

information?

Input

The input will consist of several messages encoded with Ohaver's algorithm, each of them on one line. Each message will use only the twenty-six capital letters, underscores, commas, periods, and question marks. Messages will not exceed 1000 characters in length.

Output

For each message in the input, output the decoded message on one line.

Examples

Nº	stdin	stdout
1	FENDSVTSLHW.EDATS,EULAY TRDNWPLOEF NTTTGAZEJUIIGDUZEHKUE QEWOISE.EIVCAEFNRXTBELYTG. ?EJHUT.TSMYGW?EJHOT DSU.XFNCJEVE.OE_UJDXNO_YHUVIDWDHPDJIKXZT? E ADAWEKHZN,OTEATWRZMZN_IDWCZGTEPION	FALSE_SENSE_OF_SECURITY CTU_PRAGUE TWO_THOUSAND_THIRTEEN QUOTH_THE_RAVEN,_NEVERMORE. TO_BE_OR_NOT_TO_BE? THE_QUICK_BROWN_FOX_JUMPS_OVER_THE_LAZY_DOG ADAPTED_FROM_ACM_GREATER_NY_REGION