

```
//V3 - Using Struct and i2p Library
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```

```
#include <stdio.h>
#include <stdlib.h>
#include "i2p.h"
```

```
Expression readexpression(void);
```

```
void displayExpression(Expression exp);
Fraction expressionValue(Expression exp);
Fraction addFractions(Fraction fr1, Fraction fr2);
Fraction subFractions(Fraction fr1, Fraction fr2);
Fraction mulFractions(Fraction fr1, Fraction fr2);
Fraction divFractions(Fraction fr1, Fraction fr2);
Fraction simplifyFraction(Fraction fr);
void displayFraction(Fraction fr);
```

```
int gcd(int a, int b); //a, b>0 a>=b
```

```
int main(int argc, char *argv[]) {
    int numOfExpressions;
    Expression exp;
    int i;

    // printf("Enter the number of expressions to evaluate: ");
    // scanf("%d",&numOfExpressions);
    numOfExpressions = getInt("Enter the number of expressions to
evaluate: ");
    for(i=0;i<numOfExpressions;i++){
        // exp=readexpression();
        exp=getExpressionV2();

        displayExpression(exp);

        Fraction result = expressionValue(exp);
        displayFraction(result);
        result= simplifyFraction(result);
        displayFraction(result);
    }
    return 0;
}
```

```
int gcd(int a, int b) //a, b>0 a>=b
```

```
{
    int t;
    while (b!=0)
    {
        t= b;
        b= a % t;
        a= t;
    }
    return a;
}
```

/ Παράδειγμα συνάρτησης με λειτουργικότητα
σαν την getExpressionV2()*

```
Expression readexpression(void)
{

    printf("Give expression: ");
    Expression value;
    fflush(stdin);
    scanf("%c", &value.operator);
    scanf("%d", &value.op1.ar);
    scanf("%d", &value.op1.par);
    scanf("%d", &value.op2.ar);
    scanf("%d", &value.op2.par);

    return value;
} */
```