**Program Output ( Encryption )**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Key/Message: | 0000 | 0001 | 0010 | 0011 | 0100 | 0101 | 0110 | 0111 | 1000 | 1001 | 1010 | 1011 | 1100 | 1101 | 1110 | 1111 |
| 00 | 1001 | 1000 | 0011 | 0010 | 1100 | 1101 | 0110 | 0111 | 0001 | 0000 | 1011 | 1010 | 0100 | 0101 | 1110 | 1111 |
| 01 | 1111 | 1110 | 0101 | 0100 | 1010 | 1011 | 0000 | 0001 | 0111 | 0110 | 1101 | 1100 | 0010 | 0011 | 1000 | 1001 |
| 10 | 0110 | 0111 | 1100 | 1101 | 0011 | 0010 | 1001 | 1000 | 1110 | 1111 | 0100 | 0101 | 1011 | 1010 | 0001 | 0000 |
| 11 | 0000 | 0001 | 1010 | 1011 | 0101 | 0100 | 1111 | 1110 | 1000 | 1001 | 0010 | 0011 | 1101 | 1100 | 0111 | 0110 |

**Program Output ( Decryption )**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Key/Message: | 0000 | 0001 | 0010 | 0011 | 0100 | 0101 | 0110 | 0111 | 1000 | 1001 | 1010 | 1011 | 1100 | 1101 | 1110 | 1111 |
| 00 | 1001 | 1000 | 0011 | 0010 | 1100 | 1101 | 0110 | 0111 | 0001 | 0000 | 1011 | 1010 | 0100 | 0101 | 1110 | 1111 |
| 01 | 0110 | 0111 | 1100 | 1101 | 0011 | 0010 | 1001 | 1000 | 1110 | 1111 | 0100 | 0101 | 1011 | 1010 | 0001 | 0000 |
| 10 | 1111 | 1110 | 0101 | 0100 | 1010 | 1011 | 0000 | 0001 | 0111 | 0110 | 1101 | 1100 | 0010 | 0011 | 1000 | 1001 |
| 11 | 0000 | 0001 | 1010 | 1011 | 0101 | 0100 | 1111 | 1110 | 1000 | 1001 | 0010 | 0011 | 1101 | 1100 | 0111 | 0110 |