Fundamentals of Computer Programming 2
Practice Problems – January 15, 2003

Instructor: Ravi Kant   Ryerson 177   e-mail: ravikant@cs.uchicago.edu
Office Hours : Wed, Fri : 1:00PM - 1:45PM

TA: Xiaofei He   Eck 2-B   e-mail: xiaofei@cs.uchicago.edu

Iteration with the "while" statement

while statement	*do-while* statement

while (*exp*) {
    statement1;
    statement2;
    ...
    statementn;
}
	do {
	    statement1;
	    statement2;
	    ...
	    statementn;
	} while (*exp*);

Problems

1. Write a program to to generate the first 100 fibonacci numbers. Write another version of this program that generates the first k fibonacci numbers where k is an integer input by the user.

2. Write a program that generates all fibonacci numbers less than 1000.

3. Write a program that computes the gcd (greatest common divisor) of two integers (input by the user). (use the "brute force" algorithm : start with 2 and test if both integers are divisible by it, move on to 3 etc.).

Note

The fibonacci sequence is : $0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, \ldots$. i.e. the n'th fibonacci number is the sum of the (n-1)'th and (n-2)'th fibonacci numbers.