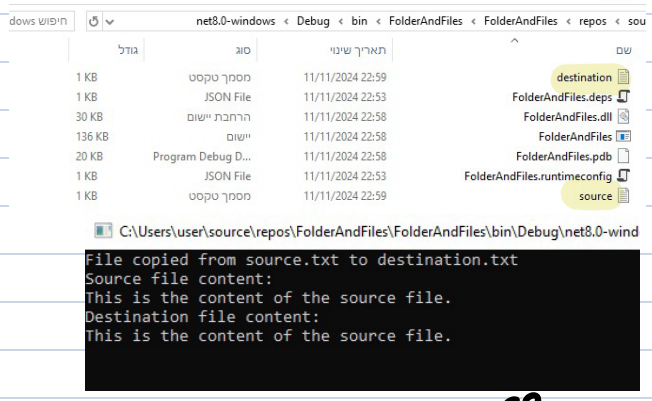
File & Folder Managment

Exercise #1

```
using System.IO;
using System.Runtime.InteropServices;
using System.Windows;

namespace FileHandling.Exe
{
    4 references
    public partial class Exe1 : Window
    {
        [DllImport("kernel32.dll")]
        1 reference
        public static extern bool AllocConsole();
        1 reference
        public Exe1()
        {
            InitializeComponent();
            AllocConsole();

            string sourcePath = "source.txt";
            string destinationPath = "destination.txt";
            File.WriteAllText(sourcePath, "This is the content of the source file.");

            try
            {
                if (File.Exists(sourcePath))
                {
                    File.Copy(sourcePath, destinationPath, overwrite: true);
                    Console.WriteLine($"File copied from {sourcePath} to {destinationPath}");

                    string sourceContent = File.ReadAllText(sourcePath);
                    string destinationContent = File.ReadAllText(destinationPath);
                    Console.WriteLine("Source file content:");
                    Console.WriteLine(sourceContent);
                    Console.WriteLine("Destination file content:");
                    Console.WriteLine(destinationContent);
                }
                else
                {
                    Console.WriteLine($"The file {sourcePath} does not exist.");
                }
            }
            catch (Exception ex)
            {
                Console.WriteLine("An error occurred:");
                Console.WriteLine(ex.Message);
            }

            Console.ReadLine();
        }
    }
}
```

Exercise 1: Copy a Single File

1. **Objective**: Learn how to copy a single file.
2. **Steps**:
3. Create a console application.
4. In the `Main` method, use the `File.Copy` method to copy an existing file named "source.txt" to a new file named "destination.txt" in the same directory.
5. Check that "destination.txt" was created and contains the same content as "source.txt".



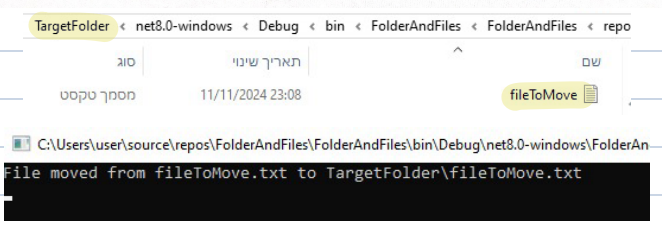
ניצור קובץ Source.txt ואז נבדוק אוף הוא קיים, כמובן אין נבצע העתקה של הקובץ עם התוכן לקובץ בשם destination.txt. לאחר מכן נציג הכל ל Console.

Exercise #2

```
using System.IO;
using System.Runtime.InteropServices;
using System.Windows;


namespace FileHandling.Exe
{
    4 references
    public partial class Exe2 : Window
    {
        [DllImport("kernel32.dll")]
        1 reference
        public static extern bool AllocConsole();
        1 reference
        public Exe2()
        {
            InitializeComponent();
            AllocConsole();

            string sourcePath = "fileToMove.txt";
            File.WriteAllText(sourcePath, "This is the content of the file to move.");
            string destinationFolder = "TargetFolder";
            string destinationPath = Path.Combine(destinationFolder, "fileToMove.txt");

            if (!Directory.Exists(destinationFolder))
            {
                Directory.CreateDirectory(destinationFolder);
            }
            try
            {
                File.Move(sourcePath, destinationPath);
                Console.WriteLine($"File moved from {sourcePath} to {destinationPath}");
            }
            catch (Exception ex)
            {
                Console.WriteLine("An error occurred while moving the file:");
                Console.WriteLine(ex.Message);
            }

            Console.ReadLine();
        }
    }
}
```

Exercise 2: Move a Single File

1. **Objective**: Move a file from one location to another.
2. **Steps**:
3. Create a file named "fileToMove.txt" in your project directory with some sample text.
4. Use `File.Move` to move it to a folder named "TargetFolder".
5. Ensure that the "TargetFolder" directory exists before running the program.



נרצה להעביר את הקובץ fileToMove.txt מתיקיית הפרויקט לתיקיה אחרת בשם TargetFolder.
אוף התיקיה לא קיימת ניצור אותה בעזרת Directory.CreateDirectory ואז נבצע העברה של הקובץ לתיקיה עם File.Move.

נרצה לציין נתיב אלא עדיף הקובץ שהעברנו עם Path.Combine.

Exercise #3

Exercise 3: Delete a Single File

1. **Objective**: Safely delete a file if it exists.
2. **Steps**:
3. In the `Main` method, check if a file named "deleteMe.txt" exists in the directory.
4. If the file exists, delete it using the `File.Delete` method.

```
using System.IO;
using System.Runtime.InteropServices;
using System.Windows;


namespace FileHandling.Exe
{
    4 references
    public partial class Exe3 : Window
    {
        [DllImport("kernel32.dll")]
        1 reference
        public static extern bool AllocConsole();
        1 reference
        public Exe3()
        {
            InitializeComponent();
            AllocConsole();

            string filePath = "deleteMe.txt";
            File.WriteAllText(filePath, "hello");

            if (File.Exists(filePath))
            {
                File.Delete(filePath);
                Console.WriteLine($"File '{filePath}' has been deleted.");
            }
            else
            {
                Console.WriteLine($"File '{filePath}' does not exist.");
            }

            Console.ReadLine();
        }
    }
}
```

C:\Users\user\source\repos\FolderAndFiles\FolderAndFile

```
File 'deleteMe.txt' has been deleted.
```

ניצור קובץ ובדוק שבאמת קיים, כמידה וקיים
נבצע מחיקה ל הקובץ ע"י File.Delete

Exercise #4

Exercise 4: Create a Directory

1. **Objective**: Create a new directory if it doesn't already exist.
2. **Steps**:
3. In the `Main` method, use `Directory.CreateDirectory` to create a folder named "NewFolder".
4. Run the program to verify that the folder is created.

```
using System.Runtime.InteropServices;
using System.Windows;
using System.IO;


namespace FileHandling.Exe
{
    4 references
    public partial class Exe4 : Window
    {
        [DllImport("kernel32.dll")]
        1 reference
        public static extern bool AllocConsole();
        1 reference
        public Exe4()
        {
            InitializeComponent();
            AllocConsole();

            string folderPath = "NewFolder";

            if (!Directory.Exists(folderPath))
            {
                Directory.CreateDirectory(folderPath);
                Console.WriteLine($"Directory '{folderPath}' has been created.");
            }
            else
            {
                Console.WriteLine($"Directory '{folderPath}' already exists.");
            }

            Console.ReadLine();

        }
    }
}
```

C:\Users\user\source\repos\FolderAndFiles\FolderAndFiles\bin\De

```
Directory 'NewFolder' has been created.
```

:bug < bin < FolderAndFiles < FolderAndFiles < repos < so

תאריך שינוי	שם
1/11/2024 23:26	NewFolder
1/11/2024 23:08	TargetFolder

ונדגה ליצור בתיקית הפרויקט תיקיה
חדשה בשם NewFolder
ע"י Directory.CreateDirectory

Exercise #5

```
using System.Runtime.InteropServices;
using System.Windows;
using System.IO;


namespace FileHandling.Exe
{
    4 references
    public partial class Exe5 : Window
    {
        [DllImport("kernel32.dll")]
        1 reference
        public static extern bool AllocConsole();
        1 reference
        public Exe5()
        {
            InitializeComponent();
            AllocConsole();

            string folderPath = "Documents";
            Directory.CreateDirectory(folderPath);
            string filePath = Path.Combine(folderPath, "file.txt");
            File.WriteAllText(filePath, "Hello");

            if (Directory.Exists(folderPath))
            {
                string[] files = Directory.GetFiles(folderPath);

                Console.WriteLine($"Files in '{folderPath}':");

                foreach (string file in files)
                {
                    Console.WriteLine(Path.GetFileName(file));
                }
            }
            else
            {
                Console.WriteLine($"Directory '{folderPath}' does not exist.");
            }

            Console.ReadLine();
        }
    }
}
```

Exercise 5: List Files in a Directory

1. **Objective**: Retrieve and display a list of all files in a specified directory.
2. **Steps**:
3. Ensure there is a folder named "Documents" containing a few files.
4. In the `Main` method, use `Directory.GetFiles` to get a list of all files in the "Documents" folder.
5. Print each file name to the console.

C:\Users\user\source\repos\FolderAndFiles\Folde

```
Files in 'Documents':
file.txt
```

ותלה לקבל את רשימת כל הקבצים שנמצאים בתיקיה Documents
ע"י Directory.GetFiles
ורוץ בלולאה על כל קובץ בתיקיה ונדפיס ל-console.

Exercise #6

```
using System.Windows;
using System.IO;
using System.Runtime.InteropServices;

namespace FileHandling.Exe
{
    4 references
    public partial class Exe6 : Window
    {
        [DllImport("kernel32.dll")]
        1 reference
        public static extern bool AllocConsole();

        1 reference
        public Exe6()
        {
            InitializeComponent();
            AllocConsole();

            string sourceFolder = "SourceFolder";
            string destinationFolder = "DestinationFolder";

            if (!Directory.Exists(sourceFolder))
            {
                Directory.CreateDirectory(sourceFolder);
                Console.WriteLine($"Created source folder: {sourceFolder}");
                File.WriteAllText(Path.Combine(sourceFolder, "file1.txt"), "This is file 1.");
                File.WriteAllText(Path.Combine(sourceFolder, "file2.txt"), "This is file 2.");
                Console.WriteLine("Sample files created in source folder.");
            }
            if (!Directory.Exists(destinationFolder))
            {
                Directory.CreateDirectory(destinationFolder);
                Console.WriteLine($"Created destination folder: {destinationFolder}");
            }

            string[] files = Directory.GetFiles(sourceFolder);

            foreach (string file in files)
            {
                string fileName = Path.GetFileName(file);
                string destPath = Path.Combine(destinationFolder, fileName);

                File.Copy(file, destPath, overwrite: true);
                Console.WriteLine($"Copied '{fileName}' to '{destinationFolder}'");
            }
            Console.WriteLine("\nAll files have been copied.");
            Console.ReadLine();
        }
    }
}
```

Exercise 6: Copy All Files from One Folder to Another

1. **Objective**: Copy all files from a source folder to a destination folder.
2. **Steps**:
3. Create two folders named "SourceFolder" and "DestinationFolder".
4. Use `Directory.GetFiles` to get each file in "SourceFolder".
5. Copy each file to "DestinationFolder" using `File.Copy`.

C:\Users\user\source\repos\FolderAndFiles\FolderAndFiles\bin\Debug

```
Created source folder: SourceFolder
Sample files created in source folder.
Created destination folder: DestinationFolder
Copied 'file1.txt' to 'DestinationFolder'
Copied 'file2.txt' to 'DestinationFolder'

All files have been copied.
```

Debug < bin < FolderAndFiles < FolderAndFiles < repos < sou

תאריך שינוי	שם
11/11/2024 23:50	DestinationFolder
11/11/2024 23:42	Documents
11/11/2024 23:26	NewFolder
11/11/2024 23:50	SourceFolder
11/11/2024 23:08	TargetFolder

ותלה להעביר את כל הקבצים מתיקיה מקור לתיקיית יעד.
ונעבור על כל הקבצים בתיקיית המקור ונעתיק אותם לתיקיית היעד.

Exercise #7

```
using System.Windows;
using System.IO;
using System.Runtime.InteropServices;

namespace FileHandling.Exe
{
    4 references
    public partial class Exe7 : Window
    {
        [DllImport("kernel32.dll")]
        1 reference
        public static extern bool AllocConsole();
        1 reference
        public Exe7()
        {
            InitializeComponent();
            AllocConsole();

            string tempFolder = "TempFolder";

            if (!Directory.Exists(tempFolder))
            {
                Directory.CreateDirectory(tempFolder);
                Console.WriteLine($"Created folder: {tempFolder}");

                File.WriteAllText(Path.Combine(tempFolder, "tempfile1.txt"), "Temporary file 1.");
                File.WriteAllText(Path.Combine(tempFolder, "tempfile2.txt"), "Temporary file 2.");
                Console.WriteLine("Sample files created in TempFolder.");
            }

            string[] files = Directory.GetFiles(tempFolder);

            foreach (string file in files)
            {
                File.Delete(file);
                Console.WriteLine($"Deleted file: {Path.GetFileName(file)}");
            }

            Console.WriteLine("\nAll files in TempFolder have been deleted.");
            Console.ReadLine();
        }
    }
}
```

Exercise 7: Delete All Files in a Folder

1. **Objective**: Delete all files within a specific folder.
2. **Steps**:
3. Ensure there is a folder named "TempFolder" with multiple files inside.
4. In the Main method, use Directory.GetFiles to retrieve all files in "TempFolder".
5. Delete each file using the File.Delete method.

C:\Users\user\source\repos\FolderAndFiles\FolderAndFiles\bir

```
Created folder: TempFolder
Sample files created in TempFolder.
Deleted file: tempfile1.txt
Deleted file: tempfile2.txt

All files in TempFolder have been deleted.
```

ניצור תיקייה עם קבצים בתוכה ונמחוק את כל הקבצים בתיקייה ונמחק כל קובץ.

Exercise #8

```
using System.Windows;
using System.IO;
using System.Runtime.InteropServices;


namespace FileHandling.Exe
{
    4 references
    public partial class Exe8 : Window
    {
        [DllImport("kernel32.dll")]
        1 reference
        public static extern bool AllocConsole();
        1 reference
        public Exe8()
        {
            InitializeComponent();
            AllocConsole();

            string sourceFolder = "SourceFolder";
            string destinationFolder = "DestinationFolder";

            if (!Directory.Exists(sourceFolder))
            {
                Directory.CreateDirectory(sourceFolder);
                Directory.CreateDirectory(Path.Combine(sourceFolder, "Subfolder1"));
                Directory.CreateDirectory(Path.Combine(sourceFolder, "Subfolder2"));

                File.WriteAllText(Path.Combine(sourceFolder, "file1.txt"), "This is file 1 in SourceFolder.");
                File.WriteAllText(Path.Combine(sourceFolder, "file2.txt"), "This is file 2 in SourceFolder.");
                File.WriteAllText(Path.Combine(sourceFolder, "Subfolder1", "subfile1.txt"), "This is a file in Subfolder1.");
                File.WriteAllText(Path.Combine(sourceFolder, "Subfolder2", "subfile2.txt"), "This is a file in Subfolder2.");

                Console.WriteLine("Sample SourceFolder with files and subfolders created.");
            }

            CopyDirectory(sourceFolder, destinationFolder);
            Console.WriteLine("\nCopy completed. Check DestinationFolder for the copied structure and files.");
            Console.ReadLine();
        }
```

Exercise 8: Copy a Folder with Subfolders and Files

1. **Objective**: Copy an entire folder, including its subfolders and files, to a new location.
2. **Steps**:
3. Create a folder named "SourceFolder" with subfolders and files inside.
4. Create a method that recursively copies each subfolder and file from "SourceFolder" to "DestinationFolder".
5. Verify that "DestinationFolder" has the same structure and content as "SourceFolder".

C:\Users\user\source\repos\FolderAndFiles\FolderAndFiles\bin\Debug\net8.0-windows\FolderAndFiles.exe

```
Copied file: SourceFolder\file1.txt to DestinationFolder\file1.txt
Copied file: SourceFolder\file2.txt to DestinationFolder\file2.txt

Copy completed. Check DestinationFolder for the copied structure and files.
```

נתה לבדוק תיקייה שיש בה תת תיקיות וקבצים לתיקיה אחרת.

```
        2 references
        private void CopyDirectory(string sourceDir, string destinationDir)
        {
            Directory.CreateDirectory(destinationDir);
            foreach (string file in Directory.GetFiles(sourceDir))
            {
                string destFilePath = Path.Combine(destinationDir, Path.GetFileName(file));
                File.Copy(file, destFilePath, overwrite: true);
                Console.WriteLine($"Copied file: {file} to {destFilePath}");
            }
            foreach (string subDir in Directory.GetDirectories(sourceDir))
            {
                string destSubDir = Path.Combine(destinationDir, Path.GetFileName(subDir));
                CopyDirectory(subDir, destSubDir);
            }
        }
    }
}
```

נעתק את כל הקבצים בתיקיה ואת כל תת התיקיות.

Exercise #9

```
using System.Windows;
using System.IO;
using System.Runtime.InteropServices;

namespace FileHandling.Exe
{
    4 references
    public partial class Exe9 : Window
    {
        [DllImport("kernel32.dll")]
        1 reference
        public static extern bool AllocConsole();
        1 reference
        public Exe9()
        {
            InitializeComponent();
            AllocConsole();
            string folderPath = "OldFolder";

            CreateSampleFolderStructure(folderPath);
            DeleteFolder(folderPath);

            Console.WriteLine("\nOperation complete. Check that OldFolder has been deleted.");
            Console.ReadLine();
        }

        1 reference
        private void CreateSampleFolderStructure(string folderPath)
        {
            if (!Directory.Exists(folderPath))
            {
                Directory.CreateDirectory(folderPath);
                Directory.CreateDirectory(Path.Combine(folderPath, "Subfolder1"));
                Directory.CreateDirectory(Path.Combine(folderPath, "Subfolder2"));

                File.WriteAllText(Path.Combine(folderPath, "file1.txt"), "This is file 1 in OldFolder.");
                File.WriteAllText(Path.Combine(folderPath, "file2.txt"), "This is file 2 in OldFolder.");
                File.WriteAllText(Path.Combine(folderPath, "Subfolder1", "subfile1.txt"), "This is a file in Subfolder1.");
                File.WriteAllText(Path.Combine(folderPath, "Subfolder2", "subfile2.txt"), "This is a file in Subfolder2.");

                Console.WriteLine("Sample OldFolder with files and subfolders created.");
            }
            else
            {
                Console.WriteLine("OldFolder already exists.");
            }
        }

        1 reference
        private void DeleteFolder(string folderPath)
        {
            if (Directory.Exists(folderPath))
            {
                try
                {
                    Directory.Delete(folderPath, recursive: true);
                    Console.WriteLine($"Folder '{folderPath}' and all its contents have been deleted.");
                }
                catch (Exception ex)
                {
                    Console.WriteLine($"An error occurred while deleting '{folderPath}': {ex.Message}");
                }
            }
            else
            {
                Console.WriteLine($"The folder '{folderPath}' does not exist.");
            }
        }
    }
}
```

Exercise 9: Delete a Folder with All Subfolders and Files

1. **Objective**: Delete a folder and all of its contents.
2. **Steps**:
3. Create a folder named "OldFolder" with subfolders and files inside.
4. Use `Directory.Delete` with the recursive option set to delete "OldFolder" and all of its contents.

C:\Users\user\source\repos\FolderAndFiles\FolderAndFiles\bin\Debug\net8.0-windo

```
Sample OldFolder with files and subfolders created.
Folder 'OldFolder' and all its contents have been deleted.

Operation complete. Check that OldFolder has been deleted.
```

נלך למחוק תיקיה עם כל התת תיקיות והקבצים שבתוכה.

Exercise #10

```
using System.Windows;
using System.IO;
using System.Runtime.InteropServices;

namespace FileHandling.Exe
{
    4 references
    public partial class Exe10 : Window
    {
        [DllImport("kernel32.dll")]
        1 reference
        public static extern bool AllocConsole();
        1 reference
        public Exe10()
        {
            InitializeComponent();
            AllocConsole();
            string sourceFolderPath = "MoveThisFolder";
            string destinationFolderPath = Path.Combine("NewLocation", "MoveThisFolder");

            CreateSampleFolderStructure(sourceFolderPath);
            MoveFolder(sourceFolderPath, destinationFolderPath);

            Console.WriteLine("\nOperation complete. Verify that the folder was moved.");
            Console.ReadLine();
        }

        private void CreateSampleFolderStructure(string folderPath)
        {
            if (!Directory.Exists(folderPath))
            {
                Directory.CreateDirectory(folderPath);
                Directory.CreateDirectory(Path.Combine(folderPath, "Subfolder1"));
                Directory.CreateDirectory(Path.Combine(folderPath, "Subfolder2"));

                File.WriteAllText(Path.Combine(folderPath, "file1.txt"), "This is file 1 in MoveThisFolder.");
                File.WriteAllText(Path.Combine(folderPath, "file2.txt"), "This is file 2 in MoveThisFolder.");
                File.WriteAllText(Path.Combine(folderPath, "Subfolder1", "subfile1.txt"), "This is a file in Subfolder1.");
                File.WriteAllText(Path.Combine(folderPath, "Subfolder2", "subfile2.txt"), "This is a file in Subfolder2.");

                Console.WriteLine("Sample MoveThisFolder with files and subfolders created.");
            }
            else
            {
                Console.WriteLine("MoveThisFolder already exists.");
            }
        }

        1 reference
        private void MoveFolder(string sourceFolderPath, string destinationFolderPath)
        {
            try
            {
                string destinationRoot = Path.GetDirectoryName(destinationFolderPath);
                if (!Directory.Exists(destinationRoot))
                {
                    Directory.CreateDirectory(destinationRoot);
                }
                Directory.Move(sourceFolderPath, destinationFolderPath);
                Console.WriteLine($"Folder '{sourceFolderPath}' has been moved to '{destinationFolderPath}'.");
            }
            catch (Exception ex)
            {
                Console.WriteLine($"An error occurred while moving the folder: {ex.Message}");
            }
        }
    }
}
```

Exercise 10: Move a Folder with Subfolders and Files

1. **Objective**: Move a folder along with all its subfolders and files to a new location.
2. **Steps**:
3. Create a folder named "MoveThisFolder" with subfolders and files inside.
4. Use `Directory.Move` to move "MoveThisFolder" to a new location called "NewLocation/MoveThisFolder".
5. Verify that "MoveThisFolder" no longer exists in its original location and has been successfully moved with all its contents to the new location.

C:\Users\user\source\repos\FolderAndFiles\FolderAndFiles\bin\Debug\net8.0-windows\FolderAndFiles.exe

```
Sample MoveThisFolder with files and subfolders created.
Folder 'MoveThisFolder' has been moved to 'NewLocation\MoveThisFolder'.

Operation complete. Verify that the folder was moved.
```

נלך לבצע תיקיה שיש בתוכה תת תיקיות וקבצים למיקום אחר.