4.

- By rn-1=qn+1 rn, we have rn | qn+1rn (rn|rn)

Ex:,rn|rn-1

-Suppose that k<= n-2 and let rn |rk and rn|rk-1

:By equation k we have rk-2=qkrk-1+rk

Now rn|rk and also rn|rr-k => rn | qkrk-1

So rn| (qkrk-1+rk). So by equation k,

we get rn|rk-2. This assuming the result for k and k-1

we have moved for k-2.

This by induction, it follows that rn|r1

-We have rn|r1, rn|q2r

So rn|(q2r1+r2) by second equation, rn|b

5.

Now rn|b to rn|q1b.

Also rn|r1 to q1b+r1

rn|( q1b+r1) meaning rn|a