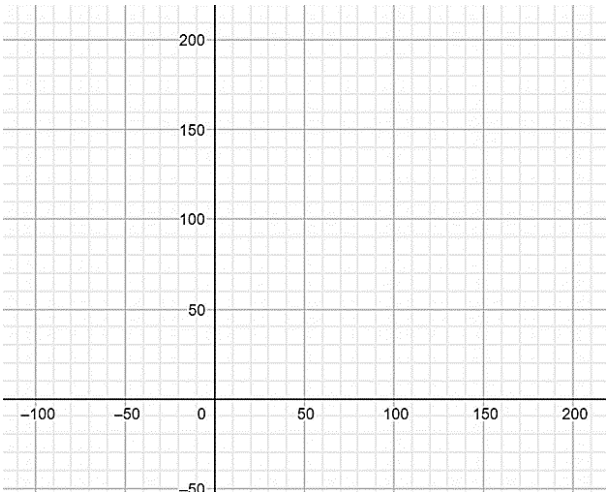
Turtle Graphics in Python

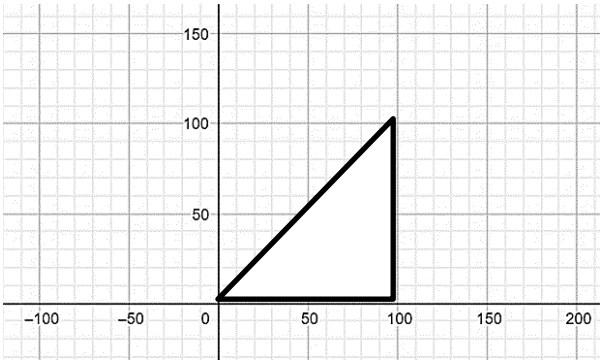
- ✓ Turtle graphics is a popular way for introducing programming to beginners.
- ✓ Use the online interpreters https://trinket.io/turtle for this practical

Exercise 01: Rectangle

```
from turtle import *
forward(100)
left(90)
forward(200)
left(90)
forward(100)
left(90)
forward(200)
```



Exercise 02: Right-Angled Triangle



Exercise 03: Position Settings

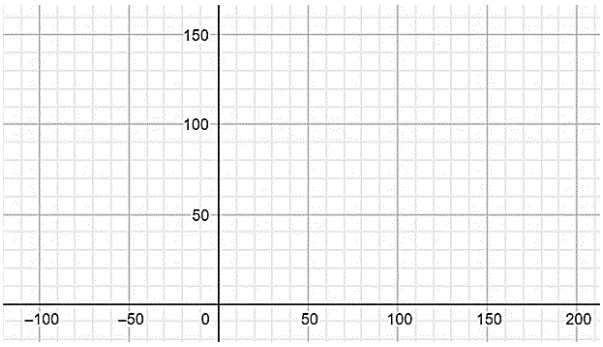
```
from turtle import *
reset()
setpos(100,100)
setpos(100,0)
setpos(200,100)
setpos(100,200)
setx(0)
sety(0)
```

```
from turtle import *
penup()
setpos(50,100)
pendown()
forward(50)
left(90)
back(100)
left(90)
fd(50)
home()
```

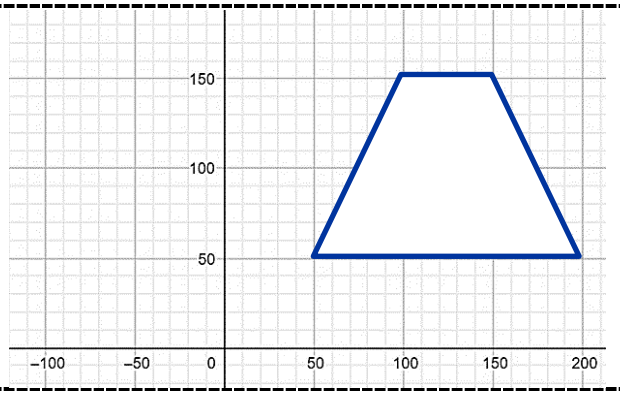
```
from turtle import *
forward(100);
left(90)
speed(1)
forward(100);
left(90)
speed(4)
forward(100);
setheading(270)
speed(9)
forward(100)
```

Exercise 04: Stamp

```
from turtle import *
forward(100);
stamp()
left(90)
fd(100)
stamp();
forward(50)
```

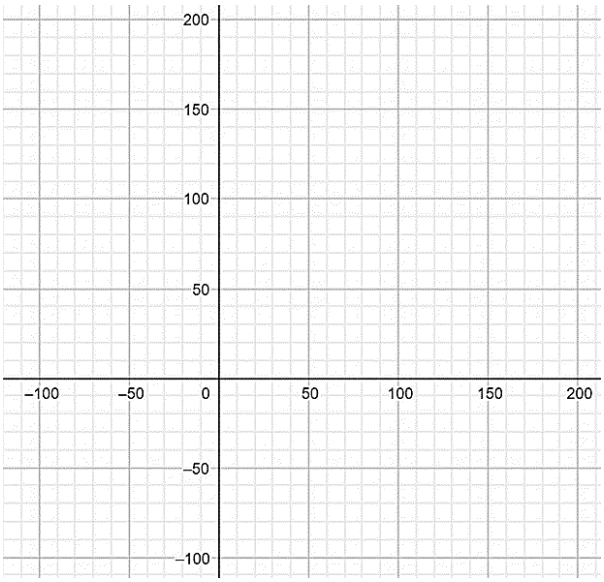


Exercise 05: Trapezium



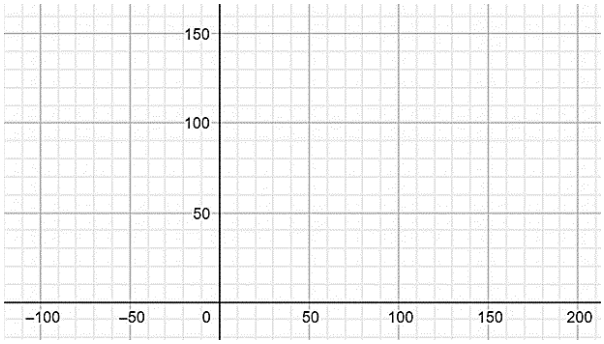
Exercise 06: Circle

```
from turtle import *
circle(100)
circle(50)
circle(-50)
circle(-25,180)
circle(25,180)
circle(25,180)
circle(-25,180)
```



Ex 07: dots

```
from turtle import *
dot()
circle(50)
forward(50)
dot(10)
circle(50)
forward(50)
dot(20)
```



Ex 08: Colors

```
from turtle import *
pencolor('red')
forward(100)
begin_fill()
circle(50)
end_fill()
back(50)
reset()
fillcolor('yellow')
begin_fill()
circle(100,90)
end_fill()
begin_fill()
circle(100,270)
end_fill()
```

Exercise 09: Variables

```
from turtle import *
ht() #hideturtle()
r=50
pencolor('blue')
fill_color='yellow'
fillcolor(fill_color)
begin_fill()
circle(r)
end_fill()
```

Exercise 10: Inputs

```
from turtle import *
ht() #hideturtle()
pencolor('blue')
fill_color=input('Please enter the fill color:')
r=int(input('Plaese enter the radius:'))
fillcolor(fill_color)
begin_fill()
circle(r)
end_fill()
```

Exercise 11: Outputs

```
from turtle import *
write('Hello')
penup(); sety(-50); pendown()
write('python',align='center',font=('Araial',40,'bold'))

from time import *
sleep(5)
reset()
```

```
x=0; dot(); write(x)
x=x+50; setx(x);dot();write(x)
x=x+50; setx(x);dot();write(x)
x=x+50; setx(x);dot();write(x)
```

Exercise 12: Selection structure Examples

```
from turtle import *
color=input('What is your faovorite color?')
if color=='white':
    write('Oohh, me too')
else:
    write('It is not mine')
```

Exercise 13: Repetitive structure Examples

```
from turtle import *
for i in range(4):
    forward(100)
    left(90)
reset()
for r in range(3,10):
    circle(10*r)

#Spiral
reset()
for r in range(10,100,10):
    circle(-r,180)

#different angles
reset()
for i in range(4):
    circle(100); left(90)

#dots
reset()
for y in range(3):
    for x in range(5):
        penup();setpos(40*x,40*y);pendown()
        circle(10)
```