Original Partner	Obstacle 3 COMP 10062	Paired Partner ("grader")	SCORE OBTAINED
Student #		Student #	5
		ARRAY of OBJECTS	

Obstacle #3 – Built-In Java Arrays

Write on the backside of this sheet, a Java **main program** in a class called, ***DumpTruck***. The dump truck is carrying 1,000,000 six-sided dice. If the dump truck unexpectantly dumps all the dice on the road, display the frequency of each face appearing upright, as shown in Figure 2. The **Die class** is given in the starter kit and does not require any alterations.

REQUIRED

1) you must create a 1,000,000 element dice ARRAY and store a single Die object in each element.
2) format the output EXACTLY as shown in Figure 2, i.e. use System.out.printf ( )
3) you will find that you need 2 FOR Loops, make at least one them an ENHANCED for loop.

Figure 1. A dump truck spilling 1,000,000 dice on the road

```
Dice Roll Frequency
 1: 166,779
 2: 167,051
 3: 166,361
 4: 166,451
 5: 166,563
 6: 166,795
```

Figure 2. The DumpTruck program's product shot.

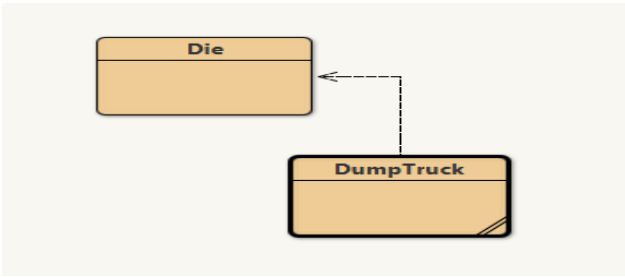

Figure 4. Java Classes Layout

Recommended:

Download the ZIP starter kit and check your answer with the computer.

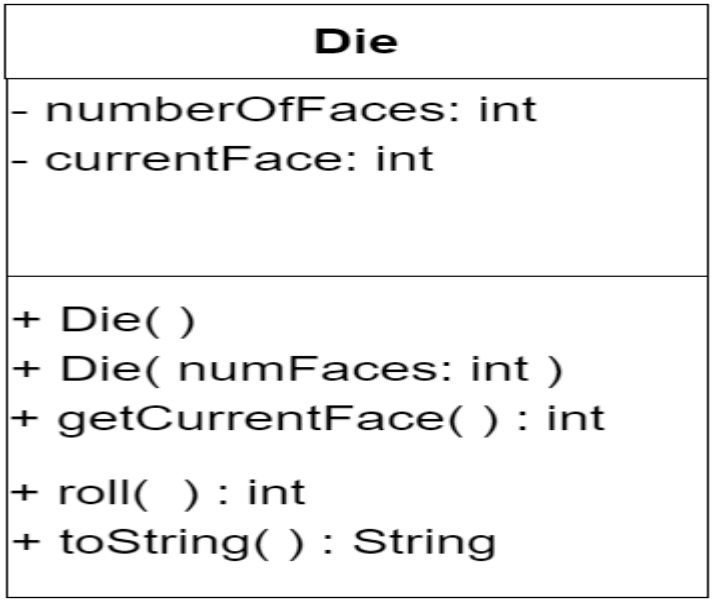

Figure 3. The Die UML

```
public class DumpTruck
{

    public static void main(String[] args)
    {

       //The 32-bit Java int can go to a maximum
       //of 2,147,483,647, so that is the
       //theoretical maximum Java array size
       final int MILLION = 1000000;
       Die[] dice = new Die[MILLION];
       int[] occurrences = new int[7];
       int amount=0;

       for(int i=1; i< MILLION; i++)
       {
           dice[i] = new Die(6);
           amount = dice[i].roll();
           occurrences[amount]++;
       }

       System.out.println("Dice Roll Frequency");


       for(int face=1; face< 7; face++)
       {
           System.out.printf("%2d: %-,10d\n", face,occurrences[face]);
       }


    }
}
```