

$$\text{I } A = 202 = 1100 \ 1010$$

$$B = 7 = 0000 \ 0111$$

count	P	A	B (k=5)
00	$\begin{array}{r} 0 \ 0000 \ 0000 \\ \hline 0 \ 0001 \ 1001 \\ \hline 2=0 \\ 0 \ 0110 \ 0101 \\ \hline 2=2 \end{array}$	$\begin{array}{r} 1100 \ 1010 \\ 0100 \ 0000 \end{array}$	$\begin{array}{r} 0000 \ 0111 \\ 1110 \ 0000 \Rightarrow k=14 \\ B=0 \ 1110 \ 0000 \\ -B=1 \ 0010 \ 0000 \\ 2B=1 \ 1100 \ 0000 \\ -2B=0 \ 0100 \ 0000 \end{array}$
01	$\begin{array}{r} 1 \ 1001 \ 0100 \\ -1 \ 1100 \ 0000 \\ \hline 1 \ 1101 \ 0100 \\ \hline 2=7 \end{array}$	$\begin{array}{r} 0000 \ 0010 \\ 0000 \end{array}$	
10	$\begin{array}{r} 1 \ 0101 \ 0000 \\ +0 \ 1110 \ 0000 \\ \hline 0 \ 0011 \ 0000 \\ \hline 2=1 \end{array}$	$\begin{array}{r} 0000 \ 1000 \\ 00 \ 0001 \end{array}$	
11	$\begin{array}{r} 0 \ 1100 \ 0000 \\ -0 \ 1110 \ 0000 \\ \hline (1) \ 1110 \ 0000 \end{array}$	$\begin{array}{r} 0010 \ 0001 \\ 0000 \ 0100 \end{array}$	+1
correctie	$\begin{array}{r} +0 \ 1110 \ 0000 \\ \hline 0 \ 1100 \ 0000 \end{array}$	$\begin{array}{r} 0010 \ 0001 \\ 0000 \ 0101 \end{array}$	-
shift	$\begin{array}{r} 0 \ 0000 \ 0110 \\ \hline \text{rest} = 6 \end{array}$	$\begin{array}{r} 0001 \ 1100 \\ \hline \text{cat} = 28 \end{array}$	

$$\text{II } A = 211 = 1101 \ 0011$$

$$B = 6 = 0000 \ 0110$$

count	P	A	B $k=5$
00	$\begin{array}{r} 0 \ 0000 \ 0000 \\ 0 \ 0001 \ 1010 \\ \hline 2=0 \\ 0 \ 0110 \ 1001 \\ \hline 2=2 \end{array}$	$\begin{array}{r} 1101 \ 0011 \\ 0110 \ 0000 \\ 1000 \ 0000 \\ 00 \end{array}$	$\begin{array}{r} 0000 \ 0110 \\ \boxed{0110} \ 0000 \ k=12 \\ B=0 \ 0110 \ 0000 \\ -B=1 \ 1010 \ 0000 \\ 2B=0 \ 1100 \ 0000 \\ -2B=1 \ 0100 \ 0000 \end{array}$
01	$\begin{array}{r} 1 \ 1010 \ 0110 \\ -1 \ 1000 \ 0000 \\ \hline 0 \ 0010 \ 0110 \\ \hline 2=1 \end{array}$	$\begin{array}{r} 0000 \ 0010 \\ 00 \ 00 \end{array}$	
10	$\begin{array}{r} 0 \ 1001 \ 1000 \\ -0 \ 1100 \ 0000 \\ \hline 1 \ 1101 \ 1000 \\ \hline 2=1 \end{array}$	$\begin{array}{r} 0000 \ 1001 \\ 00 \ 0000 \end{array}$	
11	$\begin{array}{r} 1 \ 0110 \ 0000 \\ +0 \ 1100 \ 0000 \\ \hline 0 \ 0010 \ 0000 \end{array}$	$\begin{array}{r} 0010 \ 0100- \\ \hline 0000 \ 0001 \end{array}$	
conv & shift	$\begin{array}{r} 0 \ 0000 \ 0001 \\ \text{rest} = 1 \end{array}$	$\begin{array}{r} 0010 \ 0011 \\ \text{cat} = 35. \end{array}$	

III $A = 101 = 0110 \ 0101$
 $B = 5 = 0000 \ 0101$

count	P	A	B	k=5
00	$\begin{array}{r} 0 \ 0000 \ 0000 \\ 0 \ 0000 \ 1100 \\ \hline 2=0 \\ 0 \ 0011 \ 0010 \\ \hline 2=1 \end{array}$	$\begin{array}{r} 0110 \ 0101 \\ 1010 \ 0000 \\ 1000 \ 0000 \\ 00 \end{array}$	$\begin{array}{r} 0000 \ 0101 \\ 1010 \ 0000 \ k=10 \\ B=0 \ 1010 \ 0000 \\ -B=1 \ 0110 \ 0000 \\ 2B=1 \ 0100 \ 0000 \\ -2B=0 \ 1100 \ 0000 \end{array}$	
01	$\begin{array}{r} 0 \ 1100 \ 1010 \\ + \ 1 \ 0110 \ 0000 \\ \hline 0 \ 0010 \ 1010 \\ \hline 2=1 \end{array}$	$\begin{array}{r} 0000 \ 0001 \\ 0000 \end{array}$		
10	$\begin{array}{r} 0 \ 1010 \ 1000 \\ + \ 1 \ 0110 \ 0000 \\ \hline 0 \ 0000 \ 1000 \\ \hline 2=0 \end{array}$	$\begin{array}{r} 0000 \ 0101 \\ 00 \ 0000 \end{array}$		
11	$\begin{array}{r} 0 \ 0010 \ 0000 \\ 0 \ 0000 \ 0001 \\ \hline \end{array}$	$\begin{array}{r} 0001 \ 0100 \\ 0000 \ 0000 \end{array}$		
	$\begin{array}{r} 0 \ 0000 \ 0001 \end{array}$	$\begin{array}{r} 0001 \ 0100 \end{array}$		

rest = 1

cat = 20

IV

216/21 SRT-4

$$216 = 7654 \ 3210$$

$$216 = 1101 \ 1000$$

$$21 = 0001 \ 0101$$

count	S	P	A	B	k=3
00	0	0 0000 0000	1101 1000	B = 0001 0101	
	0	0 0000 0110	1100 0000	1010 1000	
		$q_0 = 0$		B = 00 1010 1000	
	0	0 0001 1011	0000 000	-B = 11 0101 1000	
01	0	0 0110 1100	0000 01	2B = 01 0101 0000	
	+	1 1 0101 1000		-2B = 10 1011 0000	
	+	1 1100 0100			
10	1	1 0001 0000	0001 1		
	+	0 0 1010 1000			
		1 1 1011 1000			
11	1	0 1110 0000	0111		
	+	0 1 0101 0000			
		0 0 0011 0000			

Shift &
conv

000 0110

result = (6)

$$01\overline{1}\overline{2} = 0 \cdot 4^3 + 1 \cdot 4^2 - 1 \cdot 4^1 - 2 \cdot 4^0$$

$$= 16 - 4 - 2$$

$$= 10 \text{ (actual)}$$