## **QUESTION 1**

20. Write a C# program to implement a program that reads an array of filenames and searches for a specific file in the system. Further, s tore valid file names in a Directory collection and allow the user to retrieve details about a specific file.

### **Code Solution**

using System;  
using System.Collections.Generic;  
using System.IO;  
  
class Program  
{  
 static void Main()  
 {  
 string[] filenames = { "data.txt", "report.pdf", "notes.docx", "data.txt", "image.png" };  
 string searchFile = "data.txt";  
   
 Dictionary<string, FileInfoSim> directory = new Dictionary<string, FileInfoSim>();  
   
 foreach (string filename in filenames)  
 {  
 if (!directory.ContainsKey(filename))  
 {  
 directory[filename] = new FileInfoSim(filename);  
 }  
 }  
   
 if (directory.ContainsKey(searchFile))  
 {  
 FileInfoSim fileInfo = directory[searchFile];  
 Console.WriteLine($"File found: {fileInfo.Name}");  
 Console.WriteLine($"Size: {fileInfo.Size} bytes");  
 Console.WriteLine($"Created: {fileInfo.CreationTime}");  
 }  
 else  
 {  
 Console.WriteLine($"File '{searchFile}' not found.");  
 }  
   
 Console.WriteLine($"Total valid files in directory: {directory.Count}");  
 }  
}  
  
public class FileInfoSim  
{  
 public string Name { get; set; }  
 public long Size { get; set; }  
 public DateTime CreationTime { get; set; }  
   
 public FileInfoSim(string filename)  
 {  
 Name = filename;  
 Random rnd = new Random();  
 Size = rnd.Next(1000, 10000);  
 CreationTime = DateTime.Now.AddDays(-rnd.Next(1, 30));  
 }  
}

### **FINAL Output**

