```python
import math

# Fill your boots here...

class Point:
    def __init__(self, x=0, y=0):
        self.x = x
        self.y = y

    def __repr__(self):
        return f"Point({self.x}, {self.y})"

    def delta_x(self, dx):
        return Point(self.x + dx, self.y)

    def delta_y(self, dy):
        return Point(self.x, self.y + dy)

    def translate(self, dx, dy):
        return Point(self.x + dx, self.y + dy)

class Circle:
    def __init__(self, center, radius):
        self.center = center
        self.radius = radius

    def __repr__(self):
        return f"Circle({self.center}, {self.radius})"

    def translate(self, dx, dy):
        return Circle(self.center.translate(dx, dy), self.radius)

    def perimeter(self):
        return 2 * math.pi * self.radius

    def area(self):
        return math.pi * self.radius * self.radius

class Rectangle:
    def __init__(self, upper_left, lower_right):
        self.upper_left = upper_left
        self.lower_right = lower_right

    def __repr__(self):
        return f"Rectangle({self.upper_left}, {self.lower_right})"

    def area(self):
        width = abs(self.upper_left.x - self.lower_right.x)
        height = abs(self.upper_left.y - self.lower_right.y)
        return width * height

    def perimeter(self):
        width = abs(self.upper_left.x - self.lower_right.x)
        height = abs(self.upper_left.y - self.lower_right.y)
        return 2 * (width + height)

    def translate(self, dx, dy)
        return Rectangle(
            self.upper_left.translate(dx, dy),
            self.lower_right.translate(dx, dy)
        )
```

```
tanujd@TDLegion-Slim7i:~/seng265$ git status
On branch master
Your branch is up to date with 'origin/master'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        labs/lab-08/

nothing added to commit but untracked files present (use "git add" to track)
tanujd@TDLegion-Slim7i:~/seng265$ git add .
tanujd@TDLegion-Slim7i:~/seng265$ git commit -m "Lab 08"
[master 7606304] Lab 08
 14 files changed, 344 insertions(+)
 create mode 100644 labs/lab-08/A/geometry.py
 create mode 100644 labs/lab-08/A/test_geometry.txt
 create mode 100644 labs/lab-08/A/test_hello.txt
 create mode 100644 labs/lab-08/B/README.md
 create mode 100644 labs/lab-08/B/geometry.py
 create mode 100644 labs/lab-08/B/test_geometry.txt
 create mode 100644 labs/lab-08/C/README.md
 create mode 100644 labs/lab-08/C/geometry.py
 create mode 100644 labs/lab-08/C/test_geometry.txt
 create mode 100644 labs/lab-08/D/README.md
 create mode 100644 labs/lab-08/D/__pycache__/geometry.cpython-311.pyc
 create mode 100644 labs/lab-08/D/__pycache__/geometry.cpython-312.pyc
 create mode 100644 labs/lab-08/D/geometry.py
 create mode 100644 labs/lab-08/D/test_geometry.txt
tanujd@TDLegion-Slim7i:~/seng265$ git push
      _____                    _                                  _
     | ____| _ __    __ _  (_) _ __     ___   ___  _ __ (_) _ __    __ _
     |  _|  | '_ \  / _` || || '_ \   / _ \ / _ \| '__|| || '_ \  / _` |
     | |___ | | | || (_| || || | | ||  __/|  __/| |   | || | | || (_| |
     |_____||_| |_| \__, ||_||_| |_| \___| \___||_|   |_||_| |_| \__, |
                    |___/                                        |___/

-------------------------------------------------------------------------

Use of this system must adhere to:
'Policy IM7200: Responsible Use of Information Technology Services',
http://www.uvic.ca/universitysecretary/assets/docs/policies/IM7200_6030_.pdf

AND

'Software Engineering Program Standards for Professional Behaviour',
http://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf

AND

'Use of the Engineering Computer Data Network Infrastructure',
http://www.uvic.ca/engineering/current/services/computing/index.php

-------------------------------------------------------------------------
Software Engineering Program Computer Support Group                 sengsys@uvic.ca
tanujd@git.seng.uvic.ca's password:
Enumerating objects: 25, done.
Counting objects: 100% (25/25), done.
Delta compression using up to 20 threads
Compressing objects: 100% (23/23), done
Writing objects: 100% (23/23), 6.72 KiB | 6.72 MiB/s, done.
Total 23 (delta 6), reused 0 (delta 0), pack-reused 0
To ssh://git.seng.uvic.ca/seng265/tanujd
   a4e54ec..7606304  master -> master
```

```
tanujd@TDLegion-Slim7i:~/seng265/labs/lab-08/D$ python3 -m doctest test_geometry.txt -v
Trying:
    from geometry import Point, Circle
Expecting nothing
ok
Trying:
    from geometry import Point
Expecting nothing
ok
Trying:
    p1 = Point()
Expecting nothing
ok
Trying:
    p2 = Point(3, 4)
Expecting nothing
ok
Trying:
    p3 = Point(-12.2, 101)
Expecting nothing
ok
Trying:
    p1
Expecting:
    Point(0, 0)
ok
Trying:
    p2
Expecting:
    Point(3, 4)
ok
Trying:
    p3
Expecting:
    Point(-12.2, 101)
ok
Trying:
    li = [p3, Point(3)]
Expecting nothing
ok
Trying:
    li
Expecting:
    [Point(-12.2, 101), Point(3, 0)]
ok
Trying:
    p4 = p1.delta_x(10)
Expecting nothing
ok
Trying:
    p5 = p1.delta_y(-10)
Expecting nothing
ok
Trying:
    p4
Expecting:
    Point(10, 0)
ok
Trying:
    p5
Expecting:
    Point(0, -10)
ok
Trying:
    p1
Expecting:
    Point(0, 0)
ok
Trying:
    p4 = p1.translate(5, -5)
Expecting nothing
ok
Trying:
    p4
Expecting:
    Point(5, -5)
ok
Trying:
    li2 = [p.translate(-3.4, 2.1) for p in li]
Expecting nothing
ok
Trying:
    li2
Expecting:
    [Point(-15.6, 103.1), Point(-0.3999999999999999, 2.1)]
ok
Trying:
    p1 = Point()
Expecting nothing
ok
Trying:
    c1 = Circle(p1, 10)
Expecting nothing
ok
Trying:
    c1
Expecting:
    Circle(Point(0, 0), 10)
ok
Trying:
    c2 = c1.translate(-3.14, +12.2)
Expecting nothing
ok
Trying:
    c1
Expecting:
    Circle(Point(0, 0), 10)
ok
Trying:
    c2
Expecting:
    Circle(Point(-3.14, 12.2), 10)
ok
Trying:
    c1.perimeter()
Expecting:
    62.83185307179586
ok
Trying:
    c1.area()
Expecting:
    314.1592653589793
ok
Trying:
    c2.perimeter()
Expecting:
    62.83185307179586
ok
Trying:
    c2.area()
Expecting:
    314.1592653589793
ok
Trying:
    from geometry import Point, Rectangle
Expecting nothing
ok
Trying:
    p1 = Point(5, 5)
Expecting nothing
ok
Trying:
    p2 = Point(1, -1)
Expecting nothing
ok
Trying:
    s1 = Rectangle(p1, p2)
Expecting nothing
ok
Trying:
    s1
Expecting:
    Rectangle(Point(5, 5), Point(1, -1))
ok
Trying:
    s1.perimeter()
Expecting:
    20
ok
Trying:
    s1.area()
Expecting:
    24
ok
Trying:
    s2 = s1.translate(-11, +3.14)
Expecting nothing
ok
Trying:
    s1
Expecting:
    Rectangle(Point(5, 5), Point(1, -1))
ok
Trying:
    s2
Expecting:
    Rectangle(Point(-6, 8.14), Point(-10, 2.14))
ok
Trying:
    s2.perimeter()
Expecting:
    20.0
ok
Trying:
    s2.area()
Expecting:
    24.0
ok
1 items passed all tests:
  41 tests in test_geometry.txt
41 tests in 1 items.
41 passed and 0 failed.
Test passed.
```