```python
#problem1 solution
import re
no=int(input())
li=[]
for x in range(no):
    el=input()
    obj=re.fullmatch('\w+[@]\w{4,10}[.]com',el)
    if obj!=None:
        li.append(el)
for x in li:print(x)
```

```python
#problem2 solution
n=int(input())
for x in range(1,n+1):
    for y in range(x):
        print(y+1,end='')
    for z in range(x-1,0,-1):
        print(z,end='')
    print()
```

```python
#problem3 solution
no=int(input())
temp_var1=0
temp_var2=0
for x in range(1,no+1):
    temp_var1+=x
    temp_var2+=x**2
temp_var1=temp_var1**2
print(temp_var1-temp_var2)
```