

## Extended Euclidean Algorithm

```
function inverse(a, n)
  t := 0;      newt := 1;
  r := n;      newr := a;
  while newr ≠ 0
    quotient := r div newr
    (t, newt) := (newt, t - quotient * newt)
    (r, newr) := (newr, r - quotient * newr)
  if r > 1 then return "a is not invertible"
  if t < 0 then t := t + n
  return t
```