

Transform the Array

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1 Introduction

We have received a transmission from 'AGENT GOBBLYGOOK'! They allude to some kind of code the 'administration' is using. It seems there are ways to encode letters as numbers and they sent along an example.

ACTNOW \rightarrow 626200880

If we want to include numbers in our code, then we have at least 10 entries for the values 0 through 9. Then if we want to use all possible letters in the English alphabet, we need at least 26 more entries. So we can encode $A = 10$, $B = 11$, $C = 12$, etc.

Then

$$10 \cdot 36^5 + 12 \cdot 36^4 + 29 \cdot 36^3 + 23 \cdot 36^2 + 24 \cdot 36 + 32 = 626200880$$

We were sent several more messages from the hive mind. If we can crack this code we can find our hidden password. It seems like sometimes not all of the letters were used though. This is certainly strange!

$$\begin{aligned}
\text{SE}_{\star} &= 966 \\
\text{QUE}_{\bullet} &= 25930 \\
\text{NCE}_{\ominus} &= 3?169 \\
\text{INI}_{\triangleleft} &= 408\odot 1 \\
\text{TIA}_{\vee} &= 382\wedge 2 \\
\text{TED}_{\circ} &= 32\otimes *6
\end{aligned}$$

$$\begin{aligned}
\text{_____}_{\star} &= 34636 \\
\text{_____}_{\bullet} &= 12557974 \\
\text{_____}_{\ominus} &= 72536066 \\
\text{_____}_{\triangleleft} &= 65340886 \\
\text{_____}_{\vee} &= 37390 \\
\text{_____}_{\circ} &= 1258627316651
\end{aligned}$$

$$\text{_____}_x = 14\otimes 70\odot 1?466\wedge 0*4$$