```cpp
 1  #include <string>
 2
 3
 4  ///////////////////////////////////////////////////////////
 5  //                    CLASS DEFINITION                    //
 6  ///////////////////////////////////////////////////////////
 7
 8
 9  class fraction {
10  private:
11      // Internal representation of a fraction as 2 integers
12      int n;                          // numerator
13      int d;                          // denominator
14
15      // I put these in the private section because they are
16      // internal operations that shouldn't be part of an
17      // interface.
18      void simplify();
19      int naiveGCD();
20      int euclidianGCD(int, int);
21      int binaryGCD(int, int);
22
23  public:
24      fraction();                     // class constructor
25      void setFraction(int, int);
26      void setFraction(fraction);
27      void add(fraction);
28      void mult(fraction);
29      void div(fraction);
30      void display(void);
31  };
32
33
34
35
36
37
38  ///////////////////////////////////////////////////////////
39  //                  FUNCTION PROTOTYPES                   //
40  ///////////////////////////////////////////////////////////
41
42  void calculate(std::stringstream &, fraction &);
43  fraction calculateRecursive(std::stringstream &);
44  //fraction calculateRecursive(std::string&, int);
```