Compute the N^{th} Fibonacci Number (QBASIC)

```
SUB fibonacci (N)
   IF N=0 THEN  PRINT 0
   IF N=1 THEN  PRINT 1
   IF N>1 THEN
      N1 = 0
      N2 = 1
      S = 1
      I = 1
      DO
         S = N1 + N2
         N1 = N2
         N2 = S
         I = I + 1
      UNTIL  I = N
      PRINT S
   END IF
END SUB
```

Compute the N^{th} Fibonacci Number (LISP)

```
(defun fibonacci (n)
  (cond ((eq n 0) 0)
        ((eq n 1) 1)
        (T  (prog  ((nextlast 0)
                    (last 1)
                    (index 1)
                    fib )
                A  (setf index (+ index 1))
                   (setf fib (+ last nextlast))
                   (setf nextlast last)
                   (setf last fib)
                   (cond ((< index N) (go A)))
                   (return fib) )) ) )
```

Compute the N^{th} Fibonacci Number (Prolog)

```
fib(0, 0) :- !.
fib(1, 1) :- !.
fib(N, FIB) :- fastfib(0, 1, 1, 1, N, FIB).
fastfib(N2, F2, N1, F1, N1, F1) :- !.
fastfib(N2, F2, N1, F1, N, FIB) :-
    NewF is F2+F1,
    NewN is N1+1,
    fastfib(N1, F1, NewN, NewF, N, FIB).
```

Compute the N^{th} Fibonacci Number (C++)

```
int fibonacci
  (int n)
{
  if (n == 0 || n == 1)
    return 1;
  else
    return fibonacci(n-2) + fibonacci(n-1);
}
```