forward(100)**

b) left(100)

c) right(100)

**d) fd(100)**

e) rt(100)

62. A Python graphics program to draw a regular hexagon in blue colour and its output are given. Which of the following changes should be made in the program to draw an equilateral triangle?

```
from turtle import*  
pencolor("blue")  
pensize(5)  
for i in range(6):  
    forward(100)  
    left(60)
```

a) from turtle\* import instead of from turtle import\*

b) pencolor ("green") instead of pencolor ("blue")

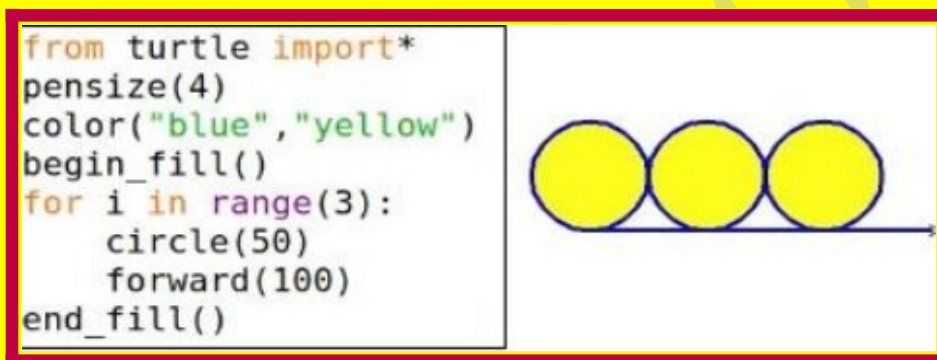
**c) left (120) instead of left (60)**

**d) for i in range (3): instead of for i in range (6):**

e) forward (50) instead of forward (100)



63. A Python graphics program of a pattern made using 3 blue circles and its output is given in the image. If you need an output of same pattern with four red circles, what changes would you make in the program? Choose from the following.



- a) for i in range (4): instead of for i in range(3):
- b) color("red", "yellow") instead of color("blue", "yellow")
- c) color("yellow", "blue") instead of color("blue", "yellow")
- d) circle (4) instead of circle (50)

e) forward(400) instead of forward (100)

64. A Python graphics program for drawing geometric shapes and its output are given in the image. Choose the appropriate instructions to fill the missing parts in the program.

```
from turtle import*
pensize(5)
color("blue", "yellow")
-----
for i in range(3):
    left(120)
    forward(100)
-----
```

a) for i in range

**b) end fill()**

c) circle (100)

**d) begin fill()**

e) forward (150)

65. Which of the following instructions must be compulsorily typed before and after the

instruction `color("red","blue")` which is used to fill color in geometric shapes in Python graphics programs?

**a) begin\_fill()**

b) `left(90)`

**c) end\_fill()**

d) `forward(100)`

e) `for i in range(4):`

66. A Python graphics program of a pattern made using 5 red circles and its output is given in the image. If you need an output of same pattern with 10 blue circles, what changes would you make in the program? Choose from the following.

```
from turtle import*  
pensize(4)  
pencolor("red")  
for i in range(5):  
    circle(50)  
    forward(30)
```



a) circle (10) instead of circle(50)

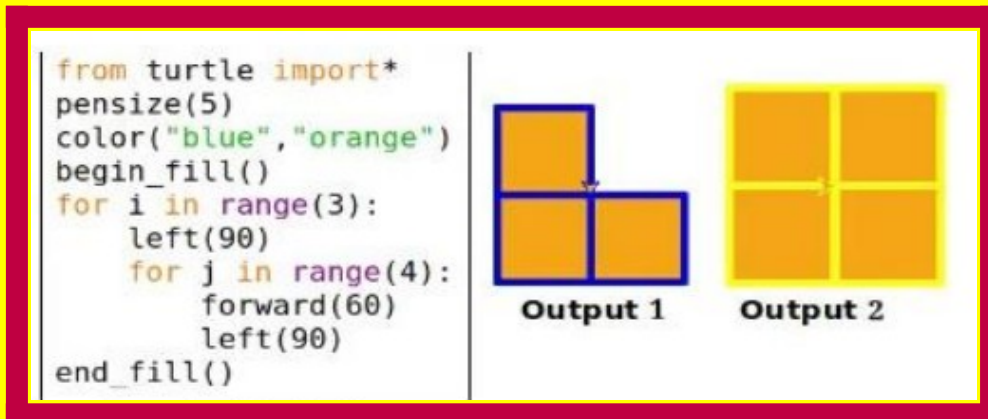
**b) for i in range (10): instead of for i in range (5):**

c) pensize(10) instead of pensize (4)

**d) pencolor ("blue") instead of pencolor ("red")**

e) circle("blue") instead of pencolor ("red")

67. The image shows the Python graphics program and output 1 of a pattern made using squares. What instructions should be changed in the program to get the second output?



a) start\_fill() instead of begin\_fill()

**b) color ("yellow", "orange") instead of color("blue","orange")**

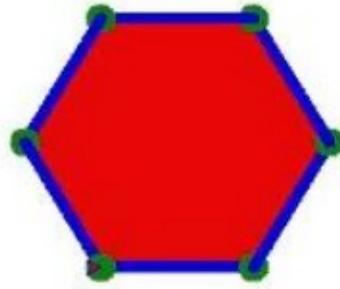
c) color("orange", "yellow") instead of color("blue","orange")

**d) for i in range (4): instead of for i in range (3):**

e) stop\_fill() instead of end\_fill()

68.A Python graphics program to draw the pattern shown in the figure and its output are given. Select the missing instructions in the program from the ones given below.

```
from turtle import*  
----- (1)  
pensize(8)  
begin_fill()  
for i in range(6):  
    forward(100)  
    left(60)  
----- (2)  
end_fill()
```



**a) color("blue", "red") in (1)**

b) circle (30, "green") in (1)

**c) dot (30, "green") in (2)**

d) pencolor ("blue", "red") in (2)

e) color("red", "blue") in (2)