Power of Numbers

Given a number N, let the reverse of the number be R. The task is to print the output of the Expression pow(N,R), where pow function represents N raised to power R.

Note: As answers can be very large, print the result modulo 1000000007.

Input:

The first line of the input consists of an integer T denoting the number of test cases. Then T test cases follow. Each test case consists of a single line containing an integer N.

Output:

Corresponding to each test case, print in a new line, the output of the expression pow as described above.

Constraints:

1 <= T <= 103

1 <= N <= 1010

Example:

Input:

2

2

12

Output:

4

864354781

Explanation:

Testcase 1: The reverse of 2 is 2 and after raising power of 2 by 2 we get 4 which gives remainder as 4 by dividing 1000000007.

```
#include<iostream>
#include<bits/stdc++.h>
using namespace std;

long long int pw(long long int n,long long int p)
{
   if(p==0)
   return 1;
   long long int t;
   long long int m=1000000007;
   t=(pw(n,p/2));
  // cout<<t<<endl;
   if(p%2)
   {
       return (n*((t*t)%m))%m;
   }
   else
   return (t*t)%m;
}

long long int rev(long long int n)
{
   long long int r=0;
   while(n!=0)
   {
       r=(r*10)+n%10;
       n/=10;
   }
```

```
29.  // cout<<r<<endl;
30.   return r;
31.}
32.void solve()
33.{
34.long long int n;
35.cin>>n;
36.long long int p=rev(n);
37.cout<<pw(n,p);
38.
39.}
40.int main()
41.{
42.
43.   int t;
44.   cin>>t;
45.   while(t--)
46.   {
47.       solve();
48.       cout<<endl;
49.   }
50.}
```