In[15]:=
```
tPHI = 1.6180339887498948482045900000.1;
tPI = 3.1415926535897932384626400000.1;
tSQ2 = 1.4142135623730950488016910000.0;
```

In[14]:=
```
cout = Table[0, {i, 1, 100}];
```

In[18]:=
```
fseed = RandomReal[{0.0, 1.0}];
testR = Table[xx = tSQ2 * Tan[Sqrt[(i * (fseed + tPHI) - tPHI)^2 + (j * (fseed + tPHI) - tPI)^2]];
   xx - Floor[xx], {i, 0, 999}, {j, 0, 999}];
Mean[Mean[testR]]
For[i = 1, i < 1000, i++;
  For[j = 1, j < 1000, j++;
   cout[[Floor[100 testR[[i, j]]] + 1]] = cout[[Floor[100 testR[[i, j]]] + 1]] + 1;
  ];
 ];
cout
```

Out[20]= 0.49943

Out[22]= {9958, 9926, 10160, 9914, 9935, 9994, 10138, 9942, 9808, 10064, 10246, 10064, 9987, 10017, 9920, 10081, 9786, 10076, 9945, 10026, 9989, 9814, 10259, 10152, 10046, 9754, 10087, 9790, 10028, 10108, 10083, 10091, 9936, 9914, 9932, 9923, 9957, 10026, 10126, 9962, 9906, 9933, 9969, 9973, 9985, 10129, 10024, 10042, 10008, 10099, 9989, 9938, 9915, 10006, 10069, 9859, 9964, 9954, 10037, 10008, 9943, 10060, 10013, 9903, 9946, 10100, 9981, 9953, 9806, 10014, 10043, 9706, 9915, 9887, 9915, 9941, 9832, 10202, 9897, 10075, 9935, 10040, 9990, 9922, 10061, 9837, 10068, 9841, 10156, 9954, 10018, 10014, 9790, 9886, 9973, 9965, 9955, 9826, 9906, 9961}

In[23]:=
```
testRan[i_, j_, seed_] := Block[{xx},
   xx = tSQ2 * Tan[Sqrt[(i * (seed + tPHI) - tPHI)^2 + (j * (seed + tPHI) - tPI)^2]];
   xx - Floor[xx]];
RandomReal[{0, 1}]
```

Out[24]= 0.526795

In[38]:=
```
sed2 = 0.5267954560250647;
table1 = Table[sed2 = testRan[3, 5, sed2]; sed2, {i, 1, 1000}];
sed2 = 0.5267954560250647;
table2 = Table[sed2 = testRan[4, 5, sed2]; sed2, {i, 1, 1000}];
sed2 = 0.5267954560250647;
table3 = Table[sed2 = testRan[3, 6, sed2];
   sed2, {i, 1, 1000}];
```

In[51]:=
```
cout2 = Table[0, {i, 1, 10}];
For[i = 1, i < 1000, i++;
  cout2[[Floor[10 table1[[i]]] + 1]] = cout2[[Floor[10 table1[[i]]] + 1]] + 1;
 ];
cout2
Mean[table1]
```

Out[53]= {95, 112, 92, 98, 101, 100, 113, 84, 96, 108}

Out[54]= 0.500424

In[55]:=
```
cout2 = Table[0, {i, 1, 10}];
For[i = 1, i < 1000, i++;
  cout2[[Floor[10 table2[[i]]] + 1]] = cout2[[Floor[10 table2[[i]]] + 1]] + 1;
 ];
cout2
Mean[table2]
```

Out[57]= {104, 101, 87, 111, 107, 101, 92, 94, 105, 97}

Out[58]= 0.497825

In[59]:=
```
cout2 = Table[0, {i, 1, 10}];
For[i = 1, i < 1000, i++;
  cout2[[Floor[10 table3[[i]]] + 1]] = cout2[[Floor[10 table3[[i]]] + 1]] + 1;
 ];
cout2
Mean[table3]
```

Out[61]= {101, 102, 102, 96, 102, 126, 85, 90, 98, 97}

Out[62]= 0.493364

In[71]:=
```
Dot[table1 - table2, table1 - table2]
Dot[table1 - table3, table1 - table3]
Dot[table2 - table3, table2 - table3]
```

Out[71]= 172.436

Out[72]= 163.86

Out[73]= 173.582

In[74]:=
```
table1 = Table[RandomReal[{0, 1}], {i, 1, 1000}];
table2 = Table[RandomReal[{0, 1}], {i, 1, 1000}];
table3 = Table[RandomReal[{0, 1}], {i, 1, 1000}];
Dot[table1 - table2, table1 - table2]
Dot[table1 - table3, table1 - table3]
Dot[table2 - table3, table2 - table3]
```

Out[77]= 174.097

Out[78]= 169.694

Out[79]= 172.2