

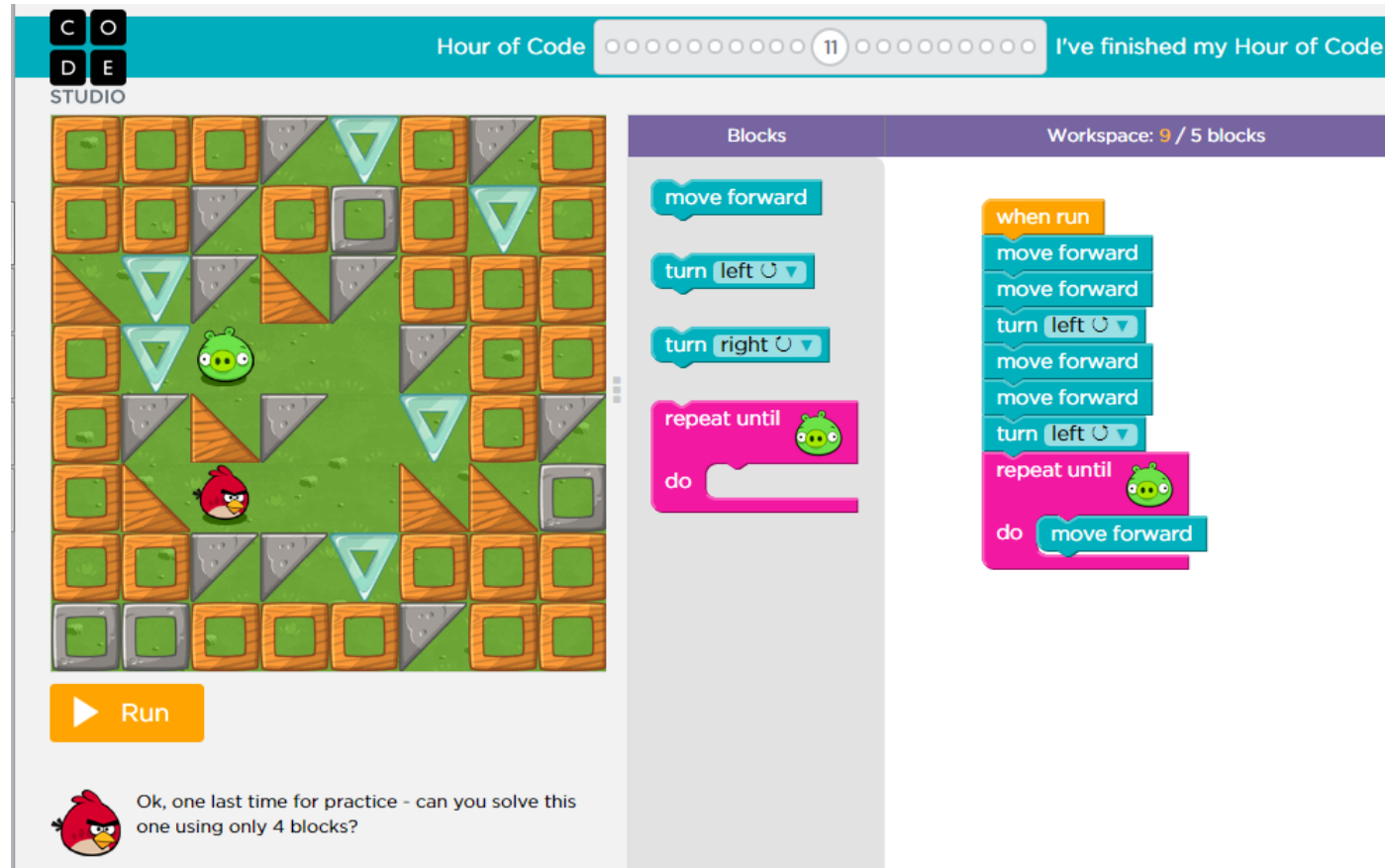
IDDCDT Pre-sessional programming

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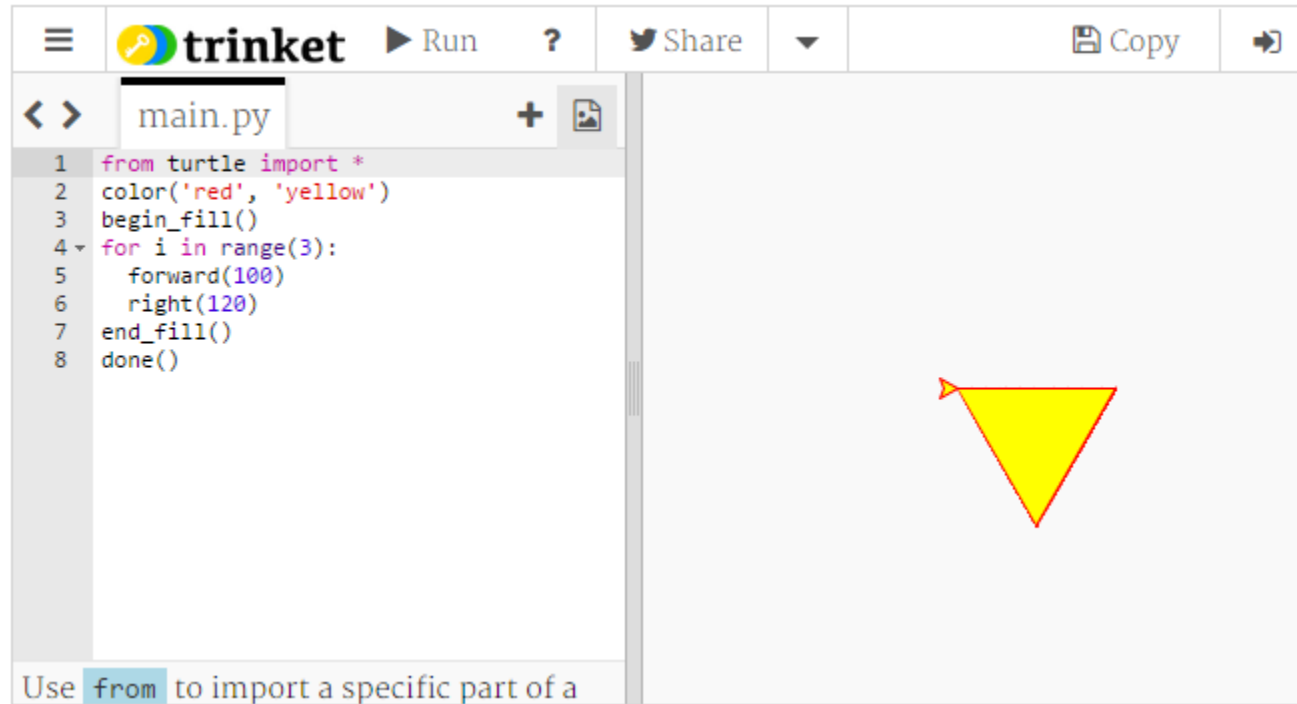
Code.org



Group1: <http://studio.code.org/sections/DROXXS>

Group2: <http://studio.code.org/sections/UXFBZQ>

Draw a triangle using the turtle



The screenshot shows the Trinket.io web interface. The top bar includes the Trinket logo, a 'Run' button, a help icon, a 'Share' button, and a 'Copy' button. Below the bar, the file 'main.py' is open in the editor. The code in the editor is as follows:

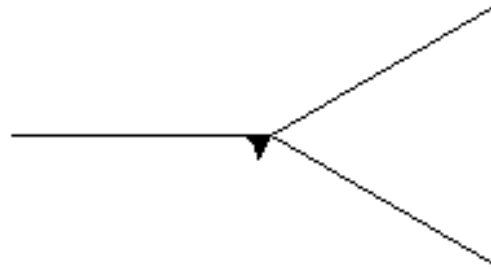
```
1 from turtle import *
2 color('red', 'yellow')
3 begin_fill()
4 for i in range(3):
5     forward(100)
6     right(120)
7 end_fill()
8 done()
```

The right side of the interface shows a canvas where a yellow equilateral triangle with a red outline has been drawn. The triangle is oriented with one vertex pointing downwards. A small red arrow (the turtle's head) is visible at the top-left vertex of the triangle. At the bottom left of the editor, a tooltip says 'Use from to import a specific part of a'.

- <https://trinket.io/>
- <https://docs.python.org/3.3/library/turtle.html>

A leaf

```
from turtle import *  
  
forward(100)  
left(30)  
for i in range(3):  
    forward(100)  
    right(120)
```

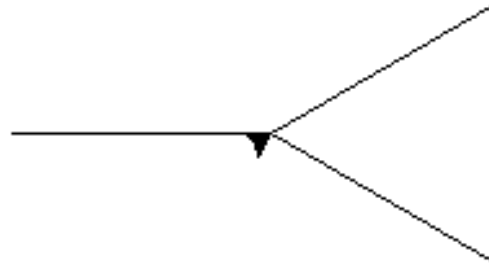


A leaf function

```
from turtle import *
```

```
def leaf():  
    forward(100)  
    left(30)  
    for i in range(3):  
        forward(100)  
        right(120)
```

```
leaf()
```

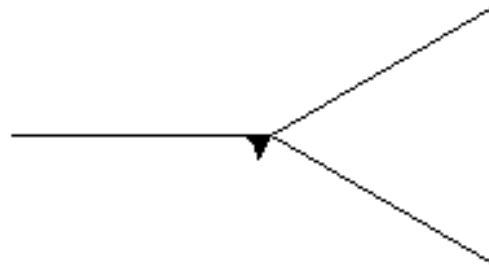


A leaf function with an input parameter

```
from turtle import *

def leaf(size):
    forward(size)
    left(30)
    for i in range(3):
        forward(size)
        right(120)

leaf()
```

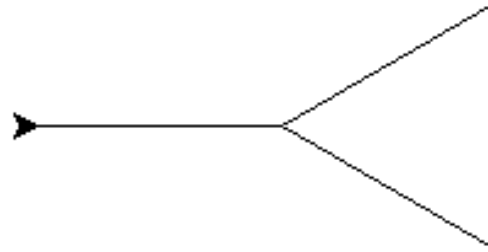


Reset the position after drawing

```
from turtle import *

def leaf(size):
    init_pos=pos()
    init_head=heading()
    forward(size)
    left(30)
    for i in range(3):
        forward(size)
        right(120)
    setpos(init_pos)
    setheading(init_head)

leaf()
```



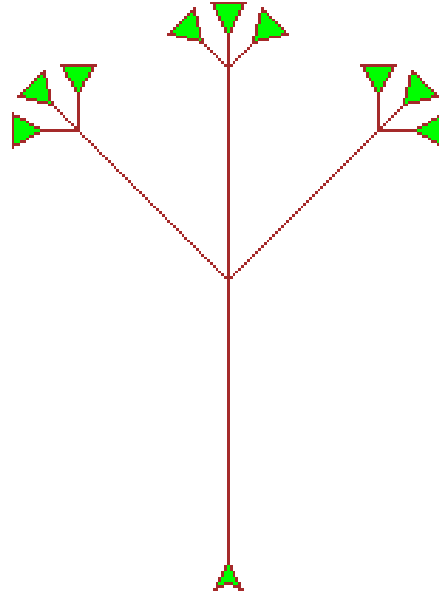
A branch

```
def branch(size):  
    init_pos=pos()  
    init_head=heading()  
    forward(size*0.75)  
    left(45)  
    for i in range(3):  
        leaf(size*0.25)  
        right(45)  
    setpos(init_pos)  
    setheading(init_head)
```



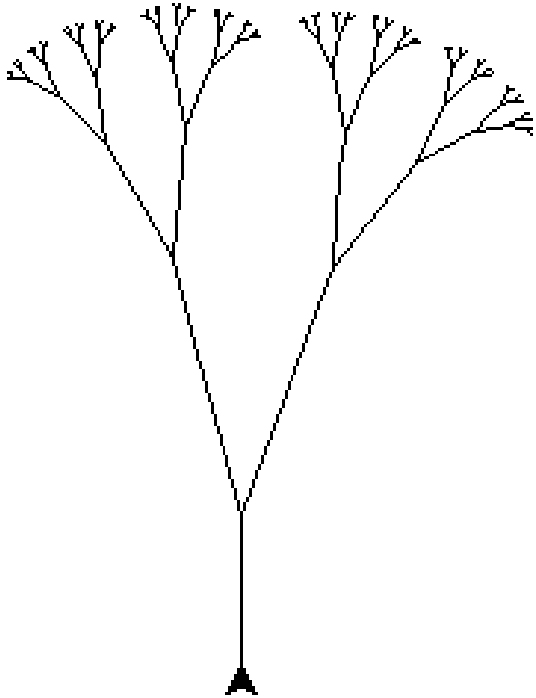
A tree

```
def tree(size):  
    left(90)  
    init_pos=pos()  
    init_head=heading()  
    forward(size*0.5)  
    left(45)  
    for i in range(3):  
        branch(size*0.5)  
        right(45)  
    setpos(init_pos)  
    setheading(init_head)
```



<https://github.com/wasit7/tutorials/turtle/tree.py>

A fractal tree



```
from turtle import *
def branch(size):
    if size<2:
        return
    else:
        forward(size*0.4)
        init_pos=pos()
        init_head=heading()

        left(15)
        forward(size*0.5)
        branch(size*0.5)

        penup()
        setpos(init_pos)
        setheading(init_head)
        pendown()

        right(20)
        forward(size*0.5)
        branch(size*0.5)

        penup()
        setpos(init_pos)
        setheading(init_head)
        pendown()

size=128
penup()
setpos((0,-size))
setheading(90)
pendown()
branch(size)
setpos((0,-size))
```