In [37]:
```
#Q1
list1 = [1,2,3,4, [44,55,66, True], False, (34,56,78,89,34), {1,2,3,3,2,1}, {1:34,
22, 61, 34)}, [56, 'data science'], 'Machine Learning']
mod_list=[]
for i in list1:

    if type(i)== int:
        mod_list.append(i)
    elif type(i)== list:
        for j in i:
            if type(j)==int:
                mod_list.append(j)
            else:
                pass
    elif type(i)== tuple:
        for j in i:
            if type(j)==int:
                mod_list.append(j)
            else:
                pass
    elif type(i)== set:
        for j in i:
            if type(j)==int:
                mod_list.append(j)
            else:
                pass
    if type(i)== dict:
        for j in i.keys():
            if type(j)==int:
                mod_list.append(j)
        for k in i.values():
            if type(k)==int:
                mod_list.append(k)
            elif type(k)== list:
                for l in k:
                    if type(l)==int:
                        mod_list.append(l)
                    else:
                        pass
            elif type(k)==tuple:
                for l in k:
                    if type(l)==int:
                        mod_list.append(l)
                    else:
                        pass
    else:
        pass
#As set doesn't support duplicate , so while traversing through the set we only get
print(len(mod_list))#As you can see the number of numbers present inside the list i
'''Now let's do the multiplication part.Let's use Reduce method'''
from functools import reduce
reduce(lambda x,y:x*y,mod_list)
```

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```

Out[37]:
```
4134711838987085478833841242112000
```

In [36]:
```
#Q2
def switchcase(string):
    string=string.lower()
    string=string.replace(' ','$')
    print(string)
string='I want to become a Data Scientist.'
switchcase(string)
```

```
i$want$to$become$a$data$scientist.
```

In [ ]: