

الاسم : يوسف محمد صلاح علام

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القسم : CS

```
#include <stdbool.h>
```

```
#include <stdio.h>
```

```
#include <string.h>
```

```
#define MAX_USERS 10
```

```
struct User {
```

```
char username[50];
char password[50];
union {
    bool isLoggedIn;
    bool isActive;
};
};
```

```
struct User users[MAX_USERS];
int numUsers = 0;
```

```
// Function to register a new user
void registerUser() {
    if (numUsers >= MAX_USERS) {
        printf("Sorry, you,reach to the maximum
number of users.\n");
        return;
    }
```

```
char username[50];
char password[50];
bool isActive;
```

```
printf("Enter a username: ");  
scanf("%s", username);  
  
// Check for duplicate usernames  
for (int i = 0; i < numUsers; i++) {  
    if (strcmp(username, users[i].username)  
== 0) {  
        printf("Username already exists.  
Registration failed.\n");  
        return;  
    }  
}
```

```
printf("Enter a password: ");  
scanf("%s", password);
```

```
int tempActive;  
printf("Choose user state (1 for active, 0  
for inactive): ");  
scanf("%d", &tempActive);  
isActive = tempActive != 0; // Convert to  
boolean
```

```
    strcpy(users[numUsers].username,  
username);  
    strcpy(users[numUsers].password,  
password);  
    users[numUsers].isActive = isActive;  
  
    printf("Registration successful!\n");  
    numUsers++;  
}
```

// Function to log in

```
void loginUser() {  
    char username[50];  
    char password[50];  
  
    printf("Enter your username: ");  
    scanf("%s", username);  
  
    printf("Enter your password: ");  
    scanf("%s", password);
```

```
for (int i = 0; i < numUsers; i++) {  
    if (strcmp(username, users[i].username)  
== 0 &&  
        strcmp(password, users[i].password)  
== 0) {  
        if (users[i].isActive) {  
            users[i].isLoggedIn = true;  
            printf("Login successful!\n");  
        } else {  
            printf("Login failed. User is inactive.  
\n");  
        }  
        return;  
    }  
}
```

```
printf("Login failed. Invalid username or  
password.\n");  
}
```

```
// Function to log out  
void logoutUser() {
```

```
char username[50];
```

```
printf("Enter your username: ");
```

```
scanf("%s", username);
```

```
for (int i = 0; i < numUsers; i++) {
```

```
    if (strcmp(username, users[i].username)  
== 0) {
```

```
        users[i].isLoggedIn = false;
```

```
        printf("Logout successful!\n");
```

```
        return;
```

```
    }
```

```
}
```

```
printf("User not found.\n");
```

```
}
```

```
int main() {
```

```
    int ans;
```

```
while (1) {
```

```
    printf("\n-----\n");
```

```
    printf("Choose an option:\n");
```

```
printf("1. Register\n");
printf("2. Login\n");
printf("3. Logout\n");
printf("4. Exit\n");
printf("\n-----\n");
printf("ans : ");
scanf("%d", &ans);

if (ans == 1)
    registerUser();
else if (ans == 2)
    loginUser();
else if (ans == 3)
    logoutUser();
else if (ans == 4) {
    printf("Goodbye!\n");
    return 0;
} else
    printf("Invalid choice. Please try again.
\n");
}
return 0;
}
```

