Recursion - Compute a^n

Problem	Submissions	Leaderboard	Discussions

When the inventor of the game showed the game to the emperor of India, the emperor was so impressed by the new game, that he said to the man "Name your reward!" The man responded, "Oh emperor, my wishes are simple. I only wish for this. Give me one grain of rice for the first square of the chessboard, 2^2 for the next square, 3^3 for the next, 4^4 for the next, and so on for all 64 squares". The emperor agreed, amazed that the man had asked for such a small reward. After a week, his treasurer came back and informed him that the reward would add up to an astronomical sum, far greater than all the rice that could conceivably be produced in many many centuries. The Emperor wanted to check it for himself. Can you help the Emperor to write a program to compute a^n (a power n) using recursion?

Input Format

The input consists of two integers a and n.

Constraints

NA

Output Format

Refer to sample output.

Sample Input 0

```
2
8
```

Sample Output 0

```
The value of 2 power 8 is 256
```

Explanation 0

In this case value of a and n is 2 and 8 respectively. Then the answer will be like this 2 ^ 2 ^ 2 ^ . . . . (8 times) = 256.

Sample Input 1

```
3
1
```

Sample Output 1

```
The value of 3 power 1 is 3
```

Explanation 1

In this case values of a and n are 3 and 1 respectively. Then the answer will be like this 3 ^ 1 ^ = 1.

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More

C   ⌄   ⤢   ⚙

```c
 1  #include <stdio.h>
 2  #include <string.h>
 3  #include <math.h>
 4  #include <stdlib.h>
 5
 6  int power(int a,int b){
 7      if(b==0){
 8          return 1;
 9      }
10      if(a==0){
11          return 0;
12      }
13
14      return a*power(a,b-1);
15  }
16
17  int main() {
18
19      /* Enter your code here. Read input from STDIN. Print output to STDOUT */
20      int a,b;
21      scanf("%d%d",&a,&b);
22      printf("The value of %d power %d is %d",a,b,power(a,b));
23      return 0;
24  }
25
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ Test against custom input   Run Code   Submit Code

Testcase 0 ✔   Testcase 1 ✔

Congratulations, you passed the sample test case.

Click the **Submit Code** button to run your code against all the test cases.

Input (stdin)

```
2
8{-truncated-}
```

Your Output (stdout)

```
The value of 2 power 8 is 256
```

Expected Output

The value of 2 power 8 is 256{-truncated-}