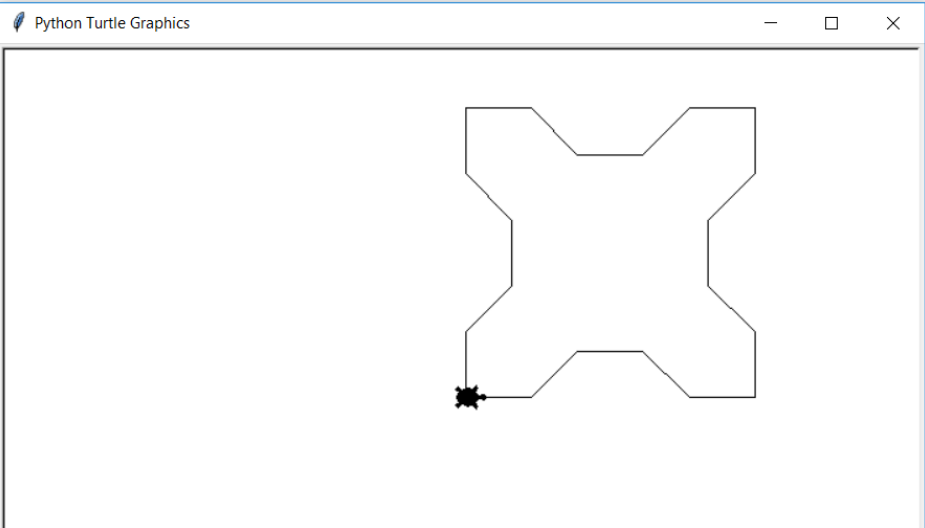


Чертим в Python with Turtle

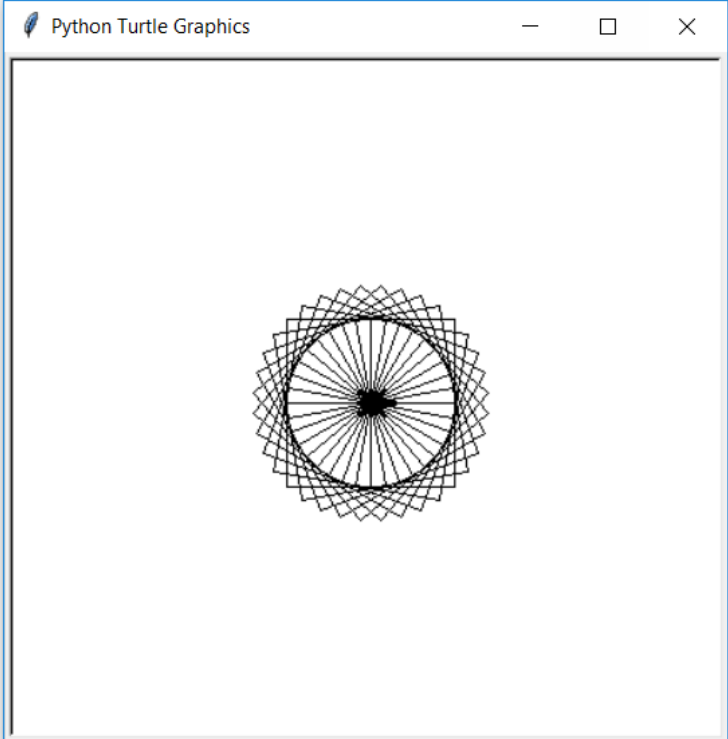
**Задача 1. С помощью инструмента Turtle построим такую фигуру.
Для этого напишем код и запустим модуль на исполнение**

```
turt01.py - C:/Users/Наталья/AppData/Local/Programs/Python/Python37-32/turt01.py (3.7.2)
File Edit Format Run Options Window Help
from turtle import*
i=1
while i<5:
    shape('turtle')
    forward(50)
    left(45)
    forward(50)
    right(45)
    forward(50)
    right(45)
    forward(50)
    left(45)
    forward(50)
    left(90)
    i+=1
```



Задача 2 . Используем построение прямоугольников и начертим такую картинку.

```
turt02.py - D:/_ШКОЛА/7/Питон/projects/turtles/turt02.py (3.7.2)
File Edit Format Run Options Window Help
from turtle import*
i=1
while i<37:
    shape('turtle')
    forward(50)
    right(90)
    forward(50)
    right(90)
    forward(50)
    right(90)
    forward(50)
    right(80)
    i+=1
```

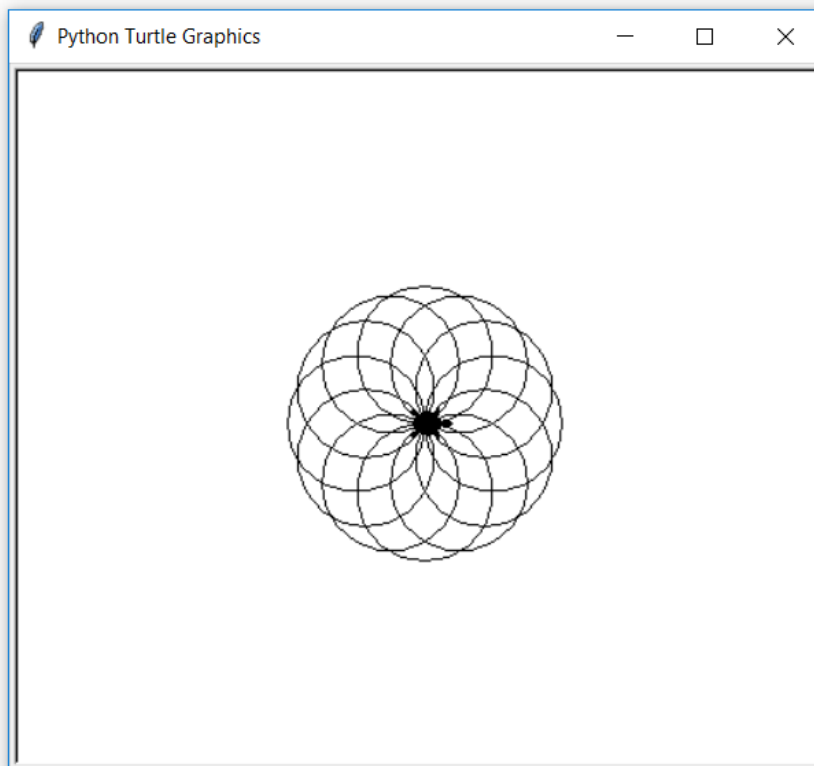


Задача 3. Начертим с помощью окружностей фигуру

turt03.py - D:/_ШКОЛА/7/Питон/projects/turtles/turt03.py (3.7.2)

File Edit Format Run Options Window Help

```
from turtle import *
i=1
while i<13:
    shape('turtle')
    circle(40)
    right(30)
    i+=1
```

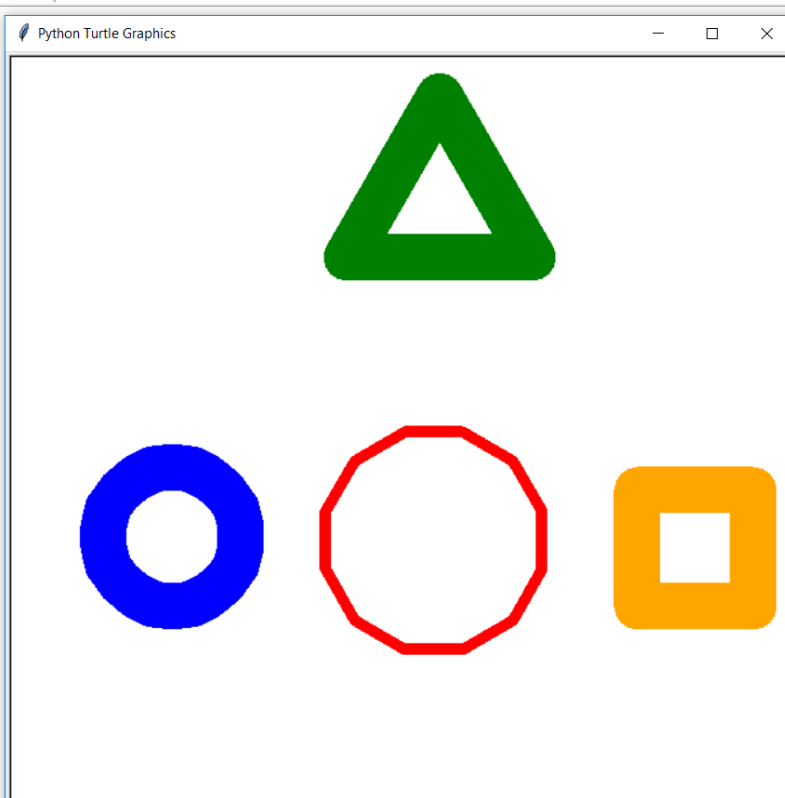


Задача 4. Нарисуем разноцветные фигуры

turt04.py - D:/_ШКОЛА/7/Питон/projects/turtles/turt04.py (3.7.2)

File Edit Format Run Options Window Help

```
from turtle import *
i=1
shape('turtle')
goto(0,0)
width(10)
color("red")
while i<13:
    forward(50)
    right(30)
    i+=1
up()
goto(-200,-150)
down()
width(40)
color("blue")
circle(60)
up()
goto(200,-50)
down()
color("orange")
j=1
for j in range(1,4):
    forward(100)
    right(90)
    j+=1
forward(100)
up()
goto(-50,150)
down()
color("green")
right(30)
forward(160)
right(120)
forward(160)
right(120)
forward(160)
```



Задача 5. Нарисуем пятиконечную звезду, повторим, развернув ее на 15 градусов.

Python 3.7.2 Shell

File Edit Shell Debug Options Window Help

*star.py - D:/ШКОЛА/7/Питон/projects/turtles/star.py (3.7...

File Edit Format Run Options Window Help

```
from turtle import*
shape('turtle')
color('blue')
i=1

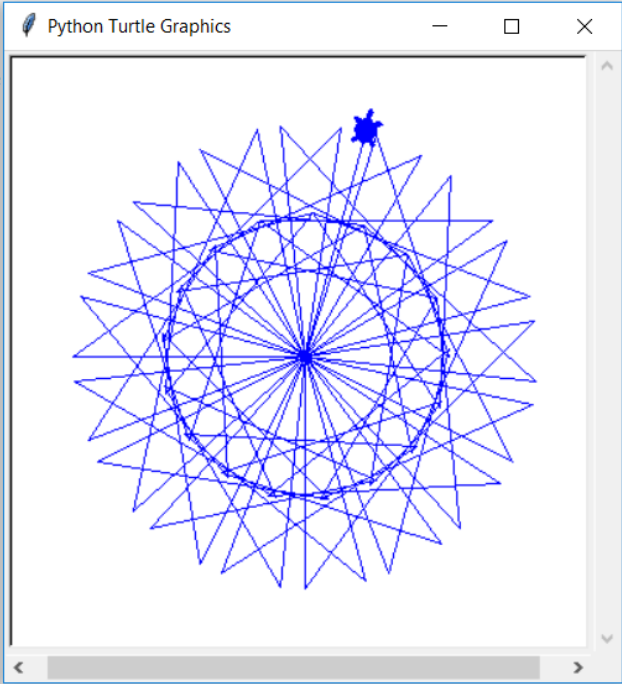
left(72)
forward(150)

while i<18:
    for j in range(1,5):
        right(144)
        forward(150)
        j+=1

    right(165)
    forward(150)

    i+=1
```

Python Turtle Graphics



Задача 6. Начертим пятиконечную звезду. Повернем каждую следующую на небольшой угол. И рандомизируем оттенок линии.

```
star3.py - D:/_ШКОЛА/7/Питон/projects/turtles/star3.py (3.7.2)
File Edit Format Run Options Window Help

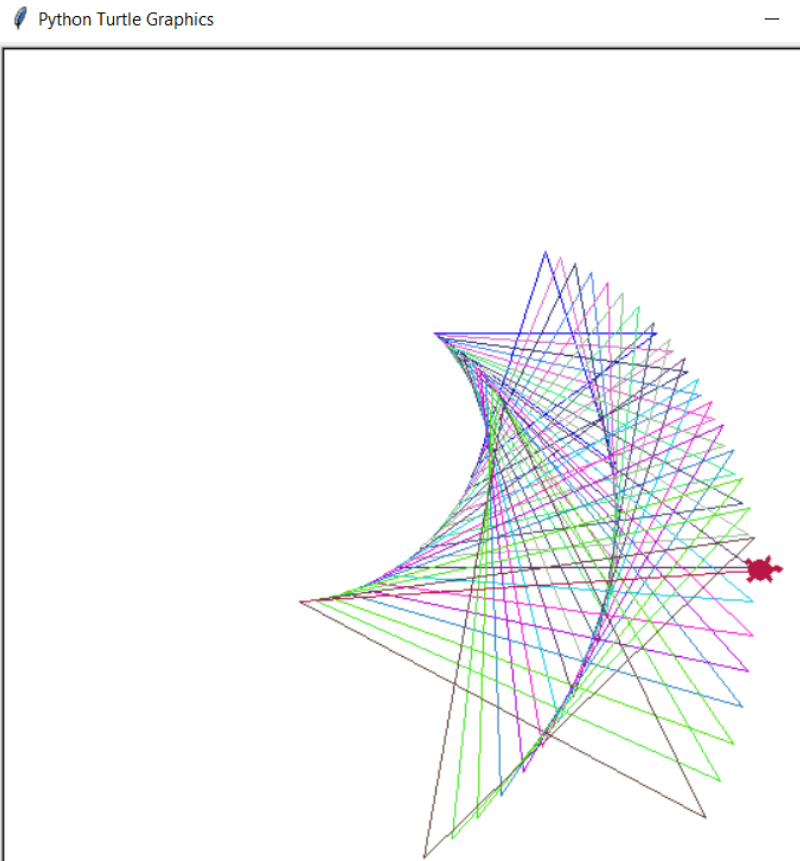
from turtle import*
import random
shape('turtle')

def chooseRandomColor():
    red = random.random()
    green = random.random()
    blue = random.random()
    return red, green, blue

color('blue')
i=1
k=0
left(72)
forward(150)

while i<18:
    for j in range(1,5):
        right(144)
        forward(150+k)
        DELAY = 10000
        j+=1

    color(chooseRandomColor())
    right(148)
    forward(150+k)
    k+=10
    i+=1
```



Задача 7. Выполним заливку фигур

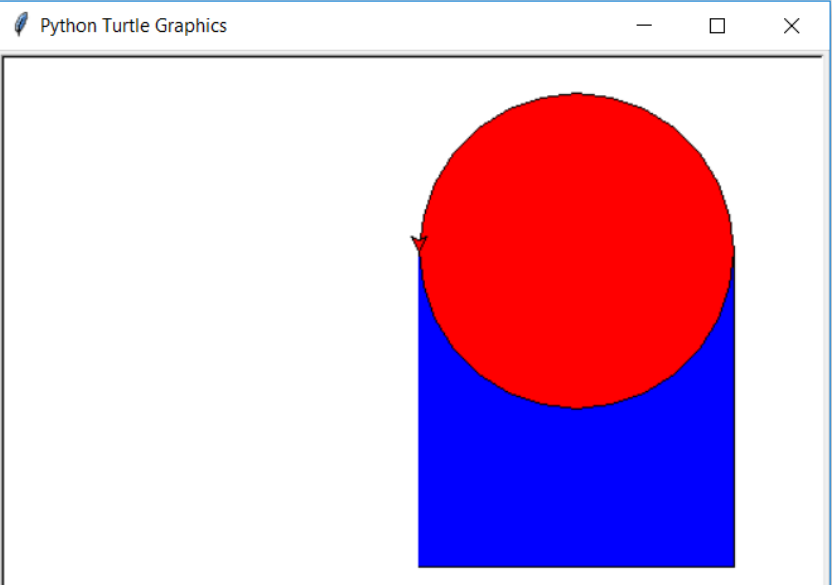
```
fill.py - D:/_ШКОЛА/7/Питон/projects/turtles/fill.py (3.7.2)
File Edit Format Run Options Window Help

from turtle import*

fillcolor('blue')
begin_fill()
for i in range(1,4):
    forward(200)
    left(90)
end_fill()

fillcolor('red')
begin_fill()
circle(100)
end_fill()

exitonclick()
```



Задача 8. Нарисовать картинку по образцу

```
from turtle import *

up()
goto(-200,0)
down()
fillcolor('yellow')
begin_fill()
circle(100)
end_fill()
up()

goto(100,-100)
down()
fillcolor('blue')
begin_fill()
for i in range(1,4):
    forward(200)
    left(90)
end_fill()
fillcolor('green')
begin_fill()
right(240)
forward(118)
right(60)
forward(118)
end_fill()
up()

goto(-245,100)
down()
fillcolor('blue')
begin_fill()
circle(20)
end_fill()
up()
```

```
# продолжение
goto(-180,100)
down()
fillcolor('blue')
begin_fill()
circle(20)
end_fill()
up()

goto(-255,40)
down()
color('red')
width(15)
circle(100,70)
up()

color('white')
width(4)
goto(-228,105)
down()
fillcolor('white')
begin_fill()
circle(10)
end_fill()
up()

goto(-165,105)
down()
fillcolor('white')
begin_fill()
circle(10)
end_fill()
up()

goto(-200,-10)
color('orange')
down()
width(25)
right(130)
forward(100)
up()
```

```
# продолжение
goto(-160,0)
down()
right(333)
forward(100)
up()

goto(-124,32)
down()
right(340)
forward(100)
up()

goto(-95,80)
down()
right(330)
forward(100)
up()

goto(-95,135)
down()
right(330)
forward(100)
up()

goto(-140,190)
down()
right(330)
forward(100)
up()

goto(-200,209)
down()
right(318)
forward(100)
up()

goto(-245,199)
down()
right(324)
forward(100)
up()
```

```
# продолжение
goto(-290,160)
down()
right(335)
forward(100)
up()

goto(-310,120)
down()
right(340)
forward(100)
up()

goto(-303,70)
down()
right(332)
forward(100)
up()

goto(-285,30)
down()
right(330)
forward(100)
up()

goto(-245,3)
down()
right(337)
forward(100)
up()

exitonclick()
```

