Homework #5
010.133 Digital Computer Concept and Practice
Due : 11:59PM, May 27, 2013

1. Write an preprocessed code of main function in example C code. And write a result.

★ Constraint : Do not use gcc compiler.

```
#define ADD(x, y) (x + y)
#define SQUARE(x) (x * x)
#define PRINT(x) printf("%d\n", x)


int main()
{
        int a = 7;
        int b = 2;

        PRINT(SQUARE(ADD(a, b)+2));
        PRINT(ADD(SQUARE(a)+7, SQUARE(b)+8));

        return 0;
}
```

Figure 3

2. Write an C code that performs integer factorization.

★ Constraint

1) You should implement two user function : Integer Factorization, Prime Check
2) You must not use arrays, structures, etc. (Out of our lecture until week 11)
3) You can use math library function, sqrt(x) what returns square root of x.
   3-1) This function requires header file <math.h>
4) The program is terminated when user entered under 2.

```
Please enter number : 360
360 = (2^3)*(3^2)*5
Please enter number : 28
28 = (2^2)*7
Please enter number : 121
121 = 11^2
Please enter number : 21
21 = 3*7
Please enter number : 3
3 is prime!
Please enter number : 1
Bye!
```
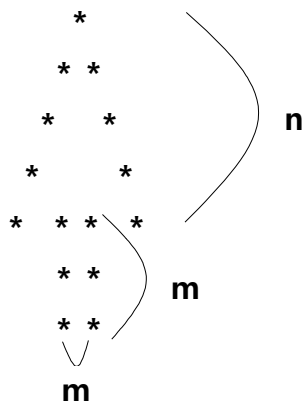
Table 1. Form of input / output

3. Enter integer n and m, print the following picture using 'for statement'

★ Constraint

1) m should be odd

2) n can be both even and odd

3) n should be larger than m

4) error checking code covering these constraints should be included

example)

if n = 5 , m = 3

```
        *        \
       * *        \
      *   *        )  n
     *     *      /
    * * * \ *    /
       * *   )  m
       * *  /
        \/
        m
```

4. Submission

실습 서버(comprac.snu.ac.kr:1322) 각 계정에 **hw5** 폴더를 만들어 놓았습니다. 위 세 문제에 대한 소스코드를(확장자는 .c) 각각 **HW5_1.c, HW5_2.c, HW5_3.c (HW는 대문자)** 파일로 저장해놓으면 제출기한에 맞춰 자동으로 수거할 예정입니다.

경고) 파일명이 틀리면 채점이 안될 수 있으니 유의하기 바랍니다.