

day1(8).py - C:\Users\sse\Documents\day1(8).py (3.7.0)

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```
import re
def is_valid_number(s):
    pattern = r"^[+-]?(\d+\.\d*|\.\d+)([eE][+-]?\d+)?$"
    match = re.search(pattern, s)
    return bool(match)
print(is_valid_number("0"))
print(is_valid_number("e"))
print(is_valid_number(" "))
print(is_valid_number("."))
print(is_valid_number("5"))
```



```
def is_isomorphic(s,t):  
    if (len(s)!=len(t)):  
        return False  
    else:  
        s_map={}  
        t_map={}  
        for i in range(len(s)):  
            s_char=s[i]  
            t_char=t[i]  
            if s_char in s_map and t_char in t_map:  
                if s_map[s_char]!=t_char or t_map[t_char]!=s_char:  
                    return False  
            elif s_char in s_map or t_char in t_map:  
                return False  
            else:  
                s_map[s_char]=t_char  
                t_map[t_char]=s_char  
        return True  
print(is_isomorphic('foo','too'))
```


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```
def is_happy_num(n):  
    past=set()  
    while n!=1:  
        n=sum(int(i)**2 for i in str(n))  
        if n in past:  
            return False  
        past.add(n)  
    return True  
print(is_happy_num(7))  
print(is_happy_num(332))  
print(is_happy_num(6))
```


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File day1(9).py - C:\Users\sse\Documents\day1(9).py (3.7.0)

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```
def max_guests(T, E, L):  
    if not isinstance(T, int) or T <= 0:  
        return 0  
    guests = 0  
    max_guests = 1  
    for i in range(T):  
        guests += E[i]  
        guests -= L[i]  
        max_guests = max(max_guests, guests)  
    return max_guests  
print(max_guests(5, [7,0,5,1,3], [1,2,1,3,4]))
```

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day1(10).py - C:\Users\sse\Documents\day1(10).py (3.7.0)

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```
def modify_string(S):  
    alphabets = [chr(i) for i in range(ord('a'), ord('z')+1)]  
    frequency = {}  
    for c in S:  
        if c not in frequency:  
            frequency[c] = 0  
        frequency[c] += 1  
    result = ""  
    for c in S:  
        index = alphabets.index(c) + frequency[c]  
        result += alphabets[index % 26]  
    return result  
print(modify_string("ghee"))
```