We decrypted the binary text using online tools and used 43MKB as ASCI key. and got the problem.

question reduces to:
A is a 4×4 matrix is composed of elements 0, 1 and 2. Both A and A^2, have an eigen vector $[1,1,1,1]$ corresponding to the same eigen find number of such matrices.

from definition of eigen values.
$AX = \lambda X$

$$\begin{bmatrix} a & b & c & d \\ e & f & g & h \\ i & j & k & l \\ m & n & o & p \end{bmatrix} \begin{bmatrix} 1 \\ 1 \\ 1 \\ 1 \end{bmatrix} = \lambda \begin{bmatrix} 1 \\ 1 \\ 1 \\ 1 \end{bmatrix}$$

$$\Rightarrow \quad a+b+c+d = \lambda \quad -(1)$$
$$e+f+g+h = \lambda \quad -(2)$$
$$i+j+k+l = \lambda \quad -(3)$$
$$m+n+o+p = \lambda \quad -(4)$$

where $\lambda \in [0,8]$ since a,b,c,d can takes values only from $0,1,2$

So essentially we have to solve.
$$a+b+c+d = x$$
where $x \in [0,8)$.

Since all the cases (1) to (4) are mutually independent so total cases can be found by $(\text{no. of ways of any one case})^4$.
Since all are identical.

Now, we will find the answer of the code in the above issue using python.

In the loop, we have taken values of a, b, c, d ranging in the loop.