Thực hành lập trình mạng – Tuần 1 – Kết quả demo chương trình

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1. Chức năng 1: Đăng ký

Nếu như tên tài khoản đã tồn tại → Báo "Username already exists"

```
PS D:\Dh\ltm_week1> .\ltm_week1.exe

USER MANAGEMENT PROGRAM
-----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 1
-----Register New Account-----
Enter your username: admin
Username already exists.
```

Nếu chưa tồn tại → Thông báo đã tạo tài khoản thành công và có thể đăng nhập

```
USER MANAGEMENT PROGRAM
-----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 1
-----Register New Account-----
Enter your username: quynh
Enter your password: quynh12345678@
Enter your email: quynh.tk@gmail.com
Enter your phone number: 0987654321
Account registered successfully, please sign in!
```

Khi tạo tài khoản, đồng thời cũng lưu vào file account.txt

- Thông tin của mỗi tài khoản được lưu trên cùng 1 dòng theo định dạng: username password email phone status *(Note: trong file .txt ở ảnh dưới đã thêm 2 thông tin nữa ở phía sau lần lượt là blockedTime và role để sử dụng cho các chức năng về sau. Khi đăng kí thì mặc định role là user)*

```
≡ accounts.txt M ✕
≡ accounts.txt
 1    admin admin123 admin@gmail.com 12345678 1 0 admin
 2│   quynh quynh12345678@ quynh.tk@gmail.com 0987654321 1 0 user
 3
```

2. Chức năng 2: Đăng nhập

-Nếu username không tồn tại:

```
USER MANAGEMENT PROGRAM
--------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 2
-----Sign in-----
Enter username: admin1
Username not found.
```

-Khi sai mật khẩu → Cho phép nhập 3 lần, nếu quá 3 lần sẽ chuyển thành khóa trong vòng 10 phút

```
USER MANAGEMENT PROGRAM
--------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 2
-----Sign in-----
Enter username: quynh
Enter password: 123456
Incorrect password. Attempts left: 2
Enter password: 9876543
Incorrect password. Attempts left: 1
Enter password: 9876543
Incorrect password. Attempts left: 0
Too many failed attempts. Your account is blocked for 10 minutes.
```

Trong file txt cũng đã cập nhật trạng thái thành 0 (đã bị khóa) và thời điểm bị khóa của account

```
≡ accounts.txt
  1  quynh 12345678 quynh@gmail.com 0987654321 0 1759061734 user
  2  admin admin123 admin@gmail.com 12345678 1 0 admin
  3
```

Khi đăng nhập lại vào tài khoản đang khóa, sẽ báo "Your account is blocked"

```
USER MANAGEMENT PROGRAM
-------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 2
-----Sign in-----
Enter username: quynh
Your account is blocked.
Please try again in 10 minute(s).
```

-Nếu đăng nhập thành công, thông báo "Welcome"

```
USER MANAGEMENT PROGRAM
-----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 2
-----Sign in-----
Enter username: quynh2
Enter password: 12345678
Welcome!
You are logged in as quynh2, role User.
```

3. Chức năng 3: Đổi mật khẩu

-Kiểm tra mật khẩu cũ có đúng không, cho phép nhập 3 lần, nếu cả 3 lần đều sai thì kết thúc phiên đổi mật khẩu

```
USER MANAGEMENT PROGRAM
--------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 3
----- Change Password -----
Enter your old password: 123456
Incorrect password. Attempts left: 2
Enter your old password: 123456
Incorrect password. Attempts left: 1
Enter your old password: 123456
Incorrect password. Attempts left: 0
Too many failed attempts. Password change aborted.
```

-Nếu đúng:

```
USER MANAGEMENT PROGRAM
--------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 3
----- Change Password -----
Enter your old password: 12345678
Enter your new password: 987654321
Confirm your new password: 987654321
Password changed successfully!
```

Cập nhật trong account.txt: account quynh2 đã đổi mật khẩu thành 987654321

Ban đầu:

```
≡ accounts.txt
  1   quynh 12345678 quynh@gmail.com 0987654321 0 1759061918 user
  2   admin admin123 admin@gmail.com 12345678 1 0 admin
  3   quynh2 12345678 quynh2@gmail.com 0987654321 1 0 user
  4
```

Sau khi đổi

```
≡ accounts.txt
  1   quynh2 987654321 quynh2@gmail.com 0987654321 1 0 user
  2   admin admin123 admin@gmail.com 12345678 1 0 admin
  3   quynh 12345678 quynh@gmail.com 0987654321 0 1759061918 user
  4
```

-Nếu chưa đăng nhập:

```
USER MANAGEMENT PROGRAM
----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 7
User 'quynh2' has been logged out successfully.

USER MANAGEMENT PROGRAM
----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 3
Please log in to change your password.
```

4. Chức năng 4: Cập nhật thông tin tài khoản

-Nếu chưa đăng nhập:

```
USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 4
Please log in to update your account information.
```

-Cho phép lựa chọn đổi email, đổi số điện thoại hoặc đổi cả 2

```
USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 4
----- Update Account Information -----
Current Email: quynh2@gmail.com
Current Phone: 0987654321
1. Update email
2. Update phone number
3. Update both
Enter your choice: 
```

+ Đổi email:

Nếu email vẫn giống email cũ

```
USER MANAGEMENT PROGRAM
----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 4
----- Update Account Information -----
Current Email: quynh2@gmail.com
Current Phone: 0987654321
1. Update email
2. Update phone number
3. Update both
Enter your choice: 1
Enter your new email: quynh2@gmail.com
New email is the same as current email.
```

-Đổi email thành công:

```
USER MANAGEMENT PROGRAM
----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 4
----- Update Account Information -----
Current Email: quynh2@gmail.com
Current Phone: 0987654321
1. Update email
2. Update phone number
3. Update both
Enter your choice: 1
Enter your new email: quynh.tk225762@gmail.com
Email updated successfully!
```

Kết quả trong file account.txt

```
accounts.txt
1   quynh 12345678 quynh@gmail.com 0987654321 0 1759061918 user
2   admin admin123 admin@gmail.com 12345678 1 0 admin
3   quynh2 987654321 quynh.tk225762@gmail.com 0987654321 1 0 user
4   |
```

-Tương tự với 2 lựa chọn còn lại

5. Chức năng 5: Khôi phục mật khẩu

-Nếu không tìm thấy tài khoản:

```
USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 5
----- Reset Password -----
Enter your username: quynh3
Account not found.
```

-Nếu có tài khoản

+Sai verification code (Đang để mặc định là 123456)

```
USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 5
----- Reset Password -----
Enter your username: quynh2
A verification code has been sent to your registered email/phone.
Enter the verification code: 987654
Incorrect verification code.
```

-Đúng verification code:

```
USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 5
----- Reset Password -----
Enter your username: quynh2
A verification code has been sent to your registered email/phone.
Enter the verification code: 123456
Enter your new password: newpassword
Password has been reset successfully.
```

```
≡ accounts.txt M ✕

≡ accounts.txt
  1   quynh 12345678 quynh@gmail.com 0987654321 0 1759061918 user
  2   admin admin123 admin@gmail.com 12345678 1 0 admin
  3   quynh2 newpassword quynh.tk225762@gmail.com 0987654321 1 0 user
  4
```

6. Chức năng 6: Xem lịch sử đăng nhập

-Mỗi lần đăng nhập sẽ lưu vào history.txt theo định dạng username| ngày đăng nhập| giờ đăng nhập

```
≡ history.txt
  1   quynh2 | 28/09/2025 | 19:19:09
  2   quynh2 | 28/09/2025 | 19:20:08
  3   quynh2 | 28/09/2025 | 19:27:17
  4   admin | 28/09/2025 | 19:34:22
  5
```

-Xem lịch sử đăng nhập của mình

```
USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 6
----- Login History for quynh2 -----
Date: 28/09/2025, Time: 19:19:09
Date: 28/09/2025, Time: 19:20:08
Date: 28/09/2025, Time: 19:27:17
```

7. Chức năng 7: Quản lý trạng thái khóa theo thời gian

-Khi sai mật khẩu quá 3 lần, lưu lại timestamp thời gian bị khóa để sau 10 phút, nếu log in lại thì sẽ mở khóa.

Ví dụ với acc có username quynh

```
accounts.txt
1   quynh 12345678 quynh@gmail.com 0987654321 0 1759061918 user
2   admin admin123 admin@gmail.com 12345678 1 0 admin
3   quynh2 newpassword quynh.tk225762@gmail.com 0987654321 1 0 user
4
```

Nếu chưa đủ 10 phút, nó sẽ báo:

```
USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 2
-----Sign in-----
Enter username: quynh
Your account is blocked.
Please try again in 10 minute(s).
```

Sau khi đủ 10 phút login lại, tài khoản sẽ được unblock

```
USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 2
-----Sign in-----
Enter username: quynh
Your account has been automatically unblocked.
Enter password: 12345678
Welcome!
You are logged in as quynh, role User.
```

Block timestamp sẽ được reset về 0

```
accounts.txt
1    quynh2 newpassword quynh.tk225762@gmail.com 0987654321 1 0 user
2    admin admin123 admin@gmail.com 12345678 1 0 admin
3    quynh 12345678 quynh@gmail.com 0987654321 1 0 user
4
```

8. Chức năng 8: Phân quyền

-Khi lưu vào account.txt cũng đã kèm role như các ảnh phía trên, khi tạo tài khoản mặc định là user

-Khi chưa đăng nhập hoặc không phải là role admin, menu sẽ hiển thị chỉ 7 đầu mục:

```
-----Sign in-----
Enter username: quynh
Your account has been automatically unblocked.
Enter password: 12345678
Welcome!
You are logged in as quynh, role User.

USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit):
```

```
User 'quynh' has been logged out successfully.

USER MANAGEMENT PROGRAM
----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): ▌
```

-Khi login với admin role sẽ có thêm lựa chọn 8, 9, 10,11 lần lượt để tạo tài khoản cho người khác (có thể là admin hoặc user), xem toàn bộ account, xóa tài khoản khác, reset mật khẩu cho tài khoản khác

```
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 2
-----Sign in-----
Enter username: admin
Enter password: admin123
Welcome!
You are logged in as admin, role Admin.

USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
----Other admin functions----
8. Create account for others
9. View all accounts
10. Delete account
11. Admin reset password
Your choice (1-11, other to quit):
```

-Nếu thử chọn choice 8-11 từ role user, sẽ tự động kết thúc chương trình như bình thường, không truy cập được vào từ 8-11

```
-----Sign in-----
Enter username: quynh
Enter password: 12345678
Welcome!
You are logged in as quynh, role User.

USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 8
```

-Tạo tài khoản mới cho người khác:

```
USER MANAGEMENT PROGRAM
----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
----Other admin functions----
8. Create account for others
9. View all accounts
10. Delete account
11. Admin reset password
Your choice (1-11, other to quit): 8
-----Admin: Create New Account-----
Enter your username: admin2
Enter your password: admin123
Enter your email: admin@admin.com
Enter your phone number: 0987654321
Select role for new account:
0. User
1. Admin
Enter your choice (0-1): 1
Creating admin account...
Account 'admin2' created successfully with admin privileges.
```

```
USER MANAGEMENT PROGRAM
----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
----Other admin functions----
8. Create account for others
9. View all accounts
10. Delete account
11. Admin reset password
Your choice (1-11, other to quit): 8
-----Admin: Create New Account-----
Enter your username: quynh3
Enter your password: 12345678
Enter your email: quynh3@gmail.com
Enter your phone number: 0388789321
Select role for new account:
0. User
1. Admin
Enter your choice (0-1): 0
Creating user account...
Account 'quynh3' created successfully
```

- Xem danh sách toàn bộ account:

```
USER MANAGEMENT PROGRAM
--------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
----Other admin functions----
8. Create account for others
9. View all accounts
10. Delete account
11. Admin reset password
Your choice (1-11, other to quit): 9
----- All User Accounts -----
Username      Password      Email                     Phone        Status   Role
-----------------------------------------------------------------------------------
quynh3        12345678      quynh3@gmail.com          0388789321   Active   User
admin2        admin123      admin@admin.com           0987654321   Active   Admin
quynh         12345678      quynh@gmail.com           0987654321   Active   User
admin         admin123      admin@gmail.com           12345678     Active   Admin
quynh2        newpassword   quynh.tk225762@gmail.com  0987654321   Active   User
-----------------------------------------------------------------------------------
Total accounts: 5
```

- Xóa tài khoản khác:

+Không tìm thấy username để xóa:

```
----Other admin functions----
8. Create account for others
9. View all accounts
10. Delete account
11. Admin reset password
Your choice (1-11, other to quit): 10
----- Delete Account -----
Enter username to delete: quynh4
Account 'quynh4' not found.
```

+Không thể tự xóa tài khoản của mình:

```
----Other admin functions----
8. Create account for others
9. View all accounts
10. Delete account
11. Admin reset password
Your choice (1-11, other to quit): 10
----- Delete Account -----
Enter username to delete: admin
Cannot delete your own account.
```

+Xóa thành công:

```
 10. Delete account
 11. Admin reset password
Your choice (1-11, other to quit): 10
----- Delete Account -----
Enter username to delete: quynh2
Are you sure you want to delete account 'quynh2'? (yes/no): yes
Account 'quynh2' deleted successfully.

HCED MANACEMENT DDOCDAM
```

Trong file txt cũng sẽ xóa đi account vừa xóa

```
accounts.txt
1    admin2 admin123 admin@admin.com 0987654321 1 0 admin
2    quynh 12345678 quynh@gmail.com 0987654321 1 0 user
3    admin admin123 admin@gmail.com 12345678 1 0 admin
4    quynh2 newpassword quynh.tk225762@gmail.com 0987654321 1 0 user
5
```

```
accounts.txt
1    admin admin123 admin@gmail.com 12345678 1 0 admin
2    quynh 12345678 quynh@gmail.com 0987654321 1 0 user
3    admin2 admin123 admin@admin.com 0987654321 1 0 admin
4
```

- Reset mật khẩu cho user khác:

```
9. View all accounts
10. Delete account
11. Admin reset password
Your choice (1-11, other to quit): 11
----- Admin Reset Password -----
Enter username to reset password: quynh
Enter new password for 'quynh': 987654321
Are you sure you want to reset password for 'quynh'? (yes/no): yes
Password reset successfully for account 'quynh'.
```

```
accounts.txt
1    admin admin123 admin@gmail.com 12345678 1 0 admin
2    quynh 12345678 quynh@gmail.com 0987654321 1 0 user
3    admin2 admin123 admin@admin.com 0987654321 1 0 admin
4
```

```
accounts.txt
1    admin admin123 admin@gmail.com 12345678 1 0 admin
2    quynh 987654321 quynh@gmail.com 0987654321 1 0 user
3    admin2 admin123 admin@admin.com 0987654321 1 0 admin
4
```

9. Chức năng 9: Đăng xuất

```
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
----Other admin functions----
8. Create account for others
9. View all accounts
10. Delete account
11. Admin reset password
Your choice (1-11, other to quit): 7
User 'admin' has been logged out successfully.
```

-Sau khi đăng xuất xong, nếu truy cập vào các chức năng cần đăng nhập sẽ tự động báo lỗi, phải đăng nhập mới truy cập được

```
USER MANAGEMENT PROGRAM
-----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 3
Please log in to change your password.
```

```
USER MANAGEMENT PROGRAM
---------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 4
Please log in to update your account information.
```

```
USER MANAGEMENT PROGRAM
-----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 6
Please log in to view your login history.
```

```
USER MANAGEMENT PROGRAM
-----------------------------------
1. Register
2. Sign in
3. Change password
4. Update account info
5. Reset password
6. View login history
7. Sign out
Your choice (1-7, other to quit): 7
No user is currently logged in.
```