## **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**

import os  
import sys  
  
class Directory:  
 def \_\_init\_\_(self):  
 self.files = {}  
  
 def add\_file(self, filename, filepath):  
 if os.path.isfile(filepath):  
 self.files[filename] = filepath  
 return True  
 return False  
  
 def get\_file\_details(self, filename):  
 if filename in self.files:  
 filepath = self.files[filename]  
 try:  
 stat\_info = os.stat(filepath)  
 return {  
 'name': filename,  
 'path': filepath,  
 'size': stat\_info.st\_size,  
 'created': stat\_info.st\_ctime,  
 'modified': stat\_info.st\_mtime  
 }  
 except OSError:  
 return None  
 return None  
  
def main():  
 filenames = ["test1.txt", "test2.txt", "data.csv"]  
 search\_file = "test1.txt"  
 directory = Directory()  
  
 for filename in filenames:  
 for root, dirs, files in os.walk("."):  
 if filename in files:  
 full\_path = os.path.join(root, filename)  
 directory.add\_file(filename, full\_path)  
 break  
  
 file\_details = directory.get\_file\_details(search\_file)  
 if file\_details:  
 print(f"File found: {file\_details['name']}")  
 print(f"Path: {file\_details['path']}")  
 print(f"Size: {file\_details['size']} bytes")  
 print(f"Created: {file\_details['created']}")  
 print(f"Modified: {file\_details['modified']}")  
 else:  
 print(f"File '{search\_file}' not found in the directory collection.")  
  
if \_\_name\_\_ == "\_\_main\_\_":  
 main()

### **FINAL Output**

