

```

module GCD1
  (nat ?a, ?b, !gcd)
{

  nat x, y;
  x = a;
  y = b;
  while(x > 0) {
    if(x >= y)
      next(x) = x-y;
    else
      next(y) = y-x;
    l: pause;
  }
  gcd = y;
}

```

(a) Single Clock

```

module GCD2
  (nat ?a, ?b, !gcd)
{
  clock(C1) {
    nat x, y;
    x = a;
    y = b;
    while(x > 0) {
      if(x >= y)
        next(x) = x-y;
      else
        next(y) = y-x;
      l: pause(C1);
    }
  }
  gcd = y;
}

```

(b) Clock Refinement