**Rhezo and Big Powers**

Attempted by: **2553**

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Accuracy: **57%**

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Maximum Points: **30**

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251 Votes

/

**Share**

Easy-Medium, Math, Number Theory

**PROBLEM**

**EDITORIAL**

**MY SUBMISSIONS**

**ANALYTICS**

[**DISCUSSIONS**](https://www.hackerearth.com/practice/math/number-theory/basic-number-theory-1/practice-problems/algorithm/rhezo-and-big-powers-1/discussion/)NEW

Rhezo likes numbers of the form AB. But computing AB, for any *2* numbers *A* and *B* is a hard task for him. He would like you to help him out in this.

**Input:**  
First line of input contains a single integer *A*. Second line contains the integer *B*.

**Output:**  
Help Rhezo find AB. As this number can be large, print it modulo 109+7.

**Constraints:**

* 1≤A≤109
* 1≤B≤10105

**SAMPLE INPUT**

4

3

**SAMPLE OUTPUT**

64

**Time Limit:**1.0 sec(s) for each input file.

**Memory Limit:**256 MB

**Source Limit:**1024 KB

#include<bits/stdc++.h>

#define ll long long

#define pb push\_back

#define mp make\_pair

#define fast ios\_base::sync\_with\_stdio(false);cin.tie(NULL);

ll fastmod(ll a,ll b,ll m)

{

  ll ans=1;

  a=a%m;

  if(a==0)

    return 0;

  while(b>0)

  {

    if(b&1)

      ans=(ans\*a)%m;

    b=b>>1;

    a=(a\*a)%m;

  }

  return ans%m;

}

using namespace std;

int main()

{

  fast;

  ll t,n,a=0;

  string s;

  cin>>t;

  cin>>s;

  ll m=1000000007;

  for(ll i=0;i<s.size();i++)

  {

    a=(a\*10+s[i]-'0')%(m-1);

  }

  cout<<(fastmod(t,a,m))%m;

}