

## ET-580 – Classes – Practice

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1. Create a Rational Number class.
  - a) data members: numerator and denominator
  - b) implement member accessors and mutators
  - c) implement a non-member output function which displays the number as a fraction such as 5/7
  - d) instantiate and print the Rational Number 5/7
  - e) make sure that the solution is properly encapsulated
2. Modify the Rational Number class.
  - a) define accessors and mutators externally from the class
3. Calculate the GCD of a Rational Number
  - a) implement a non-member recursive GCD function that:
    - 1) accepts two integers as input parameters
    - 2) returns the GCD of the input parameters
  - b) instantiate the Rational Number 40/24 and output its GCD
4. Modify the Rational Number class.
  - a) Convert the GCD function to a member GCD function which:
    - 1) Does not require input parameters
    - 2) Does not alter the original values of the numerator and denominator
  - b) Instantiate the Rational Number 40/24 and output its GCD