**Project Description:**

This project is to develop an OTP (One-Time Password) verification system in Python.The script generates a 6 digit OTP and sends it to the User's email address for verification.It prompts the user to enter the email address and sends OTP to the entered email. User is given 3 attempts, in case invalid email address is entered,it prompts again to enter the correct Email address, in case invalid OTP is entered, it prompts again to enter the correct OTP. The user is prompted to enter the Email & OTP, if 3 attempts fail, it message.

**Dependencies:**

EmailMessage : Class to create email message

re : Regex module to validate the email address

smtplib: SMTP protocol client to send email

os : provides portability between different platforms

load\_dotenv : load variables from environment file

**Environment Variables:**

passcode: Password for the email sender's account.

sender: Email address of the sender.

**Functions:**

main():

main function of the script

prompts the user to enter email address.Allows maximum 3 attempts to enter valid email address

calls 'is\_email\_valid()' to check if the email address is in valid format

sends the OTP to email address

calls verifyUser() to verify the OTP entered by the user

get\_app\_specific\_info():

Retrieves application-specific information such as password and sender from environment variables.

Returns: password and sender retrieved from environment variables.

otpgen():

generates a 6 digit random number

returns otp

is\_email\_valid(recipient):

validates if the email address is in valid format

Returns True if address is valid else False

connecting\_email(recipient, code):

simulate sending the OTP to the user's email address

*parameters:*

recipient : email address to send the OTP

code: OTP to be sent

verifyUser(code):

prompt the user to enter the OTP received in their email and then verifies if the entered OTP matches

generated OTP.Allows maximum 3 attempts for entering correct OTP

*parameter:*

code : OTP generated by the OTPgen()

**Test Cases:**

| Test Case ID | Test Case Name | Steps | Expected | Actual | Result |
| --- | --- | --- | --- | --- | --- |
| TC\_01 | Verify if the OTP generated is a 6 digit number | 1. Check the email to which the OTP is sent 2. Check if the generated OTP is a 6 digit Number | OTP generated should be 6 digit number | OTP generated is a 6 digit number | Pass |
| TC\_02 | Verify if entered email is valid | 1. Enter valid email address in the prompt 2. User should be able to get the OTP in the email | Valid email ID should receive the OTP | OTP is received in the email | Pass |
| TC\_03 | Verify that entering invalid email address prompts the user to enter again | 1. Enter invalid email address thrice 2. After 3rd attempt, it should exit | User should be given 3 attempts to enter.  System exits after 3 incorrect email address input | User is given 3 prompts and after 3 attempts it successfully exits the prompts | Pass |
| TC\_04 | Verify valid OTP | 1.Enter the email address to which the OTP has to be sent  2. Enter the OTP received on the email on the prompt | System should display ‘Your OTP is verified’ | System displays ‘Your OTP is verified’ | Pass |
| TC\_05 | Verify Invalid OTP | 1. .Enter the email address to which the OTP has to be sent 2. Enter invalid OTP on the prompt thrice | User should be given 3 attempts to enter. System should prompt that all attempts have been used | System allows 3 attempts to the user. After invalid OTP’s thrice, system shows appropriate message | Pass |
| TC\_06 | Verify invalid password , sender email address | 1. In the environment file,   Change the email or Password | User should be prompted with message: ‘Authentication Failed. Please check sender email and password’ | System shows the Authentication Failed message | Pass |