

Die.java

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2// March 8th, 2018
3// CPSC 224: Object Oriented Programming (Zhang)
4// HW Assignment #5: Yahtzee
5//
6// This subclass models the data fields and behavior for one die. Multiple constructors
7// are used to allow dice to be initialized to the default 6-sided die, or a specified
8// number of sides (ex. D4, D10, D20).
9
10import java.util.*;
11
12public class Die implements Comparable {
13
14    private int dieVal = 1;
15    private Random r = new Random();
16    static int maxDieVal;
17
18    //default constructor assumes a 6-sided die
19    public Die()
20    {
21        maxDieVal = 6;
22        dieVal = r.nextInt(6) + 1;
23    }
24
25    //this constructor takes in an int parameter as the # of sides on the die
26    public Die(int sides)
27    {
28        maxDieVal = sides;
29        dieVal = r.nextInt(maxDieVal) + 1;
30    }
31
32    //return die value as an int
33    public int getDieVal()
34    {
35        return dieVal;
36    }
37
38    //implements comparable interface for sorting
39    public int compareTo(Object otherObj) {
40        Die otherDie = (Die) otherObj;
41
42        if(this.dieVal > otherDie.getDieVal())
43            return 1;
44        else if (this.dieVal == otherDie.getDieVal())
45            return 0;
46        else
47            return -1;
48    }
49 }
50
```