
1.25 Develop an algorithm for adding all prime numbers between 0 and a given number.

Solution

- (1) Start with $sum = 0$. If the given integer $x = 1$, then $sum = 0$ and stop. If the given integer $x = 2$, then $sum = 1$ and stop.
- (2) Given an integer $x > 2$, for $i = 2$ to $x - 1$, find out if i is a prime number using for example, the algorithm from problem (1.19).
- (3) If i is a prime number, then set $sum = sum + 1$.
- (4) Set $sum = sum + 3$ (accounting for the trivial prime numbers 1 and 2), and stop.

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