* SJA Algorithm :- (Sarvesh Jaiswal Algorithm)

* Encryption steps :-

① Take input :-
   a) key
   b) data

ex. key = 1 2 3 4
    data = zeal

② Make binary format of both key and data.

a) key = 1 2 3 4

1 = 00110001
2 = 00110010
3 = 00110011
4 = 00110100

b) data = zeal

z = 01111010
e = 01100101
a = 01100001
l = 01101100

③ Taking last bit of each key value

key = 1 2 3 4

1 = 0 0 1 1 0 0 0 [1]
2 = 0 0 1 1 0 0 1 [0]
3 = 0 0 1 1 0 0 1 [1]
4 = 0 0 1 1 0 1 0 [0]

and combine all last bits as:
= 1 0 1 0 - last bits.

④ Bind all the binary as

B = Key Binary + last bits + Data Binary + last binary

ex. 00110001 00110010 00110011 00110100 + 1010
1 2 3 4 last bits

+ 01111010 01100101 01100001 01101100 + 1010
z e a l last bits

⑤ Masking of bits

We replace the '0' as '*'
and '1' as '#'

O/P:- **##[1] ***# **##[2]*#*# **##[3]*### **##[4]*#**
and so on...

* SJA Algorithm :- (Sarvesh Jaiswal Algorithm)

* Decryption steps :-

① Take input :-
   a) key
   b) Encrypted data

   a) key = 1234
   b) Encypted data = *##*****# — so on.

② Remove masking of Encrypted Data.

   - By replacing '*' as '0'
     '#' as '1'

   ex. *##*****#
       01100010

③ Generate Binary for key

   key = 1234

   00110001 (1) 00110010 (2) 00110011 (3) 00110100 (4)

   Get a length of key binary

   Here, length of key is = 32

④ Make a substring of Encrypted data according to key length.

We have, key length = 32

Then we trim Encrypted data from 0 to 31 index.

⑤ Comparing both keys

a) We provided key as input
b) Encrypted data key

as we know, Formula for encrypting.

Key Binary + last bits + data bits + last bits

so, we compare 0 - 31 bits with provided key.

⑥ If both key are same

Then,

B = key length + last bits len + Total Encrypted Data Len + last bits
32 + 4 trim bits 4

We make substring starting index is = 32 + 4
last index is = Total bits - 4
= 72 - 4
= 68

Our Data Available from 37 to 68 index.

⑦ Converts binary to Character.