**S-AES: required data:**

1. **Key generation:**

**Graphical user interface, text

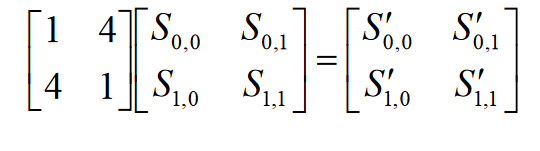
Description automatically generated**

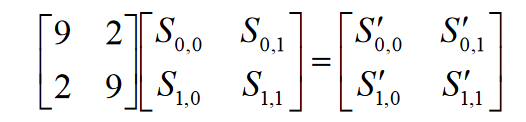
1. **Substitution Boxes:**

**Table

Description automatically generated**

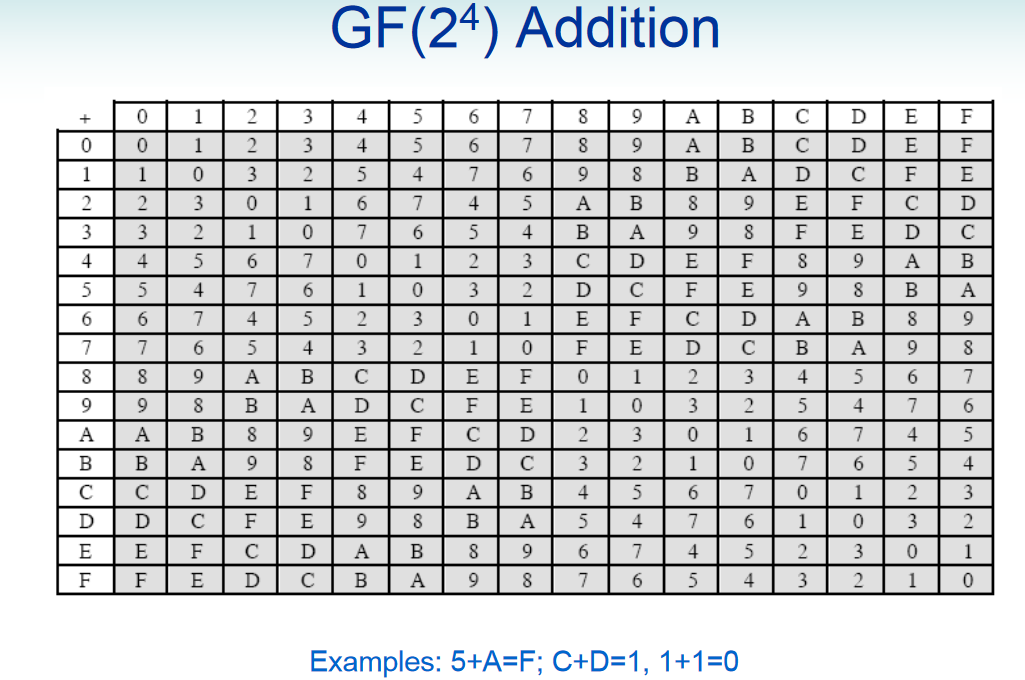
1. **mix column**

****

1. **Inverse mix column**
2. **GF multiplication table:**

**Table

Description automatically generated**

1. **GF addition table:**