Example of CRC computation from the slides today.

The message for which we want to compute the CRC is D=101110.

The Generator specified is G=1001. The checksum will have 1 fewer bits than the Generator, i.e. r=3. To compute the checksum, R, shift D left r bits (appending 0s) then divide by G, using XOR in the role of subtraction in ordinary long division.

101011	_	the quotient is not used
1001 101110 <mark>000</mark>		
<u>1001</u>		
0101		
0000		
1010		
<u>1001</u>		
0110		
<u>0000</u>		
1100		
<u>1001</u>		
1010		
1001		
011	=	R, the CRC checksum

The message sent is therefore 101110011. If you divide this by the generator G you should get a remainder of 000. Let's see:

101011	_	the quotient is not used
1001 101110 <mark>011</mark>		
1001		
0101		
0000		
1010		
<u>1001</u>		
0110		
0000		
1101		
<u>1001</u>		
1001		
<u>1001</u>		
000		

I suggest you try going through the computation with a changed bit and see what happens.