
 Marwadi University Marwadi Chandarana Group 	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):
```

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```
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.")
15

```

Output:

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```

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@gmail.com

--- 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>