

## 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.

```
import random
import smtplib
import ssl
from getpass import getpass

# Function to generate 6-digit OTP
def generate_otp():
    return str(random.randint(100000, 999999))

# Function to simulate sending OTP via email (you can replace
with real email logic)
def send_otp_via_email(recipient_email, otp):
    # Simulated sending
    print(f"\n[INFO] Sending OTP to {recipient_email}...")
    print(f"[SIMULATION] OTP sent: {otp}")
    # In real-world, don't print this
    return True

# Function to get OTP input from user
def get_user_input():
    return input("Enter the 6-digit OTP: ").strip()

# Function to verify OTP
def verify_otp(actual_otp, entered_otp):
    return actual_otp == entered_otp

# Function to run the full OTP verification process
def otp_verification_system():
    print("OTP Verification System")
    recipient_email = input("Enter your email address: ")
    otp = generate_otp()

    # Simulate or Send real OTP
    send_real_email("your_email@gmail.com", getpass("Enter
your email password: "), recipient_email, otp)
```

```
send_otp_via_email(recipient_email, otp)

max_attempts = 3
attempts = 0

while attempts < max_attempts:
    entered_otp = get_user_input()
    if verify_otp(otp, entered_otp):
        print("\n OTP Verified! Access Granted.")
        return
    else:
        attempts += 1
        print(f" Incorrect OTP. Attempts left:
{max_attempts - attempts}")

    print("\n🔒 Too many failed attempts. Access Denied.")

# Run the program
if __name__ == "__main__":
    otp_verification_system()
```