Name _____

CPADS Assignment #1

1. Open Pycharm making sure to select the Python 3.x interpreter. Create a new project named **CS100-Assign1**. Right click on **CS100-Assign1** in the left sidebar and select **New->Python File**. Name the file **pinwheelCompute**. Type the following code **exactly** as shown *copying* the **drawSquareFromCenter()** function code from **pinwheel.py** in **CS100-Lab3**

```python
import turtle

def drawSquareFromCenter(turtle,x):...

def main():
    # Create turtle
    bob = turtle.Turtle()

    # Get user input
    size1 = int(input('Enter size for first square: '))

    # Draw graphics
    drawSquareFromCenter(bob,size1)

    # Press any key to exit
    input()

main()
```

The program should prompt the user to enter a size for the first square draw it centered about the origin.

Name _____

2. Complete the program by adding code that obtains user input for variables **size2**, **size3**, **size4** and computes movement to the centers of each square **USING** the variables **size1**, **size2**, **size3**, **size4**. **No computations should be performed in movement commands.** You **MUST** move in the following manners:

1. **Square 1:** Move to the center using a forward, 90 degree right turn, forward procedure returning back to the origin after drawing the square using forward and 90 degree turn commands
2. **Square 2:** Declare a variable for the direct distance to the center **dist**, turn 45 degrees, move forward, draw the second square, and then move back to the origin by turning around and using a forward command
3. **Square 3:** Declare two variables **x** and **y** and compute the (x,y) coordinates of the third square assuming the turtle begins at the origin. Use the **setposition(x,y)** turtle command to move directly to this location, and then draw the third square. **DO NOT** return to the origin.
4. **Square 4:** Declare three variables **dx**, **dy, dist,** and **ang** computed as follows**:**
   - Compute the **dx** and **dy** distances from the center of the third square to the center of the fourth square
   - Compute **dist** and **ang** as the distance and angle to go *directly* from one center to the other (Hint: Use the tangent function to calculate the angle)
   - Use one turn and one forward command to move to the center of the fourth square (Hint: Consider what direction the cursor is facing after finishing drawing the third square to determine the proper angle and direction to turn)
   - Draw the fourth square and move back to the origin using the **home()** command

*Hint: **SKETCH STRATEGIES TO FIGURE OUT THE PROPER COMPUTATIONS!***
ADD COMMENTS TO YOUR CODE EXPLAINING EACH SECTION!