Practice 11 [Class – Objects – Functions – Operators]

Note: This is not a routine practice; this is also your assignment 1. The viva of these tasks will be taken in next lab.

1. Consider Rational class, given in quiz 5 and code is shared in google class room, add following functions:
    a. modify __str__ function to accommodate negative values of p & q. If only p is negative, it will be accommodated automatically, however, if only q is negative then print minus sign in start and don't print minus sign with q. If both p & q are negative, then don't print minus sign with anyone
    b. normalize, check if there exist a common divisor of both p & q, divide both of them and repeat until p & q becomes relatively prime (means, there exists no common divisor)
    c. overload + operator, to add two rational numbers and return new number (first normalize both objects). Also normalize new object before return (use normalize function in almost every other function)
    d. overload - operator, to subtract two rational numbers and return new number
    e. overload * operator, to multiply two rational numbers and return new number
    f. overload == operator, to check equality of two objects
    g. overload > operator, to check if first operand is greater than second
    h. overload < operator, to check if first operand is smaller than second

Write main function and test your class functions.

2. Consider complex number class, discussed in class and shared in google class room, add following functions:
    a. multiply two complex numbers and return a single value
    b. overload all comparison operators

Write main function and test your class functions.

3. Rewrite point class to add following functionality:
    a. add class level member count
    b. increment count in init function
    c. decrement count in del function
    d. get_count, class level member to get count

Write main function and test new added functionality?