Information Encoding Standards

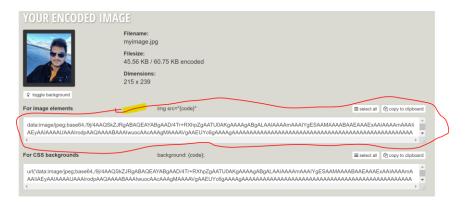
Assignment: 2

1.Create a folder in the BDAT1001-<CRN> FTP folder using the following information and format:



Created the folder with the given naming conventions.

3.Convert you myimage.jpg to Base64 encoding using this website application



Converted myimage.jpg to Base64 encoding. Here the highlighted region is the Base64 encoding of my image.

4.Use the HTML code from the <u>Base64 C# Converter</u> page to build a basic web page to describe yourself

```
<!DOCTYPE html>
॑<head>
    <meta charset="utf-8" />
    <title></title>
i√sbody>
i ⟨div⟩
        <d1>
            <dt>First Name</dt>
           <dd>Manoj</dd>
<dt>Last Name</dt>
            <dd>Gottumukkala</dd>
            <dt>Date of Birth</dt>
            <dt>My picture</dt>
                <img src="data:image/jpeg;base64,/9j/4AAQSkZJRgA</pre>
            </dd>
        </dl>
    </div>
 </body>
</html>
```

The HTML script for building a website with my first name, last name, date of birth, and the picture is shown above. I have provided the base64 encoding of my image in the HTML script for displaying my picture.



This is how it looks when the webpage is loading/opened.

5.Add the code from <u>Base64 C# Converter</u> to the Converter application from <u>Assignment 1</u> - <u>Data Security, Encoding, Encryption, and Privacy.</u>

```
namespace Assignment2
        static void Main(string[] args)
            //Get the location of the user's Desktop
string desktopPath = Environment.GetFolderPath(Environment.SpecialFolder.Desktop);
             //Build a image file path from the original image path
             FileInfo fileinfo = new FileInfo($"{desktopPath}\\myimage.jpg .jpg");
             //Provide an Image from a file on your Desktop
             Image image = Image.FromFile(fileinfo.FullName);
             //Convert Image to Base64 encoded text
             string base64image = Converter.ImageToBase64(image, ImageFormat.Jpeg);
             //Output the Base64 encoded text
             Console.WriteLine(base64image);
            //Build a new image file path from the original image path
FileInfo newfileinfo = new FileInfo($"{fileinfo.Directory}\\{fileinfo.Name} - New from Base64{fileinfo.Extension}");
             //Save Base64 encoded text to Image object
             Image imageFromBase64 = Converter.Base64ToImage(base64image);
             //Save the Image to a file imageFromBase64.Save(newfileinfo.FullName, ImageFormat.Jpeg);
             string[] lines = { "StudentId,FirstName,LastName,DateOfBirth,ImageData", "200467080,Manoj,Gottumukkala,18/10/97, /9j/4AAQSk:
```

This is the code I have used in the program.cs

Flow of execution:

1. This is what happens when we execute the first three statements of the program.



desktopPath gets the location of my desktop. Fileinfo will have the absolute path of the image specified in the statement, and the image variable has the myimage.jpg

2.

```
//Convert Image to Base64 encoded text
string base64image = Converter.ImageToBase64(image, ImageFormat.Jpeg);
//Output the Base64 encoded text
Console.WriteLine(base64image);
```

When these statements are given, the sequence of execution moves to the Image ToBase64 class in the convertor.cs file where the image is converted to base64 format. The output of this conversion is displayed. The ImageToBase64 class is explained in detail with the comments in convertor.cs file.

3.

```
//Build a new image file path from the original image path
FileInfo newfileinfo = new FileInfo($"{fileinfo.Directory}\\{fileinfo.Name} - New from Base64{fileinfo.Extension}");

//Save Base64 encoded text to Image object
Image imageFromBase64 = Converter.Base64ToImage(base64image);

//Save the Image to a file
imageFromBase64.Save(newfileinfo.FullName, ImageFormat.Jpeg);
```

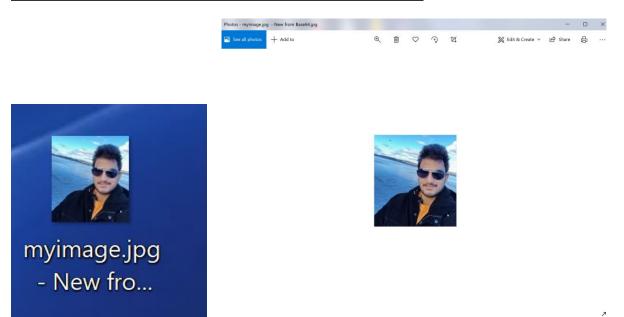
The first statement creates an empty image file. During statement 2, the base64image (This has base64 equivalent of the image) is taken as a parameter by Converter. Base64ToImage. The Base64ToImage module/class in the converter.cs file converts the base64 to image format. During the 3rd statement, the output image is saved.

6.a Output the Base64 encoded image to the console.

Microsoft Visual Studio Debug Console 9j/4AAQSkZJRgABAQEAYABgAAD/4SrgRXhpZgAATU0AKgAAAAgABQESAAMAAAABAAEAAAExAAIAAAAmaAAASgEyAAIAAAAUAAAACIdpAAQAAAABAAAAHIg AQAAAABAAAABAAAShXaW5kb3dzIFBob3RvIEVkaXRvciAxMC4wLjEwMDExLjE2Mzg0ADIwMjA6MTA6MTAgMTc6NDY6NTMAAAWQAwACAAAAFAAAAMaQBA AAAAFAAAANqSkQACAAAAAZAwAACSkgACAAAAAZAwAACgAQADAAAAAQABAAAAAAAMJAyMDoxMDoxMCAxNZoyMTo10AAyMDIw0jEw0jEwIDE30jIx0jUAAAA AAEACWACAAAAJgAAAQIAAAAAV21uZG93cyBQaG90byBFZG10b3IgMTAuMC4xMDAxMS4xNjM4NAAABgEDAAMAAAABAAYAAAEaAAUAAAABAAABdgEbAAUAAAAB AAABfgEOAAMAAAABAAIAAAIBAAQAAAABAAABhgICAAQAAAABAAApUgAAAAAAABgAAAAAQAAAGAAAAAB/9j/2wBDAAgGBgcGBQgHBwcJCQgKDBQNDAsLDBk: AAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4 eXqDhİWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEB AQAAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOE18RcYGRomJygr (jU2Nzg50kNERUZHSE1KU1RVVldYWVpjZGVmZ2hpanN0dXZ3eH16goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX 2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwDuTGDSGKvfUj4+4ww9hTDERTUhjfL9qQx1VwuJspNlNSHcbszSbKq4CbPSkMdPmC3UClNMftT gDy805E2uCe1Deg4kx1QqFKCoTGrdOtSnY0bGGA7aj2fpVqRDQFKNtVcQbB6UbDRcBdntS7KXMAbDRSuFzpDB7VEYWz0rgUybDTH7UGKmpEjDEaaYqpSC4h pvlVSkA0xU3yqpSGKkILYY4F18Q3HA4o5zT713y6VYM5zxT5iVqMMRHY/Wm7KakNxaEMdAQqQadwTJowh0ZM4pkyR9UqU9S5PQi2e1Js9q0uQGyl2UXJF2UL MOUYBFJcjIViB1IHFFZ+1Rr7NnUCLI9aRoa4Oaw+UgcIvDYXPTmgIp6EH8atO5HJcQxAmmtDT5rEOJGYsf1TTH7VomQIYqaYqdwuNMWaaYyO9O5akGz2pApl 07hGWpftLlFbbIowe+Kuvb2F0d7KoO3HFc0+ZSuj06Sp1I2Mu80+KJs27F1PbvVQKFbnt610UpOUdTjq0+SdkNkmhQBXZVLdKqm+09Gw9zHu9Aa0iiXFtiLe 2cj7V1XJ6HIwfoasCMHoQfpVdCJRcRfKo8rFJSI2F8qrunWC3Nwqy5Ve2Kyq1EoNmtCCnNI7NYo1QAKoX6UV4/Mz6VUY20XS84wrLKc/wmrsRWRcghv6V2T\ jxPZivAsgwygj3qhNp3lqWt1+b0zRCYcthkH2oOomhyuetXNmR61bZlOA0xjHTFN8n0pcxlyCGH2pDDTUiOQjMYBxR5WatMTiNMNMMVPmM2NMR9KimLwpvDE D2q46uzN6NRxdjkdR8cNaSMkaq204355NY1z4xuZvN1RgjycYx0q1o9D0/Zc0bs5x9Wu1mWVriR88gs2SKrz6rJOyvv5Ycn0/wA4/Sq9oWqSGw38tu5ZHKYO ODXT6R4tu0JjaVW9Nxx/npVxlczq0U0dVpniVLpGWZfLkRyrA9jXUWlu96haAB9uM4NZ1JKMbnB7BudjWt/DxJVp5R61VH9a2ks7dBtWFAB/s15VWs5s9nC SMFcrag7QRIUzjPainFJo6JSadjmZ9PvLdt/lMpHR05p1vq8sDbZkEgHfoRXRpNHFKJuW0qXUKyxnKnipTF7Cud6SsSo3GNDmq/2UpJu3OfY0+cznSJBFSB\ P3WBxwcGmtSPZ2K7XMKuVOcDvU0KCbG0M9Cap3SKjh77BcafKqM6gcVThLlijkWPtVQndDlhXYsCEM+3pn1p72LL0IY+gpc5i8I7EDwlB8wx7Vzfiq5eytVk zFWZdwRem31JrWnPUilhnz6nh2o6lvnYKec9fSqDavsjKdgQR3xVOZ68Y2VhtxdHajK3BUA988dfzohuY1ba7c9F9uf/AK+aXMXykpdjgknn94xqdZGXCg/I xPHccdatTIcTXtLyVLc1GIcbendgcD+te1eCLyASPG0/zN8q8/K5HH59amvK9OxEKa57ndPNHEMswH1qA6lbA/fNecoN6nZzqJFNd2864V+QaK0SaVjGTTd Dku3kmJjnkUn+EjAP4Z/pUJtRMw3kiRcnDr1W+nQiulLlOVlq0a2hj8rzygbnGOAfxrYiKSDMUgdfY9KxqLW46Y/aygZBb3qrcXCxDFxbyIn98DI/Ss1qzS 0K897Gq7obgN/s1P84q186Syb5NybuGKjIIreEbGL1PMLXDH7OwcdcD1pIYL1OkbjH+1Tk0aUnyjzqU8GY51JX0cYoS+smH0Y27H/wCvWaXY6OdMnN1C7Aq6 N9ep/GjzYWbIyvtmixVkVtWvxaWDtFEJcDLBjgAe9eIeKPEV3dfPdI8aSYWPD5+UDp+oqoC5UtjzbUJA15I0b5UfdPqDVVpDK67SSW7ChstLqaCgGUx7961+ SPSq27bNvzkIOn4Ci4WLUF208qFzgDnnp0NOtLn/AImgJJ7n9KtSJaNWG6VYZZBwFbge50QP512XhPXPs2r24Y/IjM2Of4sYP4Vr8SMnoe2G++2RIjnZnFNm 01yAbeUPnsa59IOxndyKLW9xbN+9jYD1orW8XqDujzCG+8Q6Wf181kB9S4/ma3rb4hARbbq21DKMFY33foa3n57GMZX3LK+09PuQrTQ3Cg8BtgYD9a1t08Ua TNjydTCZ5CMxQ/zxWMqehpE6aC+eVd1veRTDHTeH/wDQRTjNdOShaDc3/LNxgN9O9c3KkW5NlZ9NklkXEPleoHIz+dSvoLFPkmBPoRiq9rYUYEP2KaJ9rW0b

It is displaying the base 64 encoded version of the image.

Converted the above base64 encoded version back to image:



We can see an image file is created with a name mentioned in the code.

7. Create a text file named info.csv that contains the following text

This is the code I have used for executing the task.

Flow of execution:

- 1.I have declared a string named lines containing the information that I need to store in the text file. Commas (,) in the string separate the text between rows and columns.
- 2. In the next statement, the console gets the location of the user's desktop.
- 3. I have created an empty text file named info.csv on the desktop and added the text in the lines string.



We can observe a info.csv text file on the Desktop.

Studentlid FirstName LastName DateOfBirt ImageData
2E+08 Manoj Gottumuki 18/10/97 /9j/4AAQSkZIRgABAQEAYABgAAD/4Tr+RXhpZgAATU0AKgAAAAgABgALAAIAAAAmAAAIYgESAAMAAAABAAEAAAExAAIAAAAmAAAIIAEyAAIAAAAUAAAIrodpaAQAAAABAAANuvuocAacaAagMAAAAVgAAEUYc

This is the content in the text file.