

Example of S-DES algorithm

If suppose K value is given as.

$$K = 10100\ 00010 \quad (10 \text{ bit})$$

Now apply $P(10)$ permutation.

According to $P(10)$ permutation

input :	1	2	3	4	5	6	7	8	9	10
output :	3	5	2	7	4	10	1	9	8	6

When we apply $P(10)$ on K .

then output would be $P_{10} = 1000001100$

$$P_{10} = \boxed{10000} \boxed{01100}$$

$$\text{Left shift-1} = \boxed{00001} \boxed{1000}$$

Then apply $P(8)$ permutation.

According to $P(8)$ permutation

input :	1	2	3	4	5	6	7	8	9	10
output :	5	3	7	4	8	5	10	9		

~~Now perform left shift-2 =~~

$$P(8) = 10100100 \rightarrow (K_1)$$

now after left shift - 2.

answer would be

$$\text{Left shift } -2 = 00100\ 00011$$

then again apply $P(8)$ on Left shift - 2

so answer would be

$$P_8 = 01000\ 011 \text{ --- } (K_2)$$

like this K_1 & K_2 would be calculated