

1. Using a temp variable t the values can be rotated like this -

$$t \leftarrow a, a \leftarrow b, b \leftarrow c, c \leftarrow d, d \leftarrow t$$
2. At step [E3] r is assigned to n and n to m . As r is remainder of division of m by n , r should be $< n$. Hence $m < n$.
3. Below are the steps of modified algorithm [F] which takes m and n as input.
[F1] Divide m by n and let the remainder by r .
[F2] if $r = 0$ return n . Terminate
[F3] Invoke [F] with n, r as input and return result.
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5. From the procedure reading the book following properties are missing which means it's not a proper algorithm.
 - Finiteness is missing - the whole procedure goes in a loop and does not actually terminate.
 - Output is missing - the procedure does not a definite output.
 - Effectiveness is missing - The steps cannot be done on pencil/paper or a real computer realistically.
Comparison with [E]: [E] terminates after finite number of steps and is effective(steps can be performed on pen and paper and has definite output.
6. The answer should be close to 3. I dint calculate the exact value though.
7. $T_m + 1 = U_m$