9.10 Exercises
1. A class is a blueprint for declaring and creating objects. An object is a class
instance that allows programmers to use variables and methods from inside the
class.

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2. Fields or attributes of an object

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3. Oparations

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4. Dot

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5. The method operates the data in the class, while a function is used to return or
pass the data.

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6. The strip() method

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7. The function len()

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8. The open() function

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9. The second parameter of the open() function is the mode , a string with one
character. That single character basically tells Python what you are planning to do
with the file in your program.

10.
```python
file = open ( 'numbers.txt' , 'w' )
for i in range ( 100 ) :
     file.write ( file"{i}\n" )
file.close()
```

11.
```python
def sumfile (numbers.txt):
     file = open ('numbers.txt' , 'r')
     sum = 0
     for line in file :
          sum += int(line)
returns sum
file.close();
```

12.
(a) a.__sub__(b) is a - b
(b) a.__eq__(b) is a == b
(c) a.__neg() is -a
(d) a.__gt__(b) is a > b

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13. Using a Turtle object allows you to change specific properties of that object ,
like its color or shape , whereas using the free functions applies the default
poperties to all turtle
objects ._____
14.

```python
import turtle
t = turtle.Turtle()
a = 100
for i in range(3) :
     t.forward(a)
     t.left(120)
t.hideturtle()
turtle.done()
```

```python
import turtle
t = turtle.Turtle()
t.forward(100)
t.right(144)
t.hideturtle()
turtule.done()

import turtle
t = turtle.Turtle()
t.forward(100)
condition = True
for i in range(9) :
    if condition :
        t.right(100)
    else :
        t.left(100)
    t.forward(100)
    condition = not condition
t.hideturtle()
turtule.done()


import turtle
t = turtle.Turtle()
def square(size) :
    for i in range(size) :
        for i in range(4):
            t.forward(50)
            t.right(100)
        t.pen()
        t.forward(50)
        t.pendown()
t.pensize(5)
t.left(100)
x = 0
for i in range(5):
    t.penup()
    t.setposition(x,0)
    t.pendown
    square(5)
    x += 50
t.hideturtle()
turtule.done()


import turtle
t = turtle.Turtle()
t.pensize(5)
t.circle(100)
t.hideturtle()
turtule.done()
-----------------------------------------
import turtle
t = turtle.Turtle()
def square():
    for i in range(4) :
        t.forward(100)
```

```
            t.right(90)
t.pensize(3)
t.left(90)
for i in range(35)
        square()
        t.right(10)
t.hideturtle()
turtule.done()
```

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15. No, Python srings are immutable ,which means that once a sting has been created , its contents cannot be changed .if a programmer needs to modify a string, they must creat a new sting object with the desire modifications .

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16. Its attributes cannot be changed .

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17. In programming , garbage refers to any data o memory that is no longer useful or necessary .

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18. Garbage collection is a process that automatically frees up memory that is no longer being used by the program .

19.
(a) 2 , b , c
(b) No
(c) Yes