OTP Verification Project

Implemented Using Python and Google Colab

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Project Objective

Goal:

To build a Python-based OTP verification system that generates, sends, and verifies OTPs securely using Google Colab.

Features:

- Generate 6-digit OTP.
- Send OTP via email.
- Verify user-entered OTP.
- Provide a maximum of 3 attempts for verification.

What is OTP Verification?

- A One-Time Password (OTP) is a security measure used for verifying user identity.

- Commonly used for account verification, secure logins, and transaction approvals.

Why OTP Verification?

- Enhances security by adding an additional layer of authentication.

- Prevents unauthorized access.

Tools and Technologies

Development Environment:
*   Google Colab (Online Python IDE).

Programming Language:

*   Python.

Libraries Used:

*   random for OTP generation.
*   smtplib and email.message for sending OTP via email.

Function to generate a 6-digit OTP

```python
# Function to generate a 6-digit OTP
def generate_otp():
    otp = ""
    for _ in range(6):
        otp += str(random.randint(0, 9))
    return otp
```

Sending OTP via Email:

```python
# Function to send OTP to the user's email address
def send_otp_email(receiver_email, otp):
    from_mail = 'oddinsuni@gmail.com'
    from_mail_password = 'mvwp ofmy wozd ovfp'
```

Prompting User for OTP:

```python
# Function to prompt the user to enter the OTP
def prompt_for_otp():
    input_otp = input("Enter OTP: ")
    return input_otp
```

Verification Logic:

```python
# Function to verify if the entered OTP matches the generated OTP
def verify_otp(generated_otp, entered_otp):
    return str(generated_otp) == str(entered_otp)
```

Workflow:

1. Input an email address in the provided text box.

2. Click 'Generate OTP'.

3. System validates the email format.

4. If valid, it generates and displays the OTP.

5. Enter the OTP in the input box and click 'Verify OTP'.

6. System checks and confirms if the OTP matches.

Conclusion

•Successfully implemented an OTP verification system using Python and Google Colab.

•Learned about email integration and secure authentication techniques.

Thank You

Thank You for Your Attention!