

**Dascha**  
**Input File: Dascha.txt**

Anthropologists speculate that residents of the planet Earth use a base 10 number system because they have 10 fingers. The planet Dascha is more diverse. Its residents have either 2, 3, 4, 5, 6, 7, 8, or 9 fingers. Therefore, we suspect that they use eight different number systems. Write a program to translate a positive base 10 number ( $\leq 999,999,999$ ) into its  $n$  position base 2, 3, 4, 5, 6, 7, 8, and 9 representations. If the base 10 number cannot be represented in any of the Daschen bases using  $n$  positions, output the error message shown in the sample outputs below.

**Inputs**

The first line will contain the number of base 10 numbers,  $m$ , to be converted to the eight Daschen number systems. This will be followed by one line per base 10 number containing two integers. The first integer will be the base 10 number to be converted, and the second integer will be the number of positions,  $n$ , in the Daschen numbers.

**Outputs**

There will be  $m$  output groupings, each containing eight lines. The first line of a grouping will contain the base 2 equivalent of the given base 10 number followed by the base of the number system, the second line will contain the base 3 equivalent of the given base 10 number followed by the base of the number system, etc. Groupings will be separated by 1 blank line. Leading zeros must be included. In the event that the base 10 number cannot be represented using  $n$  positions, the exact error message shown below will be output in place of the Daschen number.

**Sample inputs**

```
2
134562 9
125 7
```

**Sample output**

```
can't be represented using 9 digits in base 2
can't be represented using 9 digits in base 3
200312202 base 4
013301222 base 5
002514550 base 6
001100211 base 7
000406642 base 8
000224523 base 9

1111101 base 2
0011122 base 3
0001331 base 4
0001000 base 5
0000325 base 6
```