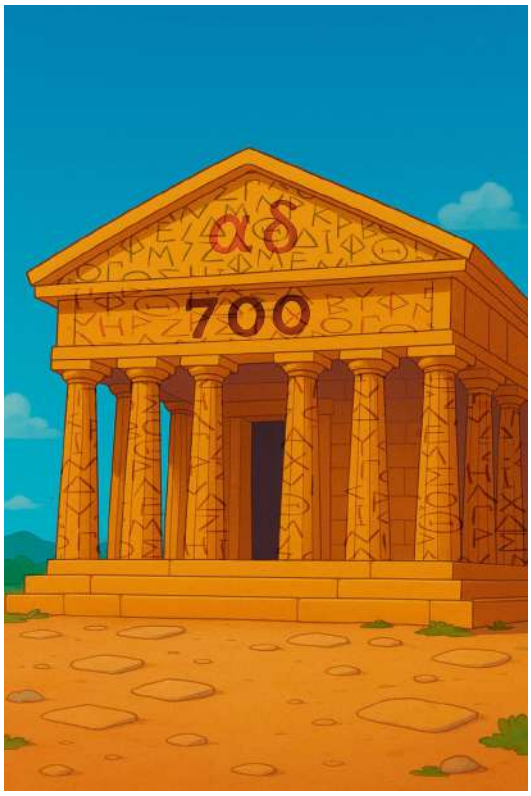
Problem 6. «A Greek cipher»

To encrypt the three-letter message we did the following. We matched each letter with it's numeric equivalent according to the table, and got p_1, p_2, p_3.

0 ␣	1 A	2 B	3 C	4 D	5 E	6 F	7 G	8 H	9 I
10 J	11 K	12 L	13 M	14 N	15 O	16 P	17 Q	18 R	19 S
20 T	21 U	22 V	23 W	24 X	25 Y	26 Z			

Then we chose secret natural number δ and formed $p_4 = p_1 + p_2 + p_3 + \delta$.
After that we chose another secret natural number α and calculated for $i = 1, 2, 3, 4$

$$c_i = p_i + 2p_{i+1} + (-1)^{\frac{i+1}{2}} \cdot \delta \bmod 27, \text{ if } i \text{ is odd},$$

$$c_i = p_{i-1} + p_i + (-1)^{\frac{i}{2}} \cdot \alpha \bmod 27, \text{ if } i \text{ is even}.$$

As a result we have got: «WGAD». Recover the secret message.