Calc program:

1. reads inputs (if there are more or less than 5 arguments an error will occur).

2. then determines if number 1 and number 2 have negatives in front.

      if so then the array will point to the index of the arrays[1]

      records the negative value

3. then it checks numbers 1 and 2 base indicator (d|b|x|o)

      else will cause errors

4. after it determines base indicator

      if anything other than decimal

            toDecimal function is called with parameters (number and base indicator)

                  the toDecimal function take a char array and a base value. If base is 2, then

                  it will convert the binary string to decimal, if the base is 8 then it will

                  convert the octal value to decimal, if base is 16 then it will convert the

                  hex value to decimal. The function is designed to work the same for any base

                  as long as the base value is passed in as a parameter.

5. same will be implemented for num 2

6. Now that we have the two inputs as integers we will execute the operator

7. Based off of the operator (+, -, *)(all other will cause error) we find the sum value.

8. Based off of the 4th argument (d,b,x,o)

      we will convert sum variable to the proper base with the fromDecimal function.

9. fromDecimal function takes 3 parameters a char array(that will store our returned value),

      int base(which converts to appropriate base), and convNum(which is the sum variable that

      we will be converting)

10. Outputs return Char Array.

Challeneges:

1. assign correct pointers and formatting.

2. conversion to and from decimal to hex, octal, and binary.

3. negative binary conversion and bit mannipulation.

Runtime:

BigO - O(n)

Space - uses n memory

       function use arrays that take up additional memory.