

# Programiranje

Python

16.6.2017.

GEODETSKA ŠKOLA, Zagreb

Razred: 2bc - prof. A. Slaviček

## Programiranje u Pythonu

### Grafika

Prof. A. Slaviček

Radovi učenika: 2bc

Školska godina: 2016./'17.

JOSIP BOŠNJAK

# Josip Bosnjak 2.b

### #šesterostrana prizma

```
from turtle import *  
st()
```

```
pensize(4)
```

```
bgcolor('turquoise')
```

```
#baza
```

```
color('purple')  
begin_fill()  
goto(0,0)  
goto(50,0)  
goto(100,50)  
goto(50,100)  
goto(0,100)  
goto(-50,50)  
goto(0,0)  
end_fill()
```

```
color('black')  
goto(0,100)  
goto(0,200)
```

```
#baza 2
```

```
color('red')  
begin_fill()
```

```
goto(50,200)  
goto(100,250)  
goto(50,300)  
goto(0,300)  
goto(-50,250)  
goto(0,200)  
end_fill()
```

```
#stranice
```

```
color('black')  
pu()  
goto(50,200)
```

```
pd()
```

```
goto(50,0)
```

```
goto(50,200)
```

```
pu()
```

```
goto(100,250)
```

```
pd()
```

```
goto(100,50)
```

```
goto(100,250)
```

```
pu()
```

```
goto(-50,250)
```

```
pd()
```

```
goto(-50,50)
```

```
#opis
```

```
color('red')
```

```
pu()
```

```
goto(-200,-100)
```

```
pd()
```

```
fd(200)
```

```
pu()
```

```
goto(-200,-90)
```

```
write('Opis',font=("Arial", 10, "normal"))
```

```
goto(-200,-120)
```

```
color('black')
```

```
write('Lik :',font=("Arial", 10, "normal"))
```

```
goto(-170,-120)
```

```
write('šesterostrana prizma',font=("Arial", 10,  
"normal"))
```

```
goto(-200,-140)
```

```
write('lradio :',font=("Arial", 10, "normal"))
```

```
goto(-150,-140)
```

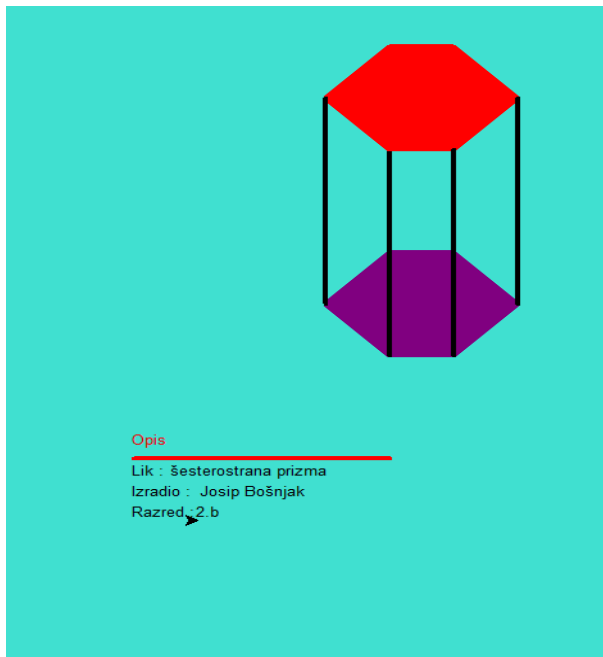
```
write(' Josip Bošnjak ',font=("Arial", 10,  
"normal"))
```

```
goto(-200,-160)
```

```
write('Razred :',font=("Arial", 10, "normal"))
```

```
goto(-150,-160)
```

```
write('2.b',font=("Arial", 10, "normal"))
```



Filip Fritz

file edit format run options v

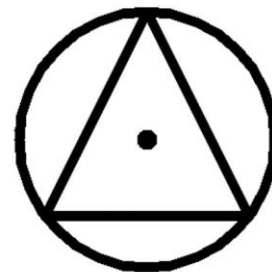
```
from turtle import*
```

```
begin_fill()
color('blue')
pu()
goto(30,30)
pd()
goto(80,30)
goto(55,0)
goto(30,30)
pu()
goto(30,15)
pd()
goto(80,15)
goto(55,45)
goto(30,15)
```

JOSIP KOREN

### #Osnovna GNSS točka

```
fromturtle import*
st()
pensize(10)
fd(200)
goto(100,0)
lt(90)
pu()
fd(200)
pd()
goto(0,0)
goto(200,0)
goto(100,200)
pu()
goto(100,75)
pd()
dot(20)
pu()
goto(-25,75)
pd()
lt(180)
circle(125)
```



**# Piramida**

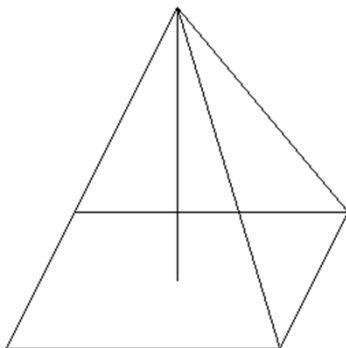
```

fromturtle import*

st()
fd(200)
goto(0,0)
goto(50,100)
fd(200)
goto(200,0)
pu()
goto(125,50)
lt(90)
pd()
fd(200)
goto(50,100)
goto(125,250)
goto(250,100)
goto(125,250)
goto(0,0)
goto(125,250)
goto(200,0)
pu()
goto(125,300)
pd()
write('Izradio: Josip Koren (piramida)')

```

Izradio: Josip Koren (piramida)

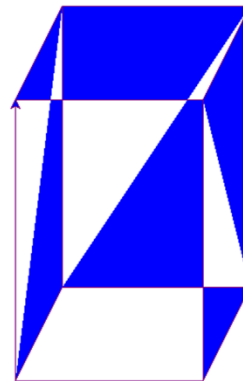
**# Prizma**

```

fromturtle import*
st()

color('purple','blue')
begin_fill()
fd(200)
goto(0,0)
goto(50,100)
fd(200)
goto(200,0)
lt(90) #---(200,300)
fd(300)
pu()
goto(250,100)
pd() #---(250,400)
fd(300)
pu()
goto(50,100)
pd() #---(50,400)
fd(300)
pu()
goto(0,0)
pd() #--(0,300)
fd(300)
goto(50,400)
goto(250,400)
goto(200,300)
goto(0,300)
end_fill()
done()

```

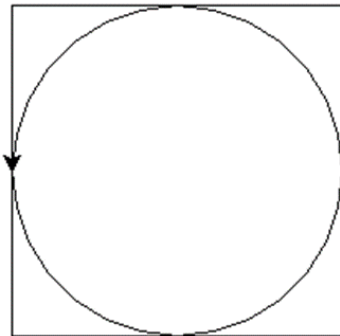


## # Kvadrat s upisanom kružnicom

```

from turtle import*
st()
fd(200)
lt(90)
fd(200)
lt(90)
fd(200)
lt(90)
fd(200)
pu()
goto(0,100)
pd()
circle(100)

```



## # Trigonometrijska točka

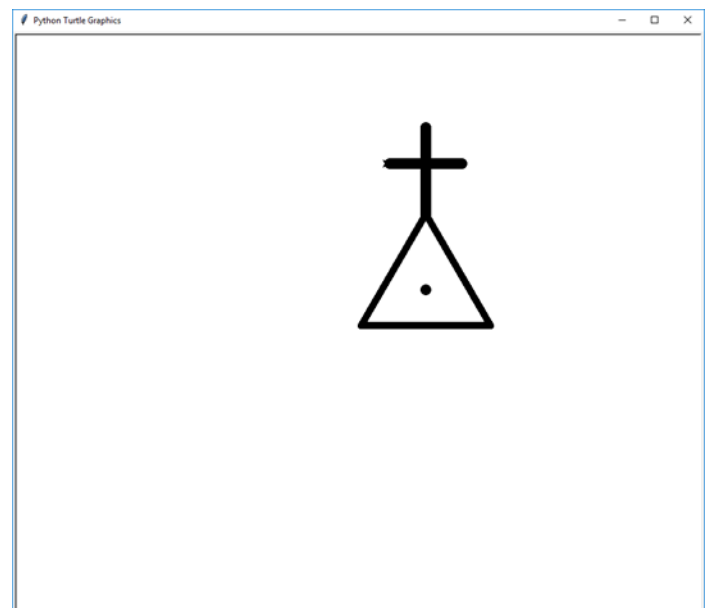
```

#Trigonometrijska točka na crkvi

from turtle import*

st()
pensize(10)
fd(180)
goto(90,0)
lt(90)
pu()
fd(155)
pd()
goto(0,0)
goto(180,0)
goto(90,155)
pu()
goto(90,0)
fd(50)
pd()
dot(15)
pu()
goto(90,155)
pd()
pensize(15)
fd(120)
bk(50)
rt(90)
fd(50)
bk(100)

```



## # Kvadrat

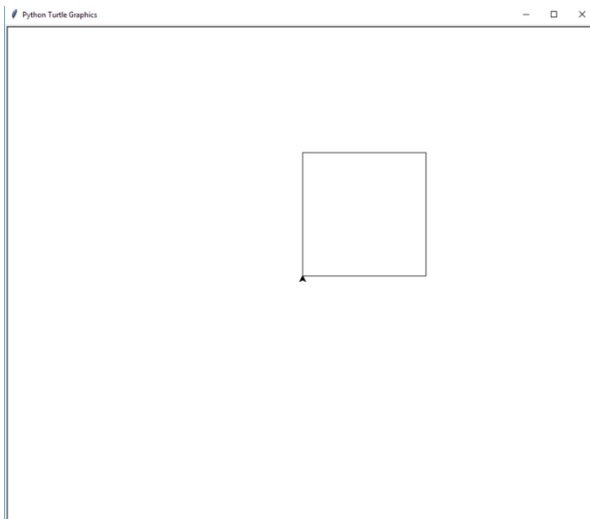
```
# Kvadrat

from turtle import*

st()
lt(90)
a=textinput('Duljina stranice','a=')

a=int(a)

for k in range(2):
    fd(a);rt(90);fd(a);rt(90)
```



```
pravokutnik kestic (3).py - C:\Users\lucenik215-111\Downloads\pravokutnik kestic (3).py (3.6.1)
File Edit Format Run Options Window Help

# pravokutnik

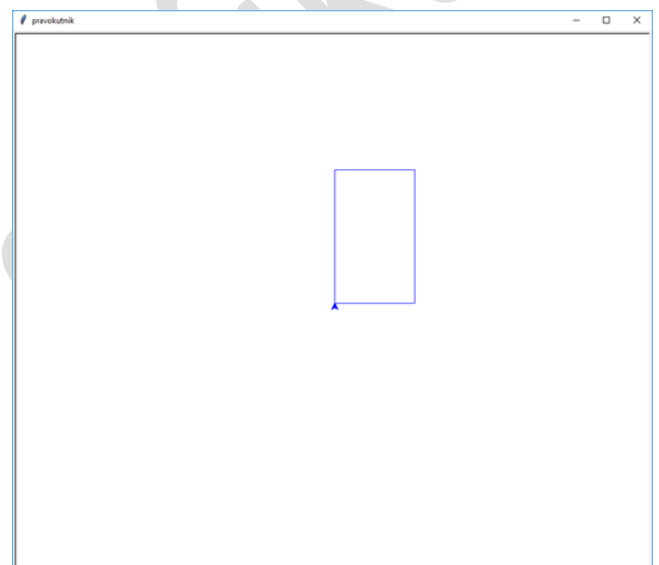
from turtle import*
title ('pravokutnik')
st()
lt(90)

a=textinput('Duljina stranice' , 'a')
b=textinput('Duljina stranice' , 'b')

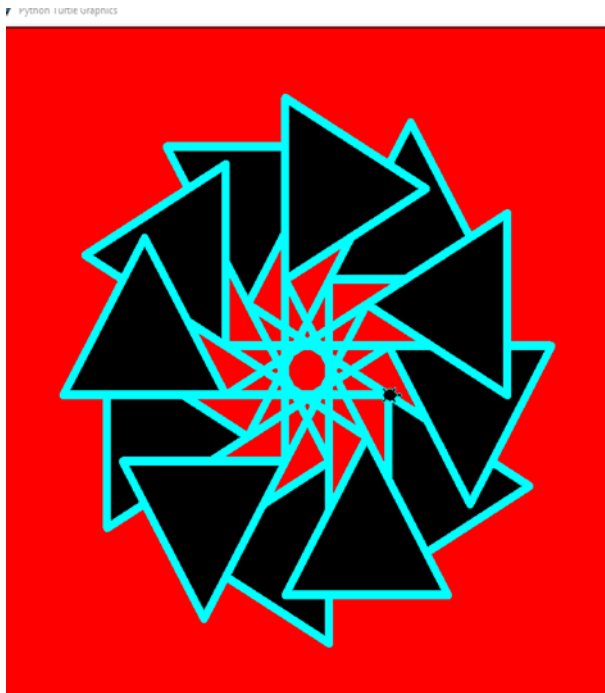
a=int(a)
b=int(b)

color('blue')

for k in range(2):
    fd(a);rt(90);fd(b);rt(90)
```



KRISTIJAN SLONJŠAK



```

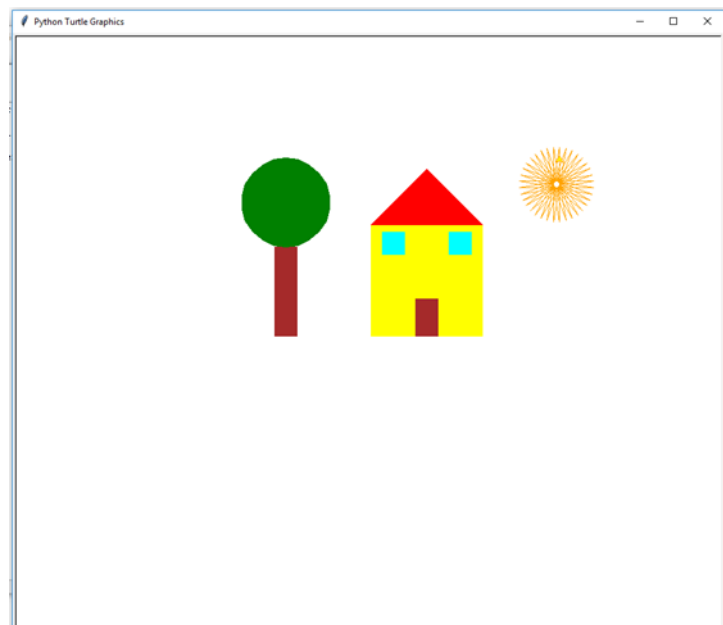
kucica (2).py - C:\Users\učenik215-14\Downloads\kucica (2).py (3.6.1)
File Edit Format Run Options Window Help
goto(60,50)
goto(90,50)
goto(90,0)
goto(60,0)
end_fill()
#deblo
pu()
begin_fill()
goto(-100,0)
pd()
goto(-130,0)
goto(-130,120)
goto(-100,120)
goto(-100,0)
end_fill()
#krošnja
pu()
goto(-115,120)
pd()
rt(90)
color('green')
begin_fill()
circle(60)
end_fill()
#sunce
pu()
goto(200,200)
pd()
color('orange', 'yellow')
begin_fill()
while True:
    forward(100)
    left(170)
    if abs(pos()) < 1:
        break
end_fill()
done()

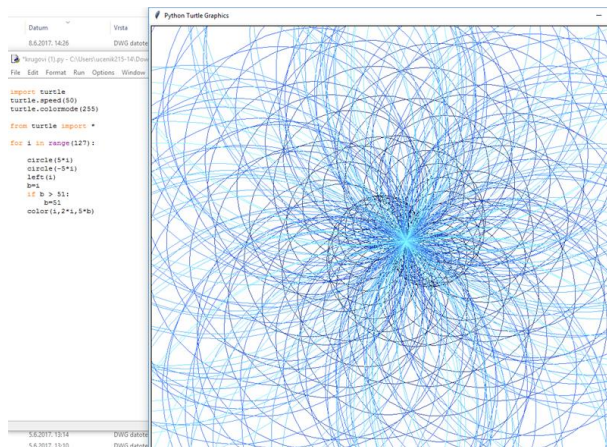
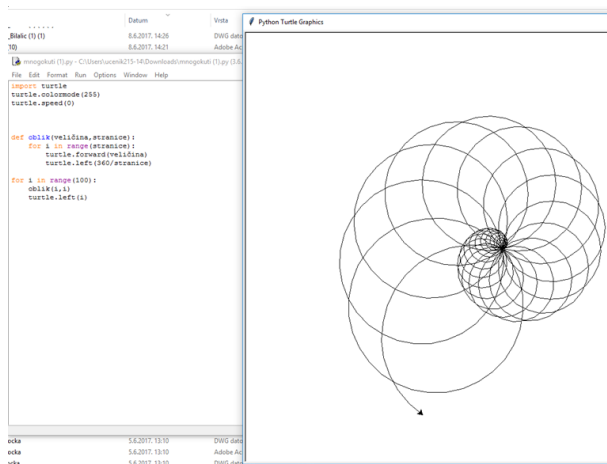
```

```

kucica (2).py - C:\Users\učenik215-14\Downloads\kucica (2).py (3.6.1)
File Edit Format Run Options Window Help
from turtle import *
#kvadar
color('yellow')
begin_fill()
pd()
fd(150)
lt(90)
fd(150)
lt(90)
fd(150)
lt(90)
fd(150)
end_fill()
#krov
color(1,0,0)
begin_fill()
pu()
goto(0,150)
lt(180)
pd()
goto(75,225)
goto(150,150)
goto(0,150)
end_fill()
#1.prozor
color('cyan')
begin_fill()
pu()
goto(15,110)
pd()
goto(45,110)
goto(45,140)
goto(15,140)
goto(15,110)
end_fill()
#2.prozor
pu()
begin_fill()
goto(135,110)

```





MARIJA MAGDALENIĆ

## #Dopunska točka

fromturtle import\*

st()

pu()

goto(100,0)

pd()

color('black')

begin\_fill();circle(60);end\_fill()

pu()

goto(100,10)

pd()

color('white')

begin\_fill();circle(50);end\_fill()

pu()

goto(100,50)

pd()

color('black')

begin\_fill();circle(10);end\_fill()

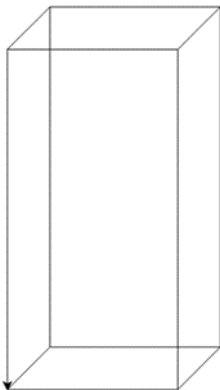
ht()



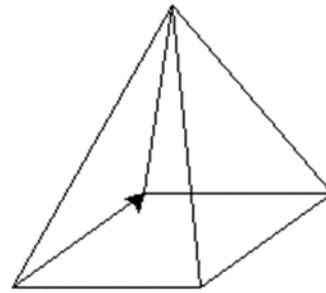


**#Kvadar**

```
fromturtle import*
st()
fd(200)
lt(90)
fd(400)
lt(90)
fd(200)
lt(90)
fd(400)
goto(50,50)
goto(250,50)
goto(200,0)
goto(250,50)
goto(250,450)
goto(200,400)
goto(250,450)
goto(50,450)
goto(50,50)
goto(50,450)
goto(0,400)
goto(0,0)
```

**#Cetverostrana piramida**

```
fromturtle import*
st()
fd(100)
lt(45)
goto(170,50)
lt(135)
fd(100)
lt(225)
goto(0,0)
goto(85,150)
goto(100,0)
goto(85,150)
goto(170,50)
goto(85,150)
goto(70,50)
```

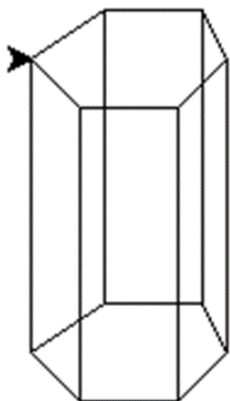


**#Sesterostrana prizma**

```

from turtle import*
st()
pu()
goto(20,0)
pd()
goto(60,0)
goto(80,20)
goto(70,40)
goto(30,40)
goto(0,20)
goto(20,0)
goto(0,20)
goto(0,140)
goto(20,120)
goto(20,0)
goto(20,120)
goto(60,120)
goto(60,0)
goto(60,120)
goto(80,140)
goto(80,20)
goto(80,140)
goto(70,160)
goto(70,40)
goto(70,160)
goto(30,160)
goto(30,40)
goto(30,160)
goto(0,140)

```



## ANTONIO MAMIĆ

```

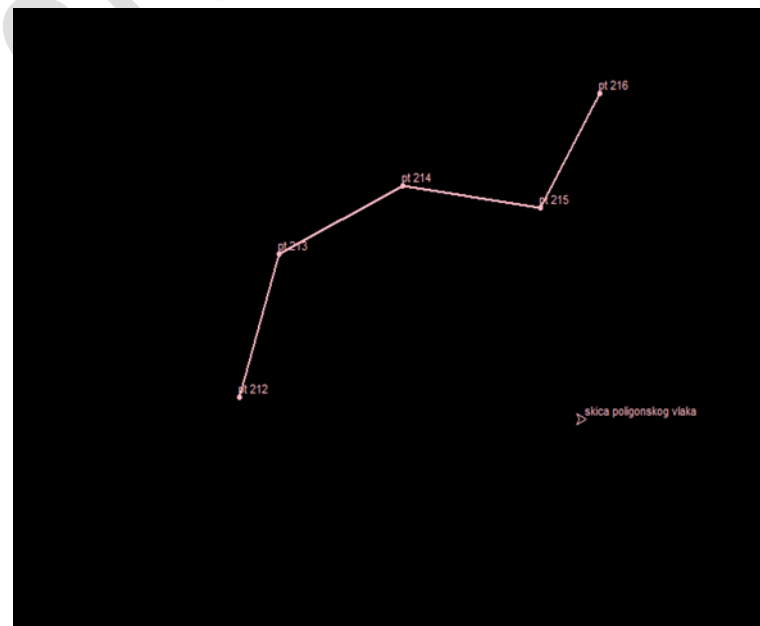
import turtle

t=turtle.Pen()

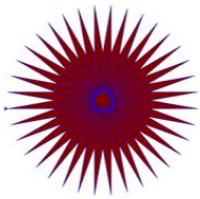
turtle.bgcolor('black')

for x in range(1):
    t.pencolor('lightpink')
    t.width(2)
    t.pu()
    t.goto(10,20)
    t.pd()
    t.dot(5)
    t.write('pt 212')
    t.goto(50,150)
    t.dot(5)
    t.write('pt 213')
    t.goto(175,212)
    t.dot(5)
    t.write('pt 214')
    t.goto(314,192)
    t.dot(5)
    t.write('pt 215')
    t.goto(374,296)
    t.dot(5)
    t.write('pt 216')
    t.pu()
    t.goto(360,0)
    t.pd()
    t.write('skica poligonskog vlaka')

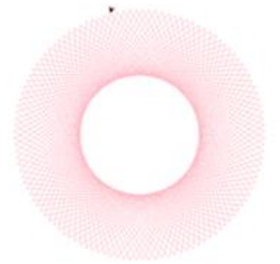
```



```
from turtle import*  
  
color('blue','maroon')  
begin_fill()  
while True:  
    forward(500)  
    left(170)  
    if abs(pos()) <1:  
        break  
end_fill()  
done()
```



```
from turtle import*  
  
st();pd()  
speed(100)  
pencolor('pink')  
for i in range(125):  
    fd(300)  
    lt(123)  
  
turtle.done()
```



## Marko Rovis 2.c

```

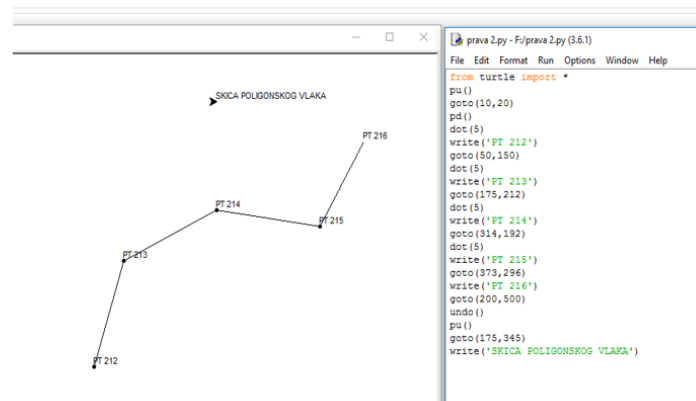
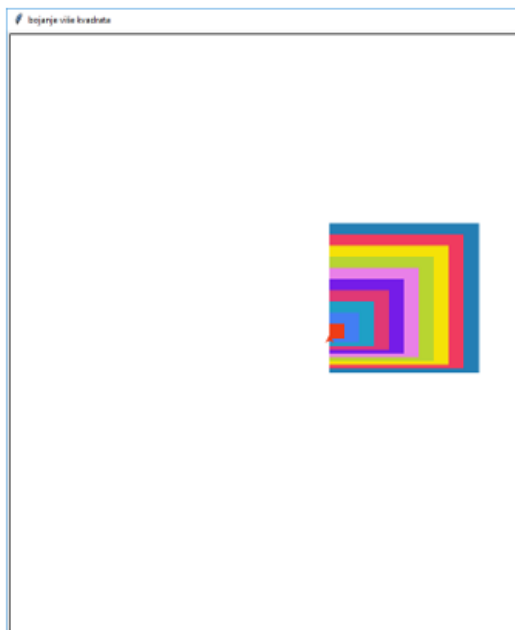
from turtle import*
from random import*

def kvadrat(a):
    crv=randrange(0,256)
    zel=randrange(0,256)
    pla=randrange(0,256)
    color(crv,zel,pla)
    begin_fill()
    for n in range(4):
        fd(a);rt(90)
    end_fill()

title('bojanje više kvadrata')
pu();bk(50);lt(90)
bk(50);pd();colormode(255)

for a in range(200,0,-20):
    kvadrat(a)
    pu();fd(5);rt(90);lt(90)

```



```
Datoteka Alati Prikaz
ZAŠTIĆENI PRIKAZ Opze! Datoteke s internetskih mjesta mogu sadržavati viruse. Ako je ne morate uređivati, sigurnije je osta

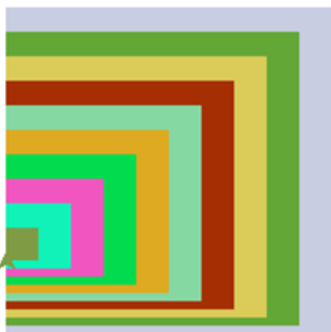
from turtle import *

color('blue','purple')
begin_fill()
while True:
    forward(500)
    left(170)
    if abs(pos()) <1:
        break
end_fill()

fromturtle import*
fromrandom import*
def kvadrat(a):
    nar=randrange(0,256)
    ljub=randrange(0,256)
    cya=randrange(0,256)
    color(nar,ljub,cya)
    begin_fill()
    for n inrange (4):
    fd(a);rt(90)
end_fill()

title('Bojanje više kvadrata')
pu();bk(50);lt(90)
bk(50);pd();colormode(255)

for a inrange (200,0,-20):
    kvadrat (a)
pu();fd(5);rt(90);lt(90)
```



```
import turtle
t= turtle.Turtle()

t.color("green")
t.left(90)
t.backward(200)
t.speed(0)

najkraca=10
kut=10
gustocaGrana=0.4

def grana (n):
    if n >= najkraca:
        t.forward(n)

        t.right(kut)
        grana(n*gustocaGrana*0.7)

        t.left(kut)
        grana(n*gustocaGrana)

        t.left(kut)
        grana(n*gustocaGrana*0.7)

        t.right(kut)
        t.backward(n)

grana(200)
```



```
import turtle
t=turtle.Pen()
t.speed(0)
colors=["red","purple","blue","green","yellow"]
turtle.color("yellow")
for x in range(100):
    t.pencolor(colors[x%6])
    t.width(5+1)
    t.fd(x)
    t.lt(80)
```



```
from turtle import *
speed(0)
color("yellow","red")
begin_fill()
while True:
    forward(200)
    left(100)
    end_fill()
done()
```

Datoteka Alati Prikaz

ZAŠTIĆENI PRIKAZ Opred: Datoteke s internetskih mjesta mogu sadržavati viruse. Ako je ne morate uređivati, sigurnije je ostati u zaštićenom prikazu. Omogući uređivanje

#2 kruga obojana različitim bojama

```
from turtle import *

color("pink")
begin_fill()
while True:
    circle(20)
    if abs(pos()) < 1:
        break
    end_fill()
done()

color("blue")
begin_fill()
while True:
    circle(10)
    if abs(pos()) < 1:
        break
    end_fill()
done()
```

Zaslone: 1-2 od 11

Datoteka Alati Prikaz

ZAŠTIĆENI PRIKAZ Opred: Datoteke s internetskih mjesta mogu sadržavati viruse. Ako je ne morate uređivati, sigurnije je ostati u zaštićenom prikazu. Omogući uređivanje

```
strelica.goto(50,100)
strelica.goto(25,75)
strelica.goto(25,25)
strelica.goto(50,50)
strelica.goto(50,100)
strelica.goto(100,100)
strelica.goto(75,75)
strelica.penup()
strelica.goto(100,50)
strelica.pendown()
strelica.goto(50,50)
strelica.penup()
strelica.goto(25,75)
strelica.pendown()
strelica.goto(62.5,150)
strelica.goto(75,75)
strelica.penup()
strelica.goto(100,100)
strelica.pendown()
strelica.goto(62.5,150)
strelica.goto(50,100)
strelica.penup()
strelica.goto(62.5,15)
```

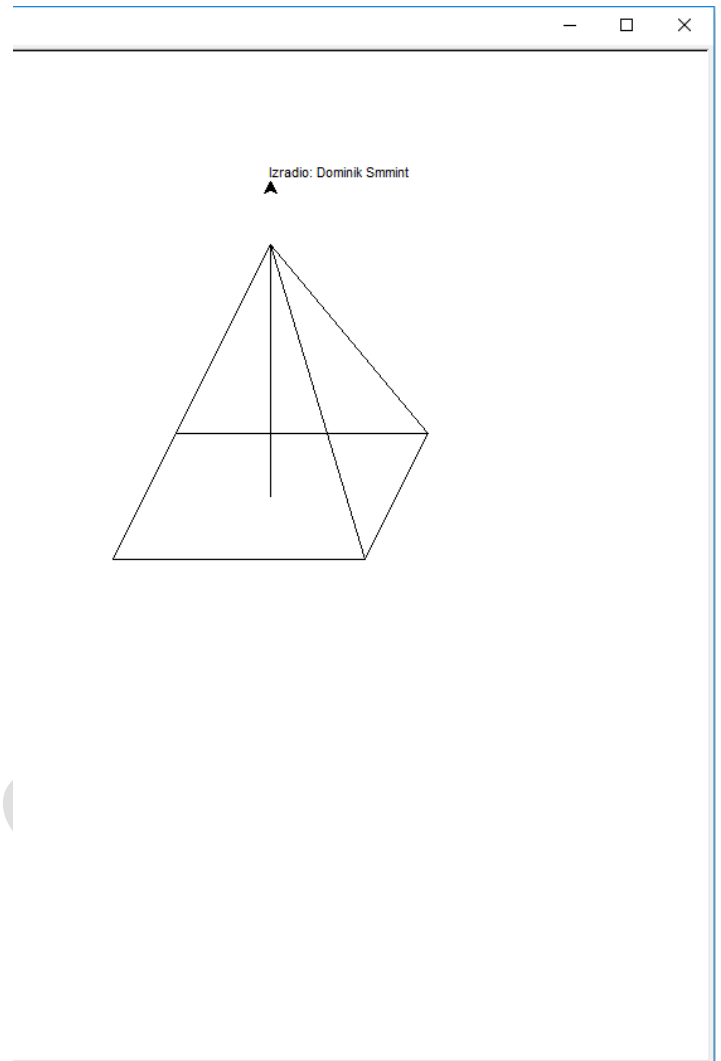
Zaslone: 3-4 od 11

DOMINIK ŠMINT

```
*piramida.py - C:\Users\učenik215-05\Downloads\piramida.py (3.6.1)*
File Edit Format Run Options Window Help
# Piramida

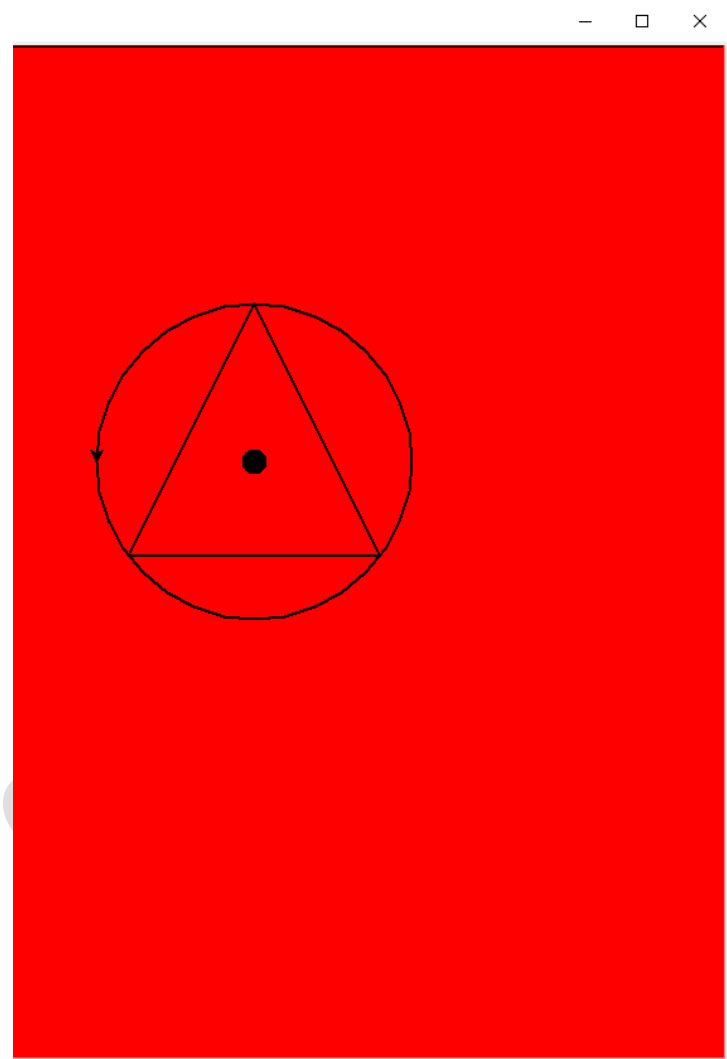
from turtle import*

st()
fd(200)
goto(0,0)
goto(50,100)
fd(200)
goto(200,0)
pu()
goto(125,50)
lt(90)
pd()
fd(200)
goto(50,100)
goto(125,250)
goto(250,100)
goto(125,250)
goto(0,0)
goto(125,250)
goto(200,0)
pu()
goto(125,300)
pd()
write('Izradio: Dominik Smmint')
```

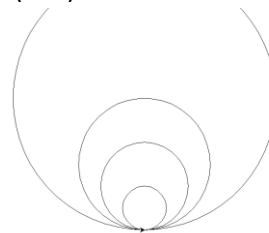


```
GNSS tocka.py - C:\Users\učenik215-05\Downloads\GNSS tocka.py (3.6.1)
File Edit Format Run Options Window Help
#Osnovna GNSS tocka

from turtle import*
st()
bgcolor('red')
pensize(2)
fd(200)
goto(100,0)
lt(90)
pu()
fd(200)
pd()
goto(0,0)
goto(200,0)
goto(100,200)
pu()
goto(100,75)
pd()
dot(20)
pu()
goto(-25,75)
pd()
lt(180)
circle(125)
```



```
fromturtle import*
circle(50)
circle(100)
circle(150)
circle(300)
```

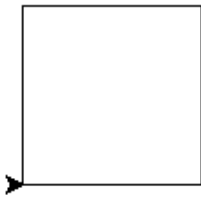




```

fromturtle import*
pd()
fd(100)
lt(90)
fd(100)
lt(90)
fd(100)
lt(90)
fd(100)
lt(90)

```

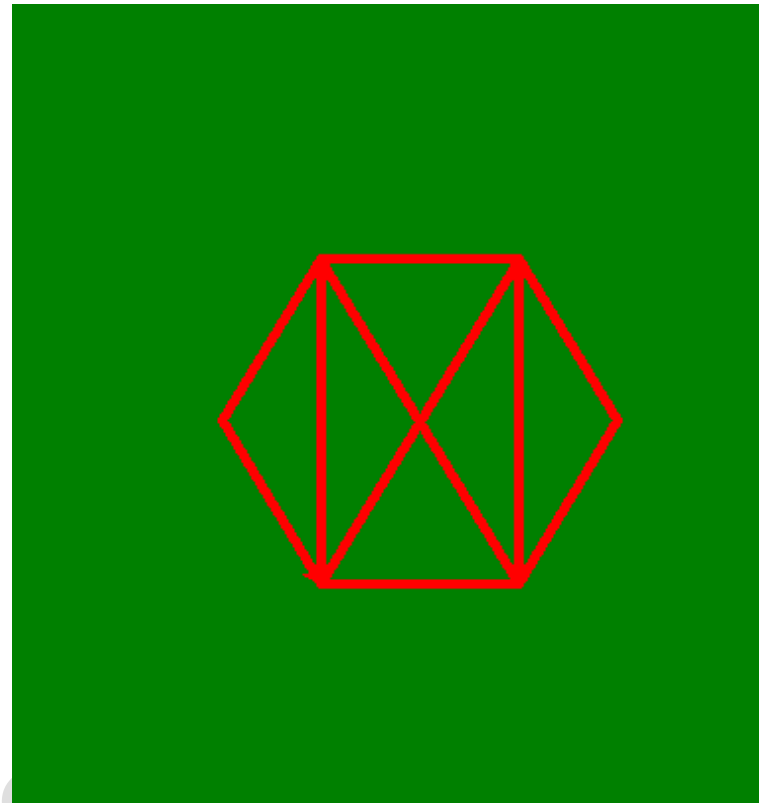


### DAVID LUSTIG

```

Python 3.6.0 Shell
File Edit Shell Debug Options Window Help
Python 3.6.0 (v3.6.0:41df79263a11, Dec 23 2016, 08:06
D64)] on win32
Type "copyright", "credits" or "license()" for more i
>>> from turtle import*
>>> st()
>>> bgcolor('green')
>>> pensize(5)
>>> color('red')
>>> fd(100)
>>> lt(60)
>>> fd(100)
>>> lt(60)
>>> fd(100)
>>> lt(60)
>>> fd(100)
>>> lt(60)
>>> fd(100)
>>> lt(60)
>>> fd(100)
>>> goto(100,172)
>>> goto(100,0)
>>> gozo(0,172)
Traceback (most recent call last):
  File "<pyshell#18>", line 1, in <module>
    gozo(0,172)
NameError: name 'gozo' is not defined
>>> goto(0,172)
>>> goto(0,0)
>>> |

```

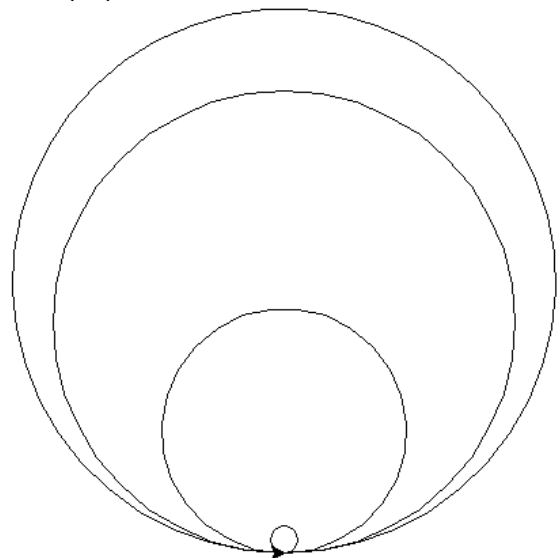


### VEDRAN VAJDA

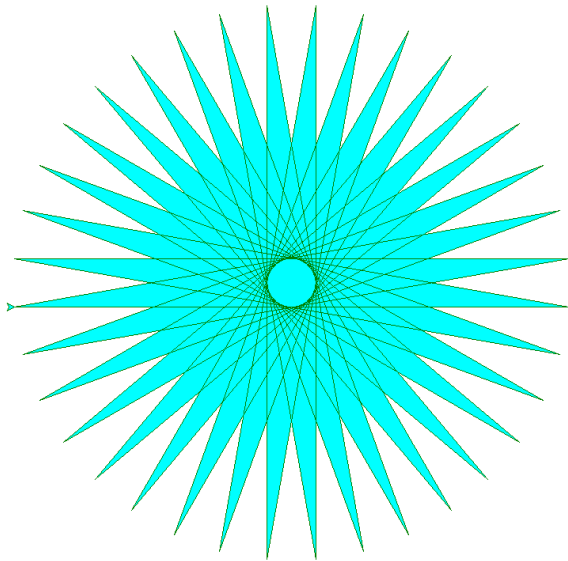
```

fromturtle import *
>>>circle(200)
>>>circle(170)
>>>circle(90)
>>>circle(10)

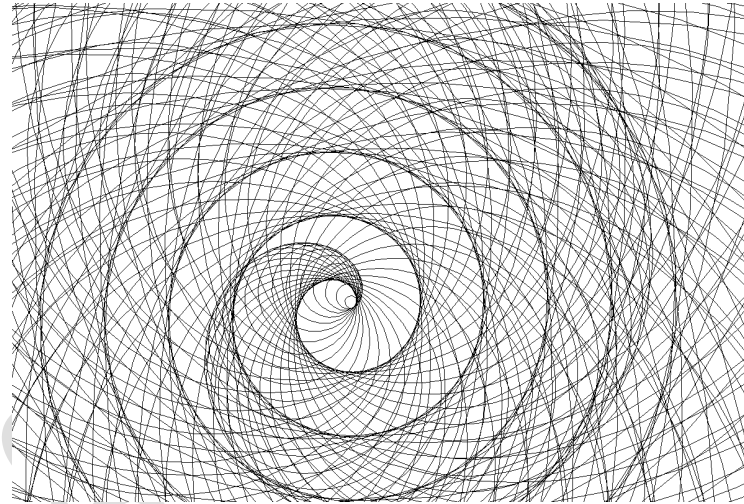
```



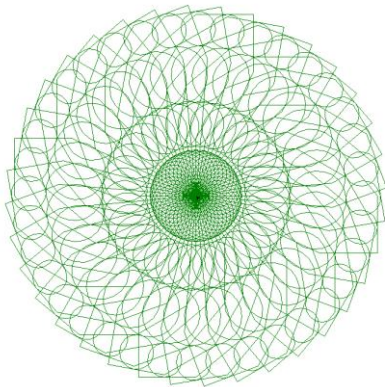
```
fromturtle import *  
color('green', 'cyan')  
begin_fill()  
whileTrue:  
forward(700)  
left(170)  
ifabs(pos()) <1:  
break  
end_fill()  
done()
```



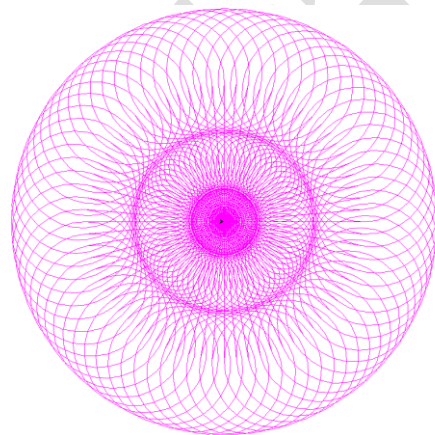
```
MATEO BILOŠ  
fromturtle import *  
speed(0)  
for i inrange(200):  
circle(i*10)  
rt(20)  
lt(30)  
fd(i*0.5)
```



```
fromturtle import *
pencolor('green')
speed(0)
for i in range(37):
circle(40)
forward(100)
right(30)
circle(40)
forward(100)
circle(50)
right(40)
forward(100)
right(30)
circle(30)
forward(100)
right(40)
forward(100)
right(90)
forward(100)
goto(0,0)
```



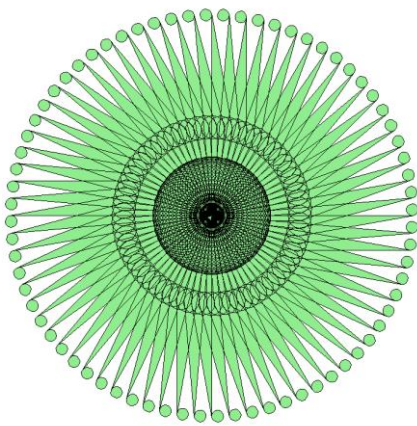
```
fromturtle import *
pencolor('magenta')
speed(0)
for i in range(73):
circle(30)
fd(100)
circle(50)
fd(150)
circle(110)
goto(0,0)
rt(5)
```



```

from turtle import *
speed(0)
color('black', 'lightgreen')
begin_fill()
for i in range(74):
circle(50)
forward(100)
left(5)
forward(50)
circle(20)
left(20)
forward(200)
circle(10)
goto(0,0)
end_fill()

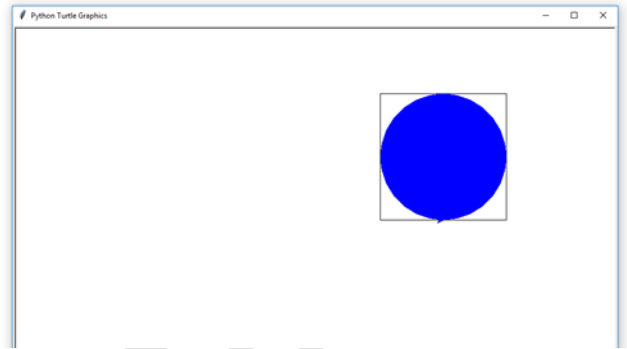
```



```

programiranje 67.py - C:/Users/ucenk215-07/AppData/Local/Programs/Python/Python36-32/programiranje 67.py (3.6.1)
File Edit Format Run Options Window Help
from turtle import *
pu()
goto(100,100)
pd()
goto(300,100)
goto(300,300)
goto(100,300)
goto(100,100)
goto(200,100)
color('blue')
begin_fill();circle(100);end_fill()

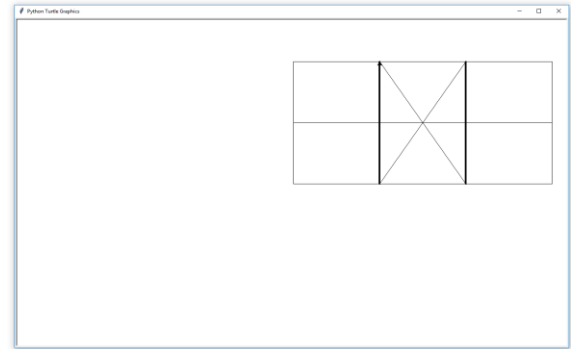
```



```

programiranje 67.py - C:/Users/ucenk215-07/AppData/Local/Programs/Python/Python36-32/programiranje 67.py (3.6.1)
File Edit Format Run Options Window Help
from turtle import *
fd(600)
lt(90)
fd(300)
lt(90)
fd(600)
goto(0,0)
goto(0,150)
rt(180)
fd(600)
pu()
goto(200,0)
pd()
lt(90)
pensize(4)
fd(300)
pu()
goto(400,0)
pd()
pensize(4)
fd(300)
pu()
goto(200,0)
pensize(1)
pd()
goto(400,300)
pu()
goto(400,0)
pd()
goto(200,300)

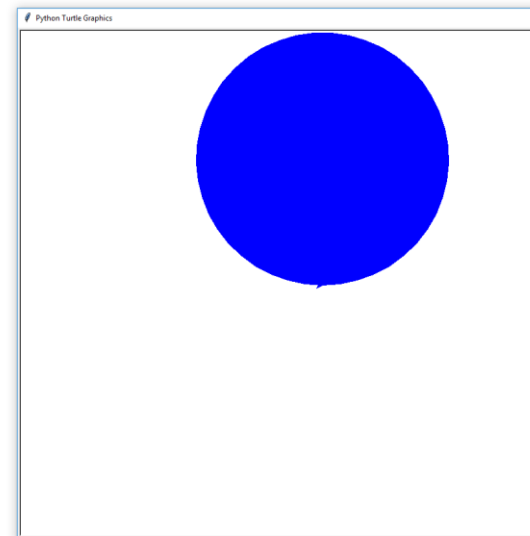
```



```

programiranje 67.py - C:/Users/ucenk215-07/AppData/Local/Programs/Python/Python36-32/programiranje 67.py (3.6.1)
File Edit Format Run Options Window Help
from turtle import *
color('blue')
begin_fill();circle(200);end_fill()

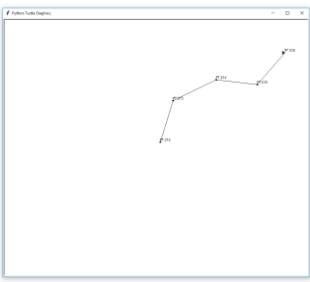
```



```

from turtle import *
goto(10,20)
goto(100,150)
write("PP 210")
goto(150,150)
write("PP 213")
goto(150,250)
goto(10,20)
write("PP 214")
goto(350,200)
write("PP 215")
goto(400,200)
write("PP 216")

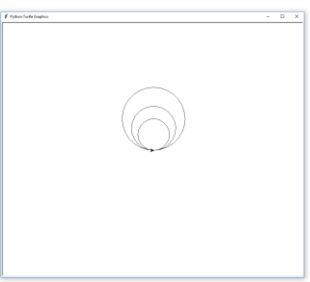
```



```

from turtle import *
circle(50)
circle(70)
circle(100)
circle(125)

```



```

fromturtle import *
st()
broj_strana=int(input('Broj strana='))
duljina_stranice=70
kut=360.0/broj_strana
for i inrange(broj_strana):
forward(duljina_stranice)
right(kut)

```

```

fromturtle import *
a=textinput('Duljina stranice','a=')
a=int(a)
for k inrange(4):
fd(a)
rt(90)

```

```

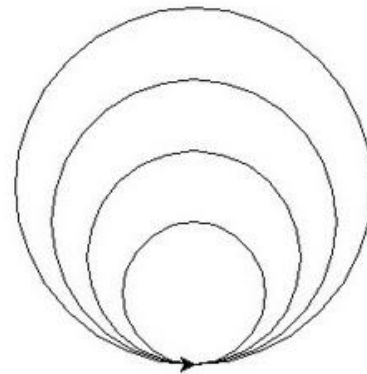
fromturtle import *
bgcolor('black')
color('green')
begin_fill()
for i inrange(4):
fd(100)
rt(90)
end_fill()

```

```

fromturtle import*
circle(50)
circle(75)
circle(100)
circle(125)

```



# Programiranje u Pythonu – grafika

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