

## Lab04\_Task.

**A Circle “Has a” Point at Its Center)** A circle has a point at its center. Create a class **Point** that represents an (x-y) coordinate pair and provides x and y read-write properties for the attributes **\_x** and **\_y**. Include **\_\_init\_\_** and **\_\_repr\_\_** methods,

and a **move** method that receives x- and y-coordinate values and sets the **Point**’s new location. Create a class **Circle** that has as its attributes **\_radius** and **\_point** (a **Point** that represents the **Circle**’s center location).

Include **\_\_init\_\_** and **\_\_repr\_\_** methods, and a **move** method that receives x- and y-coordinate values and sets a new location for the **Circle** by calling the composed **Point** object’s **move** method. Test your **Circle** class by creating a **Circle** object, displaying its string representation, moving the **Circle** and displaying its string representation again.

2. Read the size of the matrix from the user. Populate it with data from the user. Print the original and the transpose matrices on screen.
3. You are given a square array (an array of n rows and n columns). And you have to set elements of the main diagonal equal to 1, to set elements above than that diagonal equal to 0, and to set elements below that diagonal equal to 2. That is, you need to produce such an array (example for n= 6):

```
1 0 0 0 0 0
2 1 0 0 0 0
2 2 1 0 0 0
2 2 2 1 0 0
2 2 2 2 1 0
2 2 2 2 2 1
```