Project Title: OTP Verification System

Problem Statement:

You are tasked with developing an OTP (One-Time Password) verification system in Python. The system should generate a 6-digit OTP and send it to the user's email address for verification. Upon receiving the OTP, the user should enter it into the system for validation. If the entered OTP matches the generated OTP, access should be granted; otherwise, access should be denied.

Project Requirements:

Implement a function to generate a 6-digit OTP randomly. Develop a function to simulate sending the OTP to the user's email address. Create a function to prompt the user to enter the OTP received in their email. Implement a function to verify if the entered OTP matches the generated OTP. Ensure proper error handling and user-friendly prompts throughout the system. Allow the user to retry OTP entry in case of incorrect input.

Outcome:--

Functionality:

1. **generate_otp()**: Generates a random 6-digit OTP.

2. **send_otp(to_email, otp)**: Sends the generated OTP to the user's email using Gmail SMTP.

3. **prompt_otp_entry()**: Prompts user input for the OTP.

4. **verify_otp(generated_otp, max_attempts)**: Validates user-entered OTP and allows retry.

How to Run:

- **Use google colab, VS Code or any IDE to run code:**

    python otp_verification.py

Dependencies:

- Python 3.x

- Internet connection

- Enable "Less Secure Apps" or use an **App Password** for Gmail.

- Install required libraries (standard in Python):

    o **Smtplib** - Connect to an SMTP server (like Gmail, Outlook, etc.).

    o **EmailMessage** - simplifies email creation.

    o **random** - generate random numbers.