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.

**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.

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.