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Homework 2

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- 1) This program outputs the percentage of the random numbers that are less than .5. A trend is the bigger the number of points there are, the closer the percentage becomes to 50%.
- 2) The program output will be a sentence that says "Estimate of percentage: _%", where "_" is the percentage of randomly generated numbers that are below .5.
- 3) My new answer would be that the program outputs the percentage of random numbers that are less than or **equal to** .5. This would try to output a number close to 50.1% rather than just 50%.

```

SimpleReader input = new SimpleReader1L();
SimpleWriter output = new SimpleWriter1L();

output.print("Number of points: ");
int n = input.nextInt();

int ptsInInterval = 0, ptsInSubinterval = 0;

Random rnd = new Random1L();

while (ptsInInterval < n) {
    double x = rnd.nextDouble();
    ptsInInterval++;
    if (x < 0.5) {
        ptsInSubinterval++;
    }
}

double estimate = (100.0 * ptsInSubinterval) / ptsInInterval;
output.println("Estimate of percentage: " + estimate + "%");

input.close();
output.close();

```

4)