
Recursive double factorial

P61384_en

Write a recursive function that returns $n!!$.

Recall that $n!! = n \times (n - 2) \times (n - 4) \times \dots$. 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++      int double_factorial (int n);
C        int double_factorial (int n);
Java     public static int doubleFactorial (int n);
Python   double_factorial (n) # returns int
         double_factorial (n: int) → 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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