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//Name: Yashas Ravi
//Per: 12
//Statistics


public class Roll {
	private int [] roll = new int [1000];

	public Roll () {
		for (int k = 0; k < roll.length; k++) {
			roll[k] = (int) (18*Math.random()+1);
		}
	}

	public int getMin () {

		int min = 18;
		for (int num1 : roll) {
			if (num1 < min) {
				min = num1;
			}
		}
		return min;
	}

	public int getMax () {
		int max = 0;
		for (int num2 : roll) {
			if (num2 > max) {
				max = num2;
			}
		}
		return max;

	}

	public double calcStdDev () {
		int sum = 0;
		for (int num3 : roll) {
			sum += num3;
		}
		double mean = sum/roll.length;
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		double variance = 0;

		for (int num4 : roll) {
			variance += Math.pow((num4 - mean),2)/(roll.length-1);
		}

		return Math.pow(variance, 0.5);

	}

	public void displayHist () {
		int [] freq = new int [18];

		for (int b = 1; b <= 18; b++) {

			for (int num5 : roll) {
				if (num5 == b) {
					freq[b-1]++;
				}
			}
			System.out.print(b + ": ");
			for (int j = 0; j < freq[b-1]/5; j++) {
				System.out.print("*");
			}
			System.out.println();

		}

	}

	public String toString () {
		String a = "";

		for (int d = 0; d < roll.length; d++) {
			a += roll[d] + " ";
			if ((d+1) % 25 == 0) {
				a += "\n";
			}
		}

		return a;
	}

}
```

```
public class RollTest {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		Roll r = new Roll ();

		System.out.println(r);
		System.out.println(r.getMin());
		System.out.println(r.getMax());
		System.out.println(r.calcStdDev());

		r.displayHist();
	}

}
```