

Q13

Flowchart

Start

Input: $M_{jug}, N_{jug}, M > N, N, GCD$ Is $V > M \parallel$ V_{not}
calculable

No

Yes

 $i = N$ $N = M \% N$ $M = i$

Invalid Volume

Yes

While $V \neq M \parallel$
& $V \neq N$

No

Required vol
Found

Stop

Pseudocode

Start

Input

 M_{jug} and N_{jug}, V, GCD

Process

 $M > N$

If

 $V > M$

Output

Invalid volume

if

 $V \% (M \parallel N) \neq 0$

Output

Cannot measure volume

Else if

for $i = N$ $N = M \% N$ $M = i$ $V = GCD(M, N)$

Stop Output "V can be measured"

IPO

Input

M jug
N jug
Volume

Process

Using euclidean formula
we can check if Volume
can be checked or not

Output

"Volume can be
measured"

or
"Volume cannot be
measured"

Explanation: The program using euclidean formula and equation calculates if the jugs can be filled to a certain volume or not. As the jugs can be filled and emptied according to our their can be more than one way to get the required result