**15CSE402 Structure and Interpretation of Computer Programs**

**Problem 8**

Your task is to implement a fraction calculator in Racket. It is expected that the calculator should be capable of handling *proper fraction, improper fraction and mixed fractions.*

* The calculator should be capable of doing all the necessary arithmetic: addition, subtraction, multiplication, division, inversion, equality, conversion between types of fractions etc.
* The calculator should reduce the resultant fractions to their lowest terms
* As said above, the calculator should seemingly handle all the three types of fractions: *proper, improper* and *mixed* fractions. It is also expected to handle *complex fractions* as well. (Note that complex fractions are those fractions where the numerator, denominator, or both contain a fraction.). **It is expected to handle the power of fractions (Note that the powers (exponents) could be either integral or fractional)** as well!!!
* The calculator should display the results in a clutter free mathematical standard format.

**This case study will be assessed by the adherence to all the expected functionalities in the calculator (in terms of the types of all the fractions listed above!)**