

 Marwadi University <small>Marwadi Chandarana Group</small>	 NAAC A+	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: 92400133069

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):
```



Subject: Programming With Python (01CT1309)

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Experiment No: 23

Date:

Enrollment No: 92400133069

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

else:

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

Validating an Email ID

```
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 # Test the function
10 pan_number = input("Enter PAN card number: ")
11 if validate_pan(pan_number):
12     print("Valid PAN card number.")
13 else:
14     print("Invalid PAN card number.")
```

Output:



Subject: Programming With Python (01CT1309)

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Experiment No: 23

Date:

Enrollment No: 92400133069

```
In [22]: %runfile C:/Users/devah/Documents/PWP/untitled5.py --wdir
Enter PAN card number: ABCDE1234A
Valid PAN card number.
```

```
In [23]: %runfile C:/Users/devah/Documents/PWP/untitled5.py --wdir
Enter PAN card number: abcde1234a
Invalid PAN card number.
```

```
In [24]: %runfile C:/Users/devah/Documents/PWP/untitled5.py --wdir
Enter PAN card number: ABCDE1234a
Invalid PAN card number.
```

```
In [25]: %runfile C:/Users/devah/Documents/PWP/untitled5.py --wdir
Enter PAN card number: 1234567890
Invalid PAN card number.
```

```
In [26]: %runfile C:/Users/devah/Documents/PWP/untitled5.py --wdir
Enter PAN card number: ABCDE12345
Invalid PAN card number.
```

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.

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):
```



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```
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.")
```

```
15
16     def validate_email(email):
17         pattern = r'^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$'
18         if re.match(pattern, email):
19             return True
20         return False
21
22     # Test the function
23     email_id = input("Enter email ID: ")
24     if validate_email(email_id):
25         print("Valid email ID.")
26     else:
27         print("Invalid email ID.")
28
```

Output:



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```
Console 1/A X
In [32]: %runfile C:/Users/devah/Documents/PWP/untitled5.py --wdir
Enter email ID: veeranki.harsha125503@marwadiuniversity.ac.in
Valid email ID.

In [33]: %runfile C:/Users/devah/Documents/PWP/untitled5.py --wdir
Enter email ID: devahsrahagoud@gmail.com
Valid email ID.

In [34]: %runfile C:/Users/devah/Documents/PWP/untitled5.py --wdir
Enter email ID: veeranki.harsha125503@marwadiuniversity.acin
Valid email ID.

In [35]: veeranki.harsha125503@marwadiuniversityacin
-----
NameError                                 Traceback (most recent call last)
Cell In[35], line 1
----> 1 veeranki.harsha125503@marwadiuniversityacin

NameError: name 'veeranki' is not defined

In [36]: %runfile C:/Users/devah/Documents/PWP/untitled5.py --wdir
Enter email ID: devahsrahagoud@gmailcom
Invalid email ID.
```

Post Lab:

Write a code combine both validations into a single program

Code:



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```
1 import re
2
3 def validate_pan(pan):
4     pattern = r'^[A-Z]{5}[0-9]{4}[A-Z]{1}$'
5     return bool(re.match(pattern, pan))
6
7 def validate_email(email):
8     pattern = r'^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,}$
9     return bool(re.match(pattern, email))
10
11 pan = input("Enter PAN card number: ")
12 email = input("Enter Email ID: ")
13
14 print("\n--- Validation Results ---")
15
16 if validate_pan(pan):
17     print("PAN Card: Valid")
18 else:
19     print("PAN Card: Invalid")
20
21 if validate_email(email):
22     print("Email ID: Valid")
23 else:
24     print("Email ID: Invalid")
25
```

Output:



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```
In [39]: %runfile 'C:/Users/devah/Documents/PWP/Validating PAN and Email in a single program PWP Lab 23.py' --wdir
Enter PAN card number: ABCDE1234A
Enter Email ID: devaharsha@gmail.com
```

```
--- Validation Results ---
PAN Card: Valid
Email ID: Valid
```

```
In [40]: %runfile 'C:/Users/devah/Documents/PWP/Validating PAN and Email in a single program PWP Lab 23.py' --wdir
Enter PAN card number: ABCDE1234A
Enter Email ID: devaharsha@gmailcom
```

```
--- Validation Results ---
PAN Card: Valid
Email ID: Invalid
```

```
In [41]: %runfile 'C:/Users/devah/Documents/PWP/Validating PAN and Email in a single program PWP Lab 23.py' --wdir
Enter PAN card number: abcde1234a
Enter Email ID: devaharsha@gmail.com
```

```
--- Validation Results ---
PAN Card: Invalid
Email ID: Valid
```

GitHub:

<https://github.com/Shashi-kumar-g/Python-Programs.git>