Iterative double factorial P17913_en

Write an iterative function that returns the double factorial $n!!$ for a natural n.

Recall that $n!! = n \times (n-2) \times (n-4) \times \ldots$. For instance, $9!! = 9 \times 7 \times 5 \times 3 \times 1 = 945$ and $8!! = 8 \times 6 \times 4 \times 2 = 384$. By definition, $0!! = 1!! = 1$.

Interface

C++,C	**int** *double_factorial* (**int** x);
Java	**public static int** *doubleFactorial* (**int** x);
Python	*double_factorial* (x) # returns int
	double_factorial (x: *int*) $\rightarrow$ *int*

Precondition

Assume $0 \leq n \leq 19$.

Observation

You only need to submit the required procedure; your main program will be ignored.

Problem information

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Generation : 2024-04-30 16:10:36