CS100 Fall 2014

Name _____

CPADS Reading Activity III

Program #1

```
def main():
    count = 5

    for num in range(count):
        print(num)
        print(count)

main()
```

In English, describe what the program above does. What output you think the above program will produce? Verify your prediction by typing the code into PyCharm and running the program.

Program #2

```
def main():
    total = 0
    count = 4

    for num in range(count):
        total = total * num

    print(total)

main()
```

In English, describe what the program above does. What output you think the above program will produce? Verify your prediction by typing the code into PyCharm and running the program.

Name _____

Program #3

```
def doSomething(val):
    total = 0
    for i in range(val):
        total = total + i
    return total


def main():
    # Define variables
    num1 = 10
    num2 = 4
    num3 = 0

    # Do computation
    result1 = doSomething(num1)
    print(result1)

    # Do another computation
    for j in range(num2):
        num3 = doSomething(j)

    # Print output
    print(num3)

main()
```

In English, describe what the program above does. What value does the print statement output? Verify your prediction by typing the code into PyCharm and running the program.

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Sketch what output you think the following program will produce. For reference, the turtle graphics library functions are defined below.

`fd(t, length)` – moves turtle `t` forward `length` units
`bk(t, length)` – moves turtle `t` backward `length` units
`lt(t, angle)` – turns turtle `t angle` degrees to the left
`rt(t, angle)` – turns turtle `t angle` degrees to the right
`pd(t)` – starts drawing for turtle `t` (pen down)
`pu(t)` – stops drawing for turtle `t` (pen up)

Program #4

```
from TurtleWorld import *

def doSomething(t,len,val):
    ang = 180 - 180/val
    pd(t)
    for i in range(val):
        fd(t, len)
        rt(t, ang)
        fd(t, len)

def main():
    # Create Turtleworld
    world = TurtleWorld()
    turtle = Turtle()
    turtle.delay = 0.01

    # Define variables
    size = 25

    # Draw graphics
    for i in range(3):
        doSomething(turtle,size,2*i+3)
        pu(turtle)
        fd(turtle,size*3)

    # Press enter to exit
    key = input('Press enter to exit')
    world.destroy()

main()
```

Verify your prediction by typing the code into PyCharm and running the program.