	Marwadi University
	Faculty of Engineering & Technology
	Department of Information and Communication Technology
Subject: Programming With Python (01CT1309)	**Aim:** Practical demonstrate to validate PAN card number and Email ID.
Experiment No: 23	**Date:**	**Enrollment No: 92400133037**

Aim: Practical demonstrate to validate PAN card number and Email ID.

IDE:

For this experiment, you only need the built-in **re** library for regular expressions, which comes with Python.

Validating a PAN Card Number

PAN Card Format:

- A PAN (Permanent Account Number) card in India consists of 10 characters.

- The first five characters are uppercase letters (A-Z).

- The next four characters are digits (0-9).

- The last character is an uppercase letter (A-Z).

Regular Expression:

^[A-Z]{5}[0-9]{4}[A-Z]{1}$

```
import re

def validate_pan(pan):

    pattern = r'^[A-Z]{5}[0-9]{4}[A-Z]{1}$'

    if re.match(pattern, pan):

        return True

    return False

# Test the function

pan_number = input("Enter PAN card number: ")

if validate_pan(pan_number):

    print("Valid PAN card number.")
```

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else:

print("Invalid PAN card number.")

```
lab23 > 🐍 panCard.py > ...
   1    import re
   2
   3    def validate_pan(pan):
   4        pattern = r'^[A-Z]{5}[0-9]{4}[A-Z]{1}$'
   5        if re.match(pattern, pan):
   6            return True
   7        return False
   8
   9    pan_number = input("Enter PAN card number: ")
  10    if validate_pan(pan_number):
  11        print("Valid PAN card number.")
  12    else:
  13        print("Invalid PAN card number.")
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL
∨ TERMINAL
      Name   Age          City
0    Alice  30.0      New York
1      Bob  31.0   Los Angeles
2  Charlie  35.0           NaN
3      NaN  28.0       Chicago
PS G:\sem-3\python_lab> python -u "g:\sem-3\python_lab\lab23\panCard.py"
Enter PAN card number: 1234
Invalid PAN card number.
PS G:\sem-3\python_lab> python -u "g:\sem-3\python_lab\lab23\panCard.py"
Enter PAN card number: ABCTY1234D
Valid PAN card number.
```

Validating an Email ID

Email Format:

- An email consists of local and domain parts, separated by an @ symbol.

- The local part can include letters, digits, dots, underscores, and hyphens.

- The domain part should consist of a domain name and a top-level domain (TLD), such as .com, .org, etc.

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Regular Expression:

^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$

def validate_email(email):

   pattern = r'^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$'

   if re.match(pattern, email):

     return True

   return False

Test the function

email_id = input("Enter email ID: ")

if validate_email(email_id):

   print("Valid email ID.")

else:

   print("Invalid email ID.")

```
lab23 > 🐍 email.py > ⊘ validate_email
1   import re
2   def validate_email(email):
3       pattern = r'^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$'
4       if re.match(pattern, email):
5           return True
6       return False
7
8   email_id = input("Enter email ID: ")
9   if validate_email(email_id):
10      print("Valid email ID.")
11  else:
12      print("Invalid email ID.")
```

```
● PS G:\sem-3\python_lab> python -u "g:\sem-3\python_lab\lab23\email.py"
  Enter email ID: wed3
  Invalid email ID.
● PS G:\sem-3\python_lab> python -u "g:\sem-3\python_lab\lab23\email.py"
  Enter email ID: sample@gmil.com
  Valid email ID.
```

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Post Lab:

Write a code combine both validations into a single program

```python
lab23 > postLab.py > ...
1   import re
2
3   def validate_email(email):
4       pattern = r'^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$'
5       return bool(re.match(pattern, email))
6
7   def validate_pan(pan):
8       pattern = r'^[A-Z]{5}[0-9]{4}[A-Z]$'
9       return bool(re.match(pattern, pan))
10
11  email_id = input("Enter your Email ID: ")
12  pan_number = input("Enter your PAN Card Number: ")
13
14  if validate_email(email_id):
15      print("Email: Valid")
16  else:
17      print("Email: Invalid")
18
19  if validate_pan(pan_number):
20      print("PAN: Valid")
21  else:
22      print("PAN: Invalid")
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

TERMINAL
Enter your Email ID: abc
Enter your PAN Card Number: ABCTY1234D
Email: Invalid
PAN: Valid
```

GITHUB LINK:
https://github.com/Heer972005/Python_Lab