

Programming Language (A 반) Lab. 1

1.1 Finding the greatest common divisor of two given integer numbers

- 1) Design an algorithm in pseudo code that finds the greatest common divisor of two given integer numbers, **gcd(a, b)**. The algorithm should use a modulo function called “mod(a, b)” which is returning the remainder of a / b .

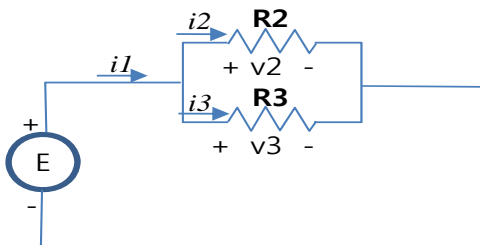
Additional characteristics of gcd(a, b) are as follows:

- gcd (a, 0) = a
- gcd (a, b) = gcd (b, mod(a, b)), when $a > b$

- 2) Write a C++ program that implements the designed algorithm of finding the greatest common divisor of two given integer numbers.

1.2 Calculation of current, voltage drop in electronic circuit

- 1) Write an algorithm in pseudo code that computes the currents i_1 , i_2 , i_3 , and voltage drops v_2 , v_3 of the parallel electronic circuit, as shown below.
- 2) Write a C++ program to produce the results of currents and voltage drops when the given electric power E is 10 volts, and resistors R2 and R3 have values of $1 \sim 5 \Omega$.



E	R2	R3	v2	v3	i1	i2	i3
10	1	1					
10	1	2					
10	1	3					
.....							
10	5	5					