**Module 05: Lab Project**

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Cybersecurity Workforce Certification Training (CWCT)

Ivy Tech Community College

CWCT 140 - Introduction to Python for Cyber Security

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**Module 5 Lab Project   
CWCT140  
Read/Write Phone Directory From/To CSV File**

For the module 5 programming exercise, we created a “phone directory” application. The program created, viewed and managed entries in the directory using a python dictionary object. The dictionary variable was maintained in memory. Each time the program ran, the dictionary had to be recreated. All previous changes were lost.

The goal of this lab is to modify the phone directory application to store and read back the phone directory to/from a CSV file. Python provides a CSV module to help with this functionality.

Part I: Write a Python program to read a CSV file

Create a CSV file using any text editor or Excel. The format of the CSV file is shown below:

Text

Description automatically generated

Create the program below to test reading in a CSV file

import csv

# Function to read a CSV

def readCSV(csvFile):

    phone\_dir = {}

    with open(csvFile, mode='r') as infile:

        reader = csv.reader(infile, delimiter=',')

        for row in reader:

            phone\_dir[row[0]] = row[1]

    return phone\_dir

# Main program to test the readCSV function

phone\_list\_filepath = "CWCT140\\phonelist.csv"

phone\_directory = readCSV(phone\_list\_filepath)

print(phone\_directory)

Part II: Modify the test program to write CSV file

Add the writeCSV function to the test program. Then modify your phone directory and save the modified file. Open the CSV in a text editor and verify the changes were saved.

#Function to write a CSV

def writeCSV(csvFile, phone\_dir, column1, column2):

    with open(csvFile, mode='w', newline='') as out\_file:

        writer = csv.writer(out\_file, delimiter=',')

        writer.writerow([column1, column2])

        for item in phone\_dir:

           writer.writerow([item, phone\_dir[item]])

Add this code to the end of the test program.

# Modify the directory and save it.

if not "Elvis" in phone\_directory:

    phone\_directory["Elvis"] = "301-555-1212"

    writeCSV(phone\_list\_filepath, phone\_directory, "name", "number")

    print(phone\_directory)

Part III: Implement the Read/Write CSV Functions in Your Phone Directory Application

Copy and CSV functions from the test program into the Phone Directory application. Instead of creating a phone directory object, read the CSV file. Whenever the directory is changed, write the updated directory back to the CSV. When you close and restart your program, all of the changes should be preserved. Paste screen snapshots of modifying the directory, closing the application, then running the application and listing the directory.

**Paste Snapshots of Results Here**

A screenshot of a phone book menu

Description automatically generated A screenshot of a phone book menu

Description automatically generated

A screenshot of a phone book menu

Description automatically generated A screenshot of a computer screen

Description automatically generated

A screen shot of a phone menu

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