Introduction to Programming
with Java, for Beginners

More on References

Creating Objects

- Example: Freshman and DormRoom
  > DormRoom r = new DormRoom(206, "Hill");
  > Freshman a = new Freshman ("Sam", r)

  OR
  > Freshman a = new Freshman ("Sam", new DormRoom (206, "Hill") );
  > a.getRoom().getLocation()
  "206 Hill"
  > a.changeRoom (new DormRoom (100, "Hilton"));
  > a.getRoom().getLocation()
  "100 Hilton"

Method that returns a new object

```java
public class Point{
    private int x;
    private int y;
    public Point(int x, int y){
        this.x = x;
        this.y = y;
    }
    public Point displacedX(int disAmt){
        //return new Point with
        //x co-ordinate as x + disAmt
        int newX = x + disAmt;
        Point d = new Point(newX, y);
        return d;
    }
}
```

Methods can take parameter(s) of the type as Object type

```java
public double slope (Point b){
    double diffx = this.getX() – b.getX();
    double diffy = this.getY() – b.getY();
    double slope = diffy/diffx;
    return slope;
}
```

- Note the method is not fool proof