```cpp
#include <iostream>
using namespace std;
int gcd(int x, int y) {
        if (b==0)
                return x;
        else
                return gcd(y, x%y);
}
int proper_fraction(int n) {
        int count=0;
        for (int i=1; i<n; ++i) {
                if (gcd(i, n) == 1)
                        ++count;
        } return count * 2;
}
int main() {
        int n;
        cin>>n;
        cout <<proper_fraction(n);
        return 0;
}
```