

```

1  //
2  // Created by amirp on 11/28/2021.
3  //
4
5
6  #include "iostream"
7
8  using namespace std;
9
10 class RationalNumber{
11     int a,b,remainder=0,numerator,denominator,
        lowestNumerator,lowestDenominator;
12 public:
13     void reduce(){
14         int i=0;
15         //get input from user
16         cout<<"Enter nuumerator: ";
17         cin>>numerator;
18         cout<<"Enter denominator: ";
19         cin>>denominator;
20
21         //set a to highet number and b to lowest
        number betweein numerator and denominator;
22         if(numerator>denominator){
23             a=numerator;
24             b=denominator;
25         }
26         else{
27             a=denominator;
28             b=numerator;
29         }
30
31         //check if b is zero or not and perform the
        operations ;
32
33         cout<<"step "<<i<<"    numerator= "<<numerator
        <<"    denominator= "<<denominator<<endl;
34         cout<<
        "-----"<<
        endl;
35         while(  b !=0)

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36         {
37             i++;
38             cout<<" step "<<i<<"   a = "<<a<<"       b
= "<<b<<"       remainder = "<<remainder<<endl;//print
the entire process
39             remainder=a%b;
40             a=b;
41             b=remainder;
42         }
43
44         lowestNumerator =numerator/a;
45         lowestDenominator =denominator/a;
46         cout<<" step "<<i+1<<"   "<<numerator<<"/"<<a
<<"="<<" "<<lowestNumerator<<" "<<denominator<<"/"<<a
<<"="<<lowestDenominator<<endl;//print the final step
47         cout<<" "<<lowestNumerator<<"/"<<
lowestDenominator;
48     }
49 };
50
51 int main(){
52     RationalNumber rational;
53     rational.reduce();
54
55 }
56
57

```