1. This is a program that randomly generates points on a plane and returns the percentage of which of the points land less than .5 on the plane (half of the plane).
2. A number around %50
3. Because we are looking for numbers that fall from 0 TO .5 instead of 0 to .4999999 repeating, we can expect the percentage to increase by a marginal amount. But it will mostly stay the same.
4. **public** **static** **void** main(String[] args) {
5. **[**SimpleReader input = **new** SimpleReader1L();**]**
6. **[**SimpleWriter output = **new** SimpleWriter1L();**]**
8. **[**output.print("Number of points: ")**]**;
9. **[int** n = input.nextInteger();**]**
11. **[int** ptsInInterval = 0, ptsInSubinterval = 0;**]**
13. **[**Random rnd = **new** Random1L();**]**
15. **[while** (ptsInInterval < n)**]** {
16. **[** **double** x = rnd.nextDouble();**]**
17. **[**ptsInInterval++;**]**
18. **[** **if** (x < 0.5) **]**{
19. **[** ptsInSubinterval++;**]**
20. }
21. }
23. **[double** estimate = (100.0 \* ptsInSubinterval) / ptsInInterval;**]**
24. **[**output.println("Estimate of percentage: " + estimate + "%")**]**;
26. **[i**nput.close();**]**
27. **[**output.close();**]**
28. }