

1. Create a class **Rational**.
 - Create a constructor with two parameters.
 - Overload the operators +, -, *, /, ==, !=, <, >.
 - Override the methods **Equals**, **GetHashCode**, and **ToString**.
2. Make the **Rational** class to inherit the **IComparable** or **IComparable** interface.
 - Implement the **CompareTo** method of the **IComparable** interface or the **Compare** method of the **IComparable** interface.
3. Create your own exception class **RationalException** representing errors that occur during application working with rational numbers.
4. Make changes in the **Rational** class as follows:
 - The constructor with two parameters throws the **RationalException** if the denominator of the rational number is equal to zero or both the nominator and denominator are negative numbers (suppose that the nominator carries the sign of the rational number).
 - Write a default constructor that enters values for the nominator and denominator from the keyboard; rethrows an exception back up the call stack if the user enters incorrect integer values for the nominator and denominator; throws the **RationalException** if the denominator of the rational number is equal to zero or both the nominator and denominator are negative numbers.
5. Create a driver class that tests the operations with rational numbers.
 - Add a static method with three parameters: left operand, right operand and operation, that executes the permit operations with rational numbers and throws the **RationalException** if the operation is not permitted.
 - Test all operations with rational numbers.
 - Enter an array of rational numbers and sort it in an increasing order using the **Array.Sort** method.