
1. The Bases Are Covered

Program Name: Bases.java

Input File: bases.dat

Dr. Long is a Computer Science teacher and needs a table of numbers in different bases. Given a positive integer n , he wants all of the numbers from 1 to n printed in a table with the base 10 number first followed by base 2, base 4, base 8, base 12 and base 16. You have been assigned to write this program for him.

Input

The only line of input will contain a single integer $n \leq 45$ that indicates the last base 10 row to be printed.

Output

In a table with headers and format as shown below, you will print the base 10, 2, 4, 8, 12, and 16 values. Use lower case letters for Base 12 and Base 16 values greater than 9, as shown below.

Note: The width of the columns is not important as long as the data in the columns are left justified and there is at least one space between any two numbers in a row.

Example Input File

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Example Output to Screen

Base 10	Base 2	Base 4	Base 8	Base 12	Base 16
1	1	1	1	1	1
2	10	2	2	2	2
3	11	3	3	3	3
4	100	10	4	4	4
5	101	11	5	5	5
6	110	12	6	6	6
7	111	13	7	7	7
8	1000	20	10	8	8
9	1001	21	11	9	9
10	1010	22	12	a	a
11	1011	23	13	b	b
12	1100	30	14	10	c
13	1101	31	15	11	d