```
EXTENDS Integers, GCD
CONSTANT M, N
ASSUME // M. \in Nat. \. {0}
--algorithm_Euclid_{
|x| | variables | |x| | = |M, |y| | = |N|;
\cup \cup \{\cup \cup while \cup (x_{\cup} \#_{\cup} y) \cup \{\cup if \cup (x_{\cup} \vee_{\cup} y) \cup \{\cup y \cup : =_{\cup} y_{\cup} -_{\cup} x_{\cup} \}\}
_____}
___}
PartialCorrectness ===
\square \square (pc_{\square} = \square Done) \square = \square (x_{\square} = \square y) \square / \square (x_{\square} = \square GCD(M, \square N))
Ш
TypeOK_{\square} = =_{\square} / \setminus_{\square} x_{\square} \setminus in_{\square} Nat_{\square} \setminus_{\square} \{0\}
UUUUUUUUU/\uyu\inuNatu\u{0}
Inv_{\sqcup} = =_{\sqcup} / \setminus_{\sqcup} TypeOK
CLOSE
```