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| --- |
| using System; |
|  | using System.Collections.Generic; |
|  | using System.Linq; |
|  | using System.Text; |
|  | using System.Threading.Tasks; |
|  | using System.Security.Cryptography; |
|  |  |
|  | namespace Week7GradedExercise |
|  | { |
|  | class Program |
|  | { |
|  | static void Main(string[] args) |
|  | { |
|  | Console.WriteLine("This application allows users to create usernames and passwords.\n" + |
|  | "It stores the usernames, but the passwords are kept as a MD5 hash.\n" + |
|  | "Passwords are case sensitive, but usernames are not.\n" + |
|  | "Enter the username \"exit\" to quit the application."); |
|  | using (MD5 md5Hash = MD5.Create()) |
|  | { |
|  | Dictionary<string, byte[]> logins = new Dictionary<string, byte[]>(); |
|  | do |
|  | { |
|  | string userName = ""; |
|  | Console.Write("Enter your username: "); |
|  | userName = Console.ReadLine().ToLower(); |
|  | if (userName == "exit") |
|  | break; |
|  | if (logins.ContainsKey(userName)) |
|  | { |
|  | Console.Write("Enter your password: "); |
|  | if (logins[userName].SequenceEqual(GetPassword(md5Hash))) |
|  | { |
|  | Console.WriteLine("Login Confirmed."); |
|  | } |
|  | else Console.WriteLine("The password did not match."); |
|  | } |
|  | else |
|  | { |
|  | do |
|  | { |
|  | Console.Write("Username not found.\n" + |
|  | "If you want to create a new login, enter Y.\n" + |
|  | "If you want to try entering your username again, enter N.\n" + |
|  | ":> "); |
|  | string input = Console.ReadLine(); |
|  | if (input.ToLower() == "y") |
|  | { |
|  | do |
|  | { |
|  | Console.Write("Enter your password: "); |
|  | byte[] pw = GetPassword(md5Hash); |
|  | Console.Write("Confirm your password: "); |
|  | if (pw.SequenceEqual(GetPassword(md5Hash))) |
|  | { |
|  | Console.WriteLine("User login successfully created."); |
|  | logins.Add(userName, pw); |
|  | break; |
|  | } |
|  | else |
|  | { |
|  | Console.WriteLine("The passwords did not match."); |
|  | } |
|  | } while (true); |
|  | break; |
|  | } |
|  | else if (input.ToLower() == "n") |
|  | { |
|  | break; |
|  | } |
|  | else |
|  | { |
|  | Console.WriteLine("That wasn't Y or N."); |
|  | } |
|  | } while (true); |
|  | } |
|  | } while (true); |
|  | } |
|  | } |
|  | static byte[] GetPassword(MD5 hash) |
|  | { |
|  | string password = ""; |
|  | ConsoleKeyInfo key; |
|  | do |
|  | { |
|  | key = Console.ReadKey(true); |
|  | if (key.Key != ConsoleKey.Backspace && key.Key != ConsoleKey.Enter) |
|  | { |
|  | password += key.KeyChar; |
|  | Console.Write("\*"); |
|  | } |
|  | else |
|  | { |
|  | if (key.Key == ConsoleKey.Backspace && password.Length > 0) |
|  | { |
|  | password = password.Substring(0, (password.Length - 1)); |
|  | Console.Write("\b \b"); |
|  | } |
|  | } |
|  | } |
|  | while (key.Key != ConsoleKey.Enter); |
|  | Console.WriteLine(); |
|  | return hash.ComputeHash(Encoding.UTF8.GetBytes(password)); |
|  | } |
|  | } |
|  | } |