Big Integer Calculator

Problem

01

The largest 32-bit number is 2^32-1, or 4,294,967,295; computations on larger numbers have to be performed in multiple steps operating on smaller pieces.

02

This is similar to how humans compute: we can handle numbers up to a certain size in our heads, but for larger numbers, we use methods that break the computation into smaller steps.we might use pen and paper to add one decimal position at a time from right to left, "carrying the one" as necessary.

03

So,This project shows implementations of these algorithms, and how they can be used to build a simple calculator.

Solution

01

BigInteger library is used for calculation of the large integer. It dercreases humans effords for computation of large calculations.

02

I made this in C code library because there are no built-in large integers library (like BigInteger in Java) .

03

Addition, subtraction and multiplication are done like regular methods.

• How it Works

1.BigInt Calculator do perform arithmetic operations like

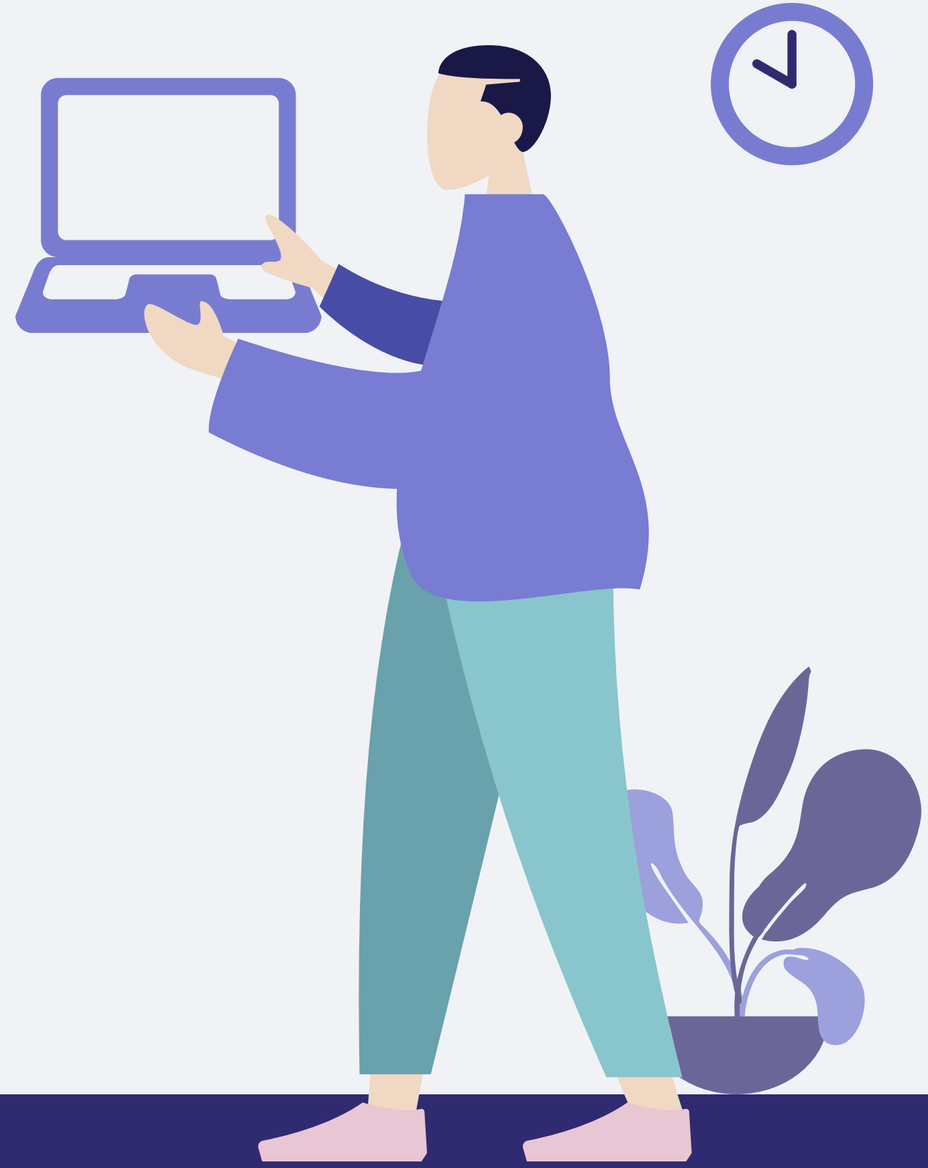
- 1.1Addition
- 1.2Subraction
- 1.3Multiplication
- 1.4Division

2 .The input should be of form operand1 <op> operand2.

3 The operands can have any sign. (+/-).

4.Can handle integers as big as MAX_INT_LENGTH digits (can be modified in BigInt.c file).

5.Type Exit to exit the calculator.



Real Life Application ...

- Account handling
- For Calculating Long Distances
- Number of bits in computer hard disk
- To determine GDP of country

Demo

```
$ ./bigCalc
Calc> 999999999999524635735*52985256955318
5298525695531548127022715991210887 30
Calc> 24565746275375773575426624264 62-2356462624646437357 5373
24565746039729511110782888510 89
Calc> 1111111111111111+246363727
1111111357474838
Calc> 253252986498628/-7942970
-31883915
Calc> Exit
$
```

Thankyou!

Rohit Dhiman

1910991113

rohit1113.cse19@chitkara.edu,in