**S-DES: required data:**

**P10 is defined as follows:**

3 5 2 7 4 10 1 9 8 6

**P8 is defined as follows:**

6 3 7 4 8 5 10 9

**Initial Permutation:**

Diagram

Description automatically generated with low confidence

**Inverse Permutation:**A picture containing text, clock

Description automatically generated

**Expansion Function:**

Table

Description automatically generated

**P4 Permutation:**

Table

Description automatically generated

**S-Boxes:**

A picture containing table

Description automatically generated