```
START
WAIT 1
INIT
LOOP_COND
LOOP_BODY
WAIT 0
// inputs: go, x, y
// outputs: output, done
// reset values (add any others that you might need)
output = 0;
done = 0;
while(1) {
      // wait for go to start circuit
      while (go == 0);
done = 0;
      // store inputs in registers
      tmpX = X;
      tmpY = Y;
      // main GCD algorithm
      while (tmpX != tmpY) {
   if (tmpX < tmpY)
                tmpY = tmpY - tmpX;
             else
               tmpX = tmpX - tmpY;
      }
      // assign output and assert done
      output = tmpX;
      done = 1;
      // make sure go has been cleared before starting again
      while (go == 1);
```