

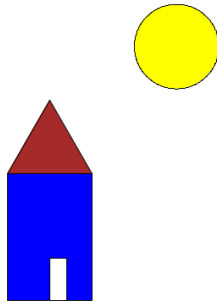
Lab 12

IT-210

INSTRUCTIONS: All problems must be developed using Python 3.x.

Part I

- Implement a Circle class that Inherits from Ellipse. The Circle class has a centerPoint and radius as attributes, and accessors and mutators methods for both. Do not to override any methods already implemented by Ellipse.
- Using the graphicsdrawing.py module, draw the following:



NOTE: Sun is yellow. House is blue. Door is white. Roof is brown.

Part II

- Implement a move() method for the circle . The move() method will change centerPoint to a newCenterPoint and redraw the circle at that location. Test this method by moving the circle to 25 random locations.

Part III

- Implement a RegularPolygon class that inherits from polygon. The RegularPolygon class has attributes initialPoint, numberSides and sideLength. Implement accessors and mutators for all attributes. It is easier for this class to override the _draw() method it inherits from Polygon.

Recall the function we used in Chapter 1 to draw regular polygons (see below). Mimic the procedure it to implement _draw() for the Polygon class.

```
def draw_polygon(aTurtle, sideLength, numSides):  
    turnAngle = 360/numSides  
    for i in range(numSides):  
        aTurtle.forward(sideLength)  
        aTurtle.right(turnAngle)
```

- Using the graphicsdrawing.py module, draw a pentagon with green color fill.