REPORT #1
2016059216 컴퓨터소프트웨어학부 컴퓨터전공 이기택

- Compilation method and environment
  environment
  OS : ubuntu 16.04
  Complier : gcc 4.8.4
  Make : GNU make 3.91
  Makefile이 있는 폴더에서 make를 치면 컴파일이 되고 실행파일로 cminus, cminus_flex가 나옵니다.

- Explanation about how to implement and how to operate
./cminus ./test.cm
./cminus_flex ./test.cm

- Example and Result Screenshot

test.cm

```
/* A program to perform Euclid's
   Algorithm to computer gcd */

int gcd(int u, int v)
{
        if(v == 0) return u;
        else return gcd(v,u-u/v*v);
        /*u-u/v*v == u mod v */
}

void main(void)
{
        int x; int y;
        x = input(); y = input();
        output(gcd(x,y));
}
```

result

```
CMINUS COMPILATION: ./test.cm
  1: /* A program to perform Euclid's
  2:    Algorithm to computer gcd */
  3:
  4: int gcd(int u, int v)
        4: reserved word: int
        4: ID, name= gcd
        4: (
        4: reserved word: int
        4: ID, name= u
        4: ,
        4: reserved word: int
        4: ID, name= v
        4: )
  5: {
```

```
        5: {
 6:     if(v == 0) return u;
        6: reserved word: if
        6: (
        6: ID, name= v
        6: ==
        6: NUM, val= 0
        6: )
        6: reserved word: return
        6: ID, name= u
        6: ;
 7:     else return gcd(v,u-u/v*v);
        7: reserved word: else
        7: reserved word: return
        7: ID, name= gcd
        7: (
        7: ID, name= v
        7: ,
        7: ID, name= u
        7: -
        7: ID, name= u
        7: /
        7: ID, name= v
        7: *
        7: ID, name= v
        7: )
        7: ;
 8:     /*u-u/v*v == u mod v */
 9: }
        9: }
10:
11: void main(void)
        11: reserved word: void
        11: ID, name= main
        11: (
        11: reserved word: void
        11: )
12: {
        12: {
13:    int x; int y;
        13: reserved word: int
        13: ID, name= x
        13: ;
        13: reserved word: int
        13: ID, name= y
        13: ;
14:    x = input(); y = input();
        14: ID, name= x
        14: =
        14: ID, name= input
        14: (
        14: )
```

```
        14: ;
        14: ID, name= y
        14: =
        14: ID, name= input
        14: (
        14: )
        14: ;
 15:   output(gcd(x,y));
        15: ID, name= output
        15: (
        15: ID, name= gcd
        15: (
        15: ID, name= x
        15: ,
        15: ID, name= y
        15: )
        15: )
        15: ;
 16: }
        16: }
        17: EOF
```

test222.cm

```
/* A program to perform Euclid's
   Algorithm to computer gcd */

/* comment test ******



   /* comment Test */

int commentTest(int a, int b)
{
        *b = b * a;
        b -= a;

        return 3;

        b <= a;
        b >= a;
}

int gcd(int u, int v)
{
        if(v == 0) return u;
        else return gcd(v,u-u/v*v);
        /*u-u/v*v == u mod v */
}

void main(void)
```

```
{
        int x; int y;
        x = input(); y = input();
        output(gcd(x,y));
}

/* comment error check*
```

result

```
CMINUS COMPILATION: ./test222.cm
  1: /* A program to perform Euclid's
  2:    Algorithm to computer gcd */
  3:
  4: /* comment test ******
  5:
  6:
  7:
  8:    /* comment Test */
  9:
 10: int commentTest(int a, int b)
        10: reserved word: int
        10: ID, name= commentTest
        10: (
        10: reserved word: int
        10: ID, name= a
        10: ,
        10: reserved word: int
        10: ID, name= b
        10: )
 11: {
        11: {
 12:    *b = b * a;
        12: *
        12: ID, name= b
        12: =
        12: ID, name= b
        12: *
        12: ID, name= a
        12: ;
 13:    b -= a;
        13: ID, name= b
        13: -
        13: =
        13: ID, name= a
        13: ;
 14:
 15:    return 3;
        15: reserved word: return
        15: NUM, val= 3
        15: ;
 16:
```

```
략  17:          b <= a;
        17: ID, name= b
        17: <=
        17: ID, name= a
        17: ;
 18:    b >= a;
        18: ID, name= b
        18: >=
        18: ID, name= a
        18: ;
 19: }
        19: }

 중복 생

 34:
 35: /* comment error check*
        36: EOF
```