```python
def eliminate_digits_symbols(f):
    def process(string):
        new_str = ''
        for i in string:
            if i.isalpha():
                new_str = new_str + i
            else:
                f(new_str)
    return process


@eliminate_digits_symbols
def showstring(s):
    print(s)


showstring('python3')
```

```
python
```

```python
showstring('sdlflsdj405943805340**))*)')
```

```
sdlflsdj
```

▾ decorator

define parent function with parameter

define nested function and return nested function name from parent function

do validations in nested function and then call parent parameter function

```python
def showlist(lst):
    for i in lst:
        print(i,end=' ')


showlist([1,4,3,2,'a',94,3,'c'])
```

```
1 4 3 2 a 94 3 c
```

```python
def filterint(f):
    def process(li):
        l = []
        for i in li:
            if isinstance(i,int):
                l.append(i)
            else:
                f(l)
    return process


@filterint          # showlist = filterint(showlist)
def showlist(lst):
    for i in lst:
        print(i,end=' ')


showlist([3,4,2,'python','IPL','transporter',12])
```

```
3 4 2 12
```

```python
def filter_prime(f):
    def process(li):
```

```python
        l = []
        for num in li:
            for j in range(2,num):
                if num%j == 0:
                    break
            else:
                l.append(num)
        else:
            f(l)
    return process


@filter_prime
def showlist(lst):
    for i in lst:
        print(i,end=' ')

showlist([11,26,43,64,71,101,24,32])
```
```
11 43 71 101
```

```python
def filter_upper(f):
    def process(string):
        new_string = ''
        for i in string:
            if i.isupper():
                new_string+=i
        else:
            f(new_string)
    return process


@filter_upper
def showstring(s):
    print(s)

showstring('Good Afternoon')
```
```
GA
```

```python
def eliminate_duplicates(f):
    def process(string):
        new_string = ''
        for i in string:
            if i not in new_string:
                new_string += i
        else:
            f(new_string)
    return process


@eliminate_duplicates
def showstring(s):
    print(s)

showstring('good afternoon')
```
```
god aftern
```

```python
def showintvalues(*a):
    for i in a:
        print(i,end=' ')

showintvalues(4,3,2,8,7,5,6,9,10,'hyderabad','coder','rider')
```
```
4 3 2 8 7 5 6 9 10 hyderabad coder rider
```

```python
def filterintvalues(f):
    def process(*x):
        l = []
        for i in x:
            if isinstance(i,int):
                l.append(i)
            else:
                f(*l)
    return process

@filterintvalues
def showintvalues(*a):
    for i in a:
        print(i,end=' ')

showintvalues(4,3,2,5,4,3,2,'python','rambo','avatar')
```

```
    4 3 2 5 4 3 2
```

```python
i = 1,2,3,4,5,6,7,8,9,10
# 1-2-3-4-5-6-7-8-9-10
print(*i,sep='-')
```

```
    1-2-3-4-5-6-7-8-9-10
```

```python
def filterintvalues(f):
    def process(*x):
        f(*[i for i in x if isinstance(i,int)])
    return process

@filterintvalues
def showintvalues(*a):
    for i in a:
        print(i,end=' ')

showintvalues(4,3,2,5,4,3,2,'python','rambo','avatar')
```

```
    4 3 2 5 4 3 2
```

```python
def filternames(f):
    pass

@filternames
def shownames(*names):
    for name in names:
        print(name)
```

```python
def reverseword(f):
    pass
@reverseword
def showwords(*words):
    for word in words:
        print(word)
```

```python
def filterintvalues(f):
    pass
@filterintvalues
def totalint(*i):
    total = 0
    for value in i:
        total = total + value
    else:
        print('sum of int values :' total)
```

```
print( sum of int values: ,total)
```

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