FUNCTOOL

functools.reduce(*function*, *iterable*[, *initializer*])

Apply *function* of two arguments cumulatively to the items of *sequence*, from left to right, so as to reduce the sequence to a single value. For example,

reduce(lambda x, y: x+y, [1, 2, 3, 4, 5]) calculates ((((1+2)+3)+4)+5).

The left argument, *x*, is the accumulated value and the right argument, *y*, is the update value from the *sequence*. If the optional *initializer* is present, it is placed before the items of the sequence in the calculation, and serves as a default when the sequence is empty. If *initializer* is not given and *sequence* contains only one item, the first item is returned.

Roughly equivalent to:

def reduce(function, iterable, initializer=None):

it = iter(iterable)

if initializer is None:

value = next(it)

else:

value = initializer

for element in it:

value = function(value, element)

return value

input0.txt

|  |  |
| --- | --- |
| print 1 | PUSHC 1.0  PRINT |

input1.txt

|  |  |
| --- | --- |
| **toto = 12\*-3+4;**  **a = toto+1**; print 2\*a;  b = a\*2;  print b | **PUSHC 12.0**  **PUSHC 3.0**  **USUB**  **MUL**  **PUSHC 4.0**  **ADD**  **SET toto**  PUSHV toto  PUSHC 1.0  ADD  SET a  PUSHC 2.0  PUSHV a  MUL  PRINT  PUSHV a  PUSHC 2.0  MUL  SET b  PUSHV b  PRINT |

input2.txt

|  |  |
| --- | --- |
| a=0;  **while (a-10) {**  print a;  a = a+1  } | PUSHC 0.0 **a=0**  SET a  **JMP cond1**  **body1:** PUSHV a **print a**  PRINT  PUSHV a **a=a+1**  PUSHC 1.0  ADD  SET a  **cond1:** PUSHV a **(a-10)**  PUSHC 10.0  SUB  **JINZ body1** |

input3.txt

|  |  |
| --- | --- |
| a=0;  **while (a-10)** {  b = 0;  **while (b-2)** {  print a;  print b;  b = b+1  };  a = a+1  };  print 100 | PUSHC 0.0 a=0  SET a  **JMP cond1**  **body1**: PUSHC 0.0 b = 0  SET b  **JMP cond2**  **body2:** PUSHV a print a  PRINT **"**  PUSHV b print b  PRINT "  PUSHV b b=b+1  PUSHC 1.0 "  ADD "  SET b "  **cond2: PUSHV b (b-2)**  PUSHC 2.0  SUB  **JINZ body2**  PUSHV a a=a+1  PUSHC 1.0 "  ADD "  SET a "  **cond1: PUSHV a (a-10)**  PUSHC 10.0 "  SUB "  **JINZ body1**  PUSHC 100.0  PRINT |