Test cases:-

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| S.No. | Operations | Test Cases | Output |
| 1. | Addition | * Addition of positive integers and zero * Addition of negative integers * Addition of positive integers and negative integers * Addition of negative integer and zero * Addition of multiple positive integers * Addition of multiple negative integers * Addition of multiple positive and negative integers * Addition of very large integers, | Should perform addition in all cases |
| 2. | Subtraction | * Subtraction of higher number from a lower number * Subtraction of lower number from higher number * Subtraction of zero from a number * Subtraction of number from zero * Subtraction of two non-numerals | Subtract all numbers including negative numbers |
| 3. | Multiplication | * Multiply two number of different sizes and bits * Multiplication by zero | Should be able to multiplication even by zero |
| 4. | Division | * Division by zero * Division of higher number by lower number an vice versa. | Should return error on division by zero and perform valid divisions |
| 5. | Fraction | * All operations work correctly. * All fractions should be simplified as well as with whole numbers * An ArithmeticException is thrown when the denominator is set to 0. * Only the numerator can be negative, if the fraction is negative. | Should return error on division by zero and perform valid fraction reduction |
| 6. | Decimal | * Decimal digit should be upto 6 decimal digits * Data type should be set to float in all the cases, as in case of integer data type decimal operation won’t be available. | Able to return results with upto 6 decimal places |
| 7. | Percentage | * Numerator should always be less than denominator * Denominator should never be zero * Negative numbers should be operated. | Should return error on division by zero and able to calculate percentage. |

Apart from this operation test cases, there should also be a bracket operations based on the cases of BODMAS.