## The real sine

Compute 101 significant figures of the sine of a real number.

## Input

The first line of the input contains the number of test cases. In each of the following lines, a single real number $0 \leq x<$ $\pi$ is given, in the usual decimal notation. The number of decimal digits of $x$ is not more than 101 .

## Output

Each line of the output should be the sequence consisting of the first 101 significant decimal digits of the sine of x . All trailing and leading zeroes, as well as the decimal point (if any) should be removed.

## Score

For each test case, let K be the first position of the digit where the first difference to the reference solution occured. Then the score awarded to the test case will be $\mathrm{K}-1$ divided by the number of digits $\mathrm{M} \leq 101$ in the reference solution. If all digits match, $\mathrm{K}=\mathrm{M}+1$ is understood. For example, let us say a particular output has the first 50 digits of $\sin (1)$ correct, and the 51-st digit is different from that of the reference solution. Then this particular test case would receive the score of $50 / 101 \approx 0.5(50 \%)$. The final score of the problem is the sum of the scores over all test cases, normalized so that the maximum possible score is 10 .

## Example

## Input:

2
0
1.5707963267948966

## Output:

0
999999999999999999999999999999999981507813299633318447401631655066443910339246693874482714867916134939

