```
def filter_int(f):
    def process(x):
        if isinstance(x,int):
            return f(x)
        else:
            return 'Invalid datatype'
    return process

def square(i):
    result = i ** 2
    return result

res = filter_int(square)
print(res('Hello'))
```

```
Invalid datatype
```

```
print(res(10))
```

```
100
```

```
def filter_int(f,g):
    def process(fun,*x):
        for a in x:
            if isinstance(a,int) == False:
                return 'Invalid value(s)'
        else:
            if fun == 'square':
                return f(*x)
            elif fun == 'rectangle':
                return g(*x)
            else:
                return 'Invalid function'
    return process

def square(i):
    result = i ** 2
    return result

def rectangle(i,j):
    result = i * j
    return result

print(filter_int(square,rectangle)('square',10))
```

```
100
```

```
print(filter_int(square,rectangle)('rectangle',10,20))
```

```
200
```

```
def filter_string(f):
    def process(x):
        if isinstance(x,str):
            return f(x) # call MakeUpper function, if x is str
        else:
            return 'Invalid data type' # for other than str
    return process   # return process function from filter_string
def MakeUpper(s):
    return s.upper()

result = filter_string(MakeUpper)
```

```
print(result('testing'))
print(result(100))
print(result([2,1,3,4,5]))
```

```
TESTING
Invalid data type
Invalid data type
```

```
filter_string(MakeUpper)('testing')
```

```
'TESTING'
```

```
filter_string(MakeUpper)(100)
```

```
'Invalid data type'
```

```
filter_string(MakeUpper)([3,4,5,1,2,3])
```

```
'Invalid data type'
```

```
def filter_string(f):
    def process(x):
        if isinstance(x,str):
            return f(x) # call MakeUpper function, if x is str
        else:
            return 'Invalid data type' # for other than str
    return process   # return process function from filter_string
def MakeUpper(s):
    return s.upper()

MakeUpper = filter_string(MakeUpper)

MakeUpper(100)
```

```
'Invalid data type'
```

```
MakeUpper('hello')
```

```
'HELLO'
```

```
MakeUpper([2,4,3])
```

```
'Invalid data type'
```

```
####################################
```

decorators

```
def filter_string(f):
    def process(x):
        if isinstance(x,str):
            return f(x) # call MakeUpper function, if x is s
        else:
            return 'Invalid data type' # for other than str
    return process   # return process function from filter_s

@filter_string  # MakeUpper = filter_string(MakeUpper)
def MakeUpper(s):
    return s.upper()

MakeUpper('venkat')
```

```
'VENKAT'
```

```
MakeUpper(901)
```

```
'Invalid data type'
```