

```

1  #include <iostream>
2  #include <fstream>
3  #include <math.h>
4  #include <iomanip>
5
6  using namespace std;
7
8  const int maxnum = 10000;
9  const double bound = 50000.0;
10
11 int main() {
12     double num;
13     double method;
14     int i = 0;
15     ofstream outf;
16     outf.open("outputfile.txt");
17     //Variables For Checking Random-ness:
18     int positive = 0, negative = 0, lowestfourth = 0, lowerfourth= 0, higherfourth= 0,
19     highestfourth=0;
20
21     while (i<maxnum) {
22         method = rand()%6+1;
23         if (method ==1) {num = rand() / cos(num);}
24         if (method ==2) {num = rand() / cos(num) + num;}
25         if (method ==3) {num = rand() / cos(num) -rand();}
26         if (method ==4) {num = rand() /cos(num) *-1;}
27         if (method ==5) {num = rand() * cos(num);}
28         if (method ==6) {num = rand() / cos(num) +rand();}
29
30         if (abs(num) < bound) {
31             outf << fixed << setprecision(3) << setw(13) << num << endl;
32             i++;
33             //Calculating Randomness:
34             if (num <=0) negative = negative + 1;
35             else positive = positive + 1;
36             if (num <= -25000 && num >= -50000) lowestfourth = lowestfourth +1;
37             else if (num > -25000 && num <= 0) lowerfourth = lowerfourth + 1;
38             else if (num > 0 && num <= 25000) higherfourth = higherfourth +1;
39             else highestfourth++;
40         }
41     }
42     //Checking Randomness:
43     cout << endl << endl << "Positive: " << positive << endl;
44     cout << "Negative: " << negative << endl;
45     cout << "Lowestfourth: " << lowestfourth << endl;
46     cout << "Lowerfourth: " << lowerfourth << endl;
47     cout << "Higherfourth: " << higherfourth << endl;
48     cout << "Highestfourth: " << highestfourth << endl;
49     system("pause");
50 }

```