C. Bargain

1 second

256 megabytes

standard input

standard output

Sometimes it is not easy to come to an agreement in a bargain. Right now Sasha and Vova can't come to an agreement: Sasha names a price as high as possible, then Vova wants to remove as many digits from the price as possible. In more details, Sasha names some integer price https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Math/Italic/400/006E.png?V=2.7.5n, Vova removes a non-empty substring of (consecutive) digits from the price, the remaining digits close the gap, and the resulting integer is the price.

For example, is Sasha names https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0032.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0033.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0032.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.51213121, Vova can remove the substring https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0033.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0032.png?V=2.7.51312, and the result is https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0032.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5121.

It is allowed for result to contain leading zeros. If Vova removes all digits, the price is considered to be https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0030.png?V=2.7.50.

Sasha wants to come up with some constraints so that Vova can't just remove all digits, but he needs some arguments supporting the constraints. To start with, he wants to compute the sum of all possible resulting prices after Vova's move.

Help Sasha to compute this sum. Since the answer can be very large, print it modulo https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0030.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/283/0039.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/002B.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0037.png?V=2.7.5109+7.

**Input**

The first and only line contains a single integer https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Math/Italic/400/006E.png?V=2.7.5n (https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/2264.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Math/Italic/400/006E.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/003C.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0030.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/283/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/283/0030.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/168/0035.png?V=2.7.51≤n<10105).

**Output**

In the only line print the required sum modulo https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0030.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/283/0039.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/002B.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0037.png?V=2.7.5109+7.

**Examples**

**input**

**Copy**

107

**output**

**Copy**

42

**input**

**Copy**

100500100500

**output**

**Copy**

428101984

**Note**

Consider the first example.

Vova can choose to remove https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.51, https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0030.png?V=2.7.50, https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0037.png?V=2.7.57, https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0030.png?V=2.7.510, https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0030.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0037.png?V=2.7.507, or https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0030.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0037.png?V=2.7.5107. The results are https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0030.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0037.png?V=2.7.507, https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0037.png?V=2.7.517, https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0030.png?V=2.7.510, https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0037.png?V=2.7.57, https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0031.png?V=2.7.51, https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0030.png?V=2.7.50. Their sum is https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0034.png?V=2.7.5https://assets.codeforces.com/mathjax/fonts/HTML-CSS/TeX/png/Main/Regular/400/0032.png?V=2.7.542.

#include<bits/stdc++.h>

#define pb push\_back

#define pii pair<int,int>

#define int long long int

#define vec vector<int>

#define inf 1e18

#define MAX 100005

#define mp make\_pair

using namespace std;

int mod=1e9+7;

int power(int a,int b)

{

int res=1;

while(b>0)

{

if(b&1)

res=(res\*a)%mod;

a=(a\*a)%mod;

b>>=1;

}

return res%mod;

}

int32\_t main()

{

ios\_base::sync\_with\_stdio(false);

cin.tie(NULL);

cout.tie(NULL);

int tt=1;

//cin>>tt;

while(tt--)

{

string s;

cin>>s;

int n=s.length();

int pre[n+1]={0},p=1,i;

for(i=1;i<=n;i++)

{

pre[i]=(i\*p)%mod;

pre[i]=(pre[i-1]+pre[i])%mod;

p=(p\*10)%mod;

}

int ans=0;

for(i=0;i<n;i++)

{

int a=s[i]-'0';

int x=((i+1)\*(i))/2;

x=(x\*(power(10,n-i-1)))%mod;

x=(x\*a)%mod;

ans=(ans+x)%mod;

ans=(ans%mod+(pre[n-i-1]\*a)%mod)%mod;

}

cout<<ans<<"\n";

}

}