# Validating Email Addresses With a Filter

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# Validating Email Addresses With a Filter

HackerRank

You are given an integer $N$ followed by $N$ email addresses. Your task is to print a list containing only *valid* email addresses in lexicographical order.

Valid email addresses must follow these rules:

- It must have the *username@websitename.extension* format type.
- The username can only contain letters, digits, dashes and underscores $[a-z], [A-Z], [0-9], [\_-]$.
- The website name can only have letters and digits $[a-z], [A-Z], [0-9]$.
- The extension can only contain letters $[a-z], [A-Z]$.
- The maximum length of the extension is $3$.

**Concept**

A *filter* takes a function returning *True* or *False* and applies it to a sequence, returning a list of only those members of the sequence where the function returned *True*. A *Lambda* function can be used with filters.

Let's say you have to make a list of the squares of integers from $0$ to $9$ (both included).

```
>> l = list(range(10))
>> l = list(map(lambda x:x*x, l))
```

Now, you only require those elements that are greater than $10$ but less than $80$.

```
>> l = list(filter(lambda x: x > 10 and x < 80, l))
```

Easy, isn't it?

**Example**

Complete the function *fun* in the editor below.

*fun* has the following paramters:

- *string s:* the string to test

**Returns**

- *boolean:* whether the string is a valid email or not

1/2

**Input Format**

The first line of input is the integer $N$, the number of email addresses.
$N$ lines follow, each containing a string.

**Constraints**

Each line is a non-empty string.

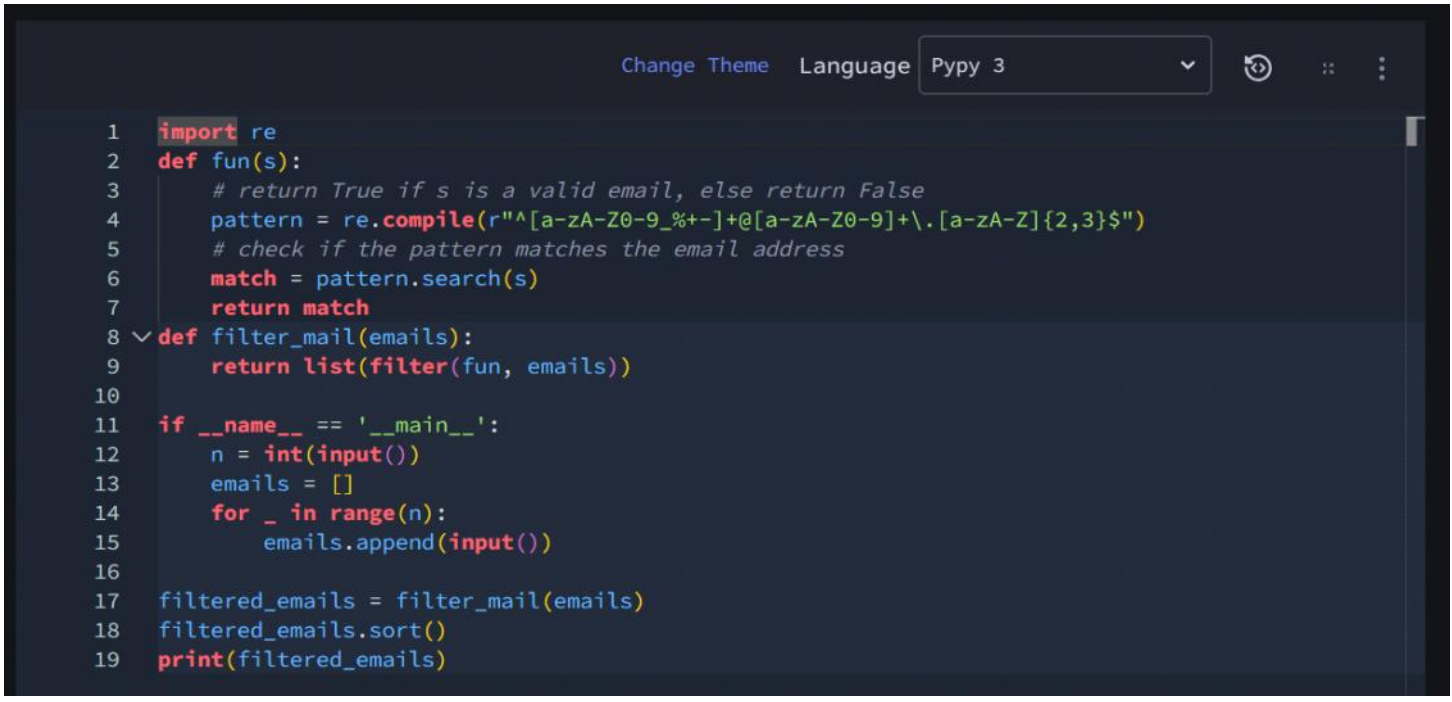
**Sample Input**

```
3
lara@hackerrank.com
brian-23@hackerrank.com
britts_54@hackerrank.com
```

**Sample Output**

```
['brian-23@hackerrank.com', 'britts_54@hackerrank.com', 'lara@hackerrank.com']
```

2/2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Language
Pypy 3
import re
def fun(s):
# return True if s is a valid email, else return False
pattern = re.compile(r"^[a-zA-Z0-9_%+-]+@[a-zA-Z0-9]+\.[a-zA-Z]{2,3}$")
# check if the pattern matches the email address
match = pattern.search(s)
return match
def filter_mail(emails):
return list(filter(fun, emails))
if __name__ == '__main__':
n = int(input())
emails = []
for _ in range(n):
emails.append(input())
filtered_emails = filter_mail(emails)
filtered_emails.sort()
print(filtered_emails)