Valid Number

| Question | Solution |

Total Accepted:
33304   Total Submissions: **289005**   Difficulty: **Hard**

Validate if a given string is numeric.

Some examples:

```
"0" => true
" 0.1 " => true
"abc" => false
"1 a" => false
"2e10" => true
```

Note: It is intended for the problem statement to be ambiguous. You should gather all requirements up front before implementing one.

Update (2015-02-10):

The signature of the `C++` function had been updated. If you still see your function signature accepts a `const char *` argument, please click the reload button $\mathcal{C}$ to reset your code definition.

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Python ▼

$\mathcal{C}$

```
1   class Solution(object):
2       def isNumber(self, s):
3           """
4           :type s: str
5           :rtype: bool
6           """
7           length = len(s)
8           l=0
9           while l<length and s[l]==' ':l+=1
```

```
10            j=1;ass=False
11            for i in range(1,length):
12                if s[i]=='-' or s[i]=='+':
13                    if i!=j:return False
14                elif s[i]=='.':
15                    return self.testDot(s[i+1:],length-i-1,ass)
16                elif s[i]=='e':
17                    return self.testE(s[i+1:],length-i-1) and ass
18                elif s[i]==' ':
19                    while i<length and s[i]==' ':i+=1
20                    return i>=length and ass
21                elif not (s[i]>='0' and s[i]<='9'):
22                    return False
23                else:ass=True
24            return ass
25        def testDot(self,s,length,ass):
26            for i in range(length):
27                if s[i]=='e':
28                    return self.testE(s[i+1:],length-i-1) and ass
29                elif s[i]==' ':
30                    while i<length and s[i]==' ':i+=1
31                    return i>=length and ass
32                elif not (s[i]>='0' and s[i]<='9'):
33                    return False
34                else:ass=True
35            return ass
36        def testE(self,s,length):
37            ass=False
38            for i in range(length):
39                if s[i]=='-' or s[i]=='+':
40                    if i!=0:return False
41                elif s[i]==' ':
42                    while i<length and s[i]==' ':i+=1
43                    return i>=length and ass
44                elif not (s[i]>='0' and s[i]<='9'):
45                    return False
46                else:ass=True
47            return ass
```

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Custom Testcase ☐

Run Code   Submit Solution

Run Code Status: Finished

Run Code Result: ✕

Your input

```
" 1.e-6"
```

Your answer

```
true
```

Expected answer

```
true
```

Runtime: 40 ms

Submission Result: Accepted (/submissions/detail/40596450/)

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