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Binary Fraction Decimal(p12)   🔒 locked

Problem	Submissions	Leaderboard	Discussions	Editorial

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✓ Test Case #0	✓ Test Case #1	✓ Test Case #2
✓ Test Case #3	✓ Test Case #4	✓ Test Case #5
✓ Test Case #6		

Submitted Code

Language: C++   ⑇ Open in editor

```
1  // Input: n = 110.101
2  // Output: 6.625
```

```
3
4  // Input: n = 101.1101
5  // Output: 5.8125
6
7
8
9
10
11
12  // binary fractional to decimal conversion
13  #include<bits/stdc++.h>
14  using namespace std;
15
16
17  double binaryToDecimal(string binary, int len)
18  {
19
20      size_t point = binary.find('.');
21
22      if (point == string::npos)
23          point = len;
24
25      double intDecimal = 0, fracDecimal = 0, twos = 1;
26
27
28      for (int i = point-1; i>=0; --i)
29      {
30
31          intDecimal += (binary[i] - '0') * twos;
32          twos *= 2;
33      }
34
35
36      twos = 2;
37      for (int i = point+1; i < len; ++i)
```

```cpp
38        {
39            fracDecimal += (binary[i] - '0') / twos;
40            twos *= 2.0;
41        }
42
43
44        return intDecimal + fracDecimal;
45 }
46
47
48 int main()
49 {
50        string n;
51        cin>>n;
52        cout << binaryToDecimal(n, n.length()) << "\n";
53
54
55
56        return 0;
57 }
```