

Cairo University

Faculty of Computers and Artificial Intelligence



CS213

OOP

Project Description

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Project Team

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Operator > :

- balances two numbers for comparing them
- if the sign of the first number is +ve and the second is -ve then the first is greater
- if they have the same sign:
- if they doesn't have the same integer part compare integers from left to right
- if the two numbers are decimal then the smaller number without considering the sign is the greater one
- if the numbers have the same integer part then compare fractions from left to right

Operator <:

- balancing the two numbers for comparing them
- if the number on the left is negative and that on the right is positive then the left number is smaller
- if they have the same sign:
- if they don't have the same integer compare integers from right to left
- in case the two numbers are negative the smaller one is that of the greater value without the sign
- if the integers are equal then compare the fractions from left to right

Operator +:

- balance two integers for adding them
- new bigreal number that stores the result
- **if the two reals have the same** sign then the sign remains the same and the values are normally added
- first add the fraction part from right to left and store the result in string
- reverse the string of the result
- then adding the integers part with considering the carry remained from adding the fraction part
- adding two integers and the carry
- carry appears if the result of adding is greater than 9
- store the result in a string
- **if the signs are different** then subtraction occurs
- subtracting the two fractions first from right to left
- subtracting the two integers and the carry
- carry appears if the result after subtracting is negative
- subtracting integers with considering the remaining carry from subtracting the fraction part
- stores the integer part after subtraction
- the sign of the result is the sign of the greater of the numbers without considering signs
- so signs of the two bigreals are changed to +ve while comparing them

Operator - :

- Using the + overloaded operator in subtraction
- $A - B = A + (-B)$
- $(-A) - (-B) = -A + B$
- $(-A) - (+B) = -A - B$
- $(+A) - (-B) = A + B$

Sama Ashraf Ahmed 20220436	<ul style="list-style-type: none">- Balancing Functions- Overloading operator +- Overloading operator -
Shahd Mohammed 20221085	<ul style="list-style-type: none">- isValid Function- Operator < overloading
Nouran Ashraf Ali 20221242	<ul style="list-style-type: none">- Operator > overloading- Operator << overloading