浙江大学2019-20学年春夏学期《高级数据结构与算法分析》课程期末考试试卷

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6-1 Decode (8分)

Suppose that a string of English letters is encoded into a string of numbers. To be more specific, `A` - `Z` are encoded into `0` - `25` . Since it is not a prefix code, the decoded result may not be unique. For example, `1213407` can be decoded as `BCBDEAH` , `MBDEAH` , `BCNEAH` , `BVDEAH` or `MNEAH` . Note that `07` is not `7` , hence cannot be decoded as `H` .

Your job is to tell in how many different ways we can decode a numeric string.

Format of function:

```
int Decode( char NumStr[] );
```

where `NumStr` is a string consisting of only the numbers `0` - `9` .

The function `Decode` is supposed to return the number of different ways we can decode `NumStr` .

Since the answer might be super large, you only need to output the answer modulo 1000000007.

Sample program of judge:

```c
#include <stdio.h>
#include <string.h>

#define MAXN 100
#define BASE 1000000007

int Decode( char NumStr[] );

int main()
{
    char NumStr[MAXN];

    scanf("%s", NumStr);
    printf("%d", Decode(NumStr));

    return 0;
}

/* Your function will be put here */
```
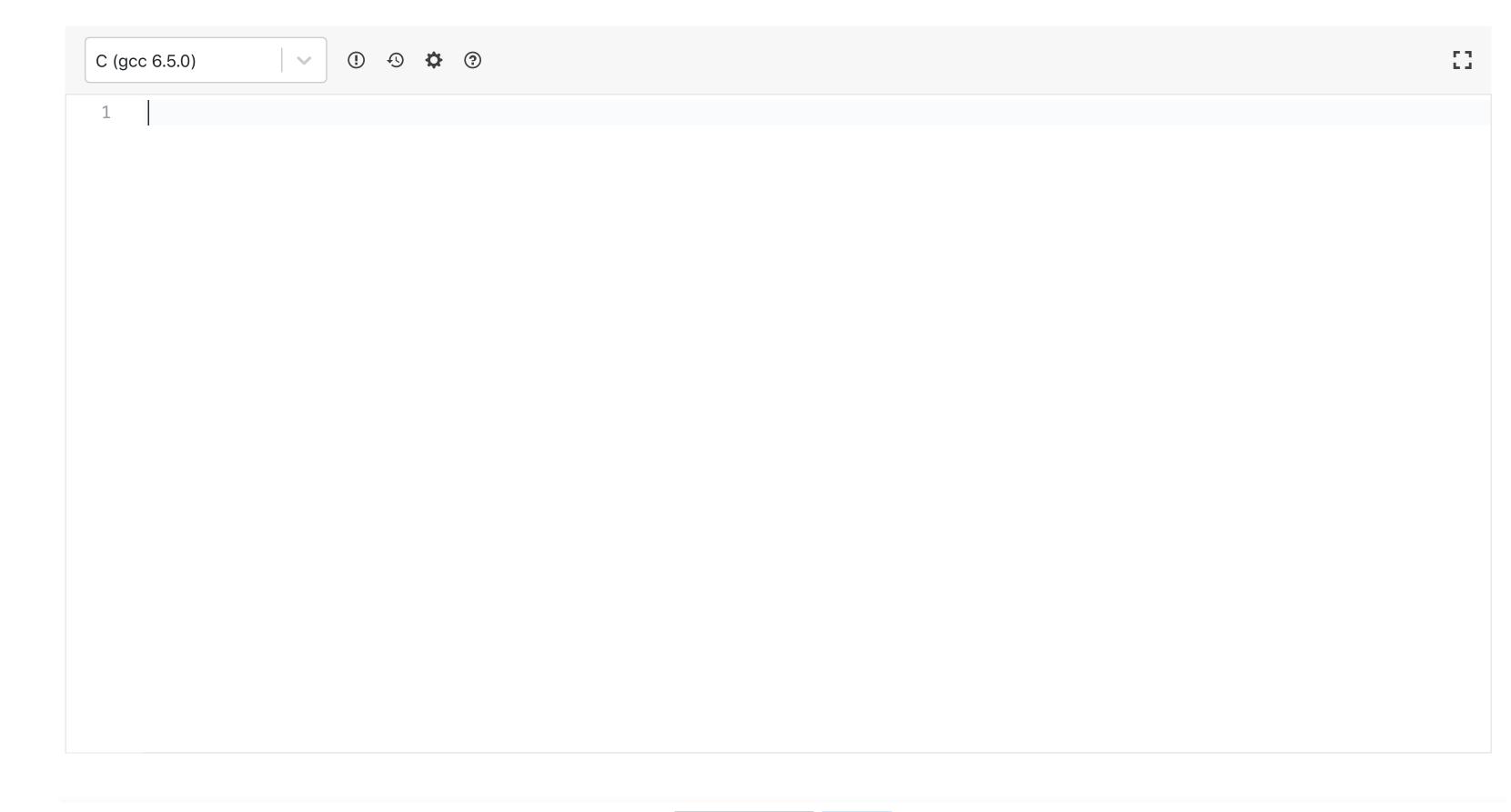
Sample Input:

```
1213407
```

Sample Output:

```
5
```

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代码长度限制　16 KB
时间限制　100 ms
内存限制　64 MB

C (gcc 6.5.0)

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