



American International University- Bangladesh
Department of Computer Science
Programming In Python

Lab Report

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Section: B

Submitted to-

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Project Overview:

Each lab contains a number of PC. So, for maintaining the lab we should keep record about all the PCs of the lab. Therefore, the application should contain the following information and features:

- Each PC should have the information like PC number, operating system installed in the PC, and status of the PC.
- **Adding functionality:** we add new computer by checking ID number which also done the functionality check.
- **Updating functionality:** we update information of an existing PC.
- **Remove functionality:** we are also removing an existing PC from the lab.
- **All PC display functionality:** we display information about all the PCs.
- **Individual PC display functionality:** we display all the information of a PC in the lab.
- **Search functionality:** we search for a particular PC and display the information. If the PC is not present in the application already, then may prompt user to add the new PC in the lab.
- **Checking functionality:** when we add a new PC, we make sure that we do not add the PC with same PC number. If same PC number is given it will prompt a message showing that this PC number is already exists, and then the application will ask you whether you want to modify information of this existing PC or remove the PC from the lab, or no action will be taken (in this case it will take you to the main window of the application).
- **Store functionality:** Finally, we store it in a json file which is more useful and it will save in the hard drive of our computer.

Code:

```
print("***Welcome to ABC Computer Lab***")

import json

Computer_Lab={1:{
    'Operating System':"Windows"
    , 'Status of PC':"OK"},
    2:{
    'Operating System':"Linux"
    , 'Status of PC':"OK"}}

loop= True
while loop:
    print("Press--> 1 for Add New PC")
    print("Press--> 2 for Update PC Information")
    print("Press--> 3 for Remove PC from Lab")
    print("Press--> 4 Display All PC")
    print("Press--> 5 Display Individual PC")
    print("Press--> 6 Search For PC")
    print("Press--> 7 Store PC in text file")
    print("Press--> 8 Exit Program")
    x= int(input("Enter Your Choice: "))
    if x==1:
        print("Add New Pc in lab")
        Number_Of_Pc = int(input("Enter the Number Of the PC You want to Add: "))
```

```

for i in range(Number_Of_Pc):

    PC_ID=int(input("Enter the Serial Of PC: "))

    if PC_ID in Computer_Lab:

        print("This ID already Exist")

    else:

        Computer_Lab[PC_ID]= {}

        OS= input("Enter Operating System: ")

        Status= input("Enter The PC Status: ")

        Computer_Lab[PC_ID]["Operating_System"]=OS

        Computer_Lab[PC_ID]["Status"]=Status

        print("Pc Add Successfully")

        break

elif x==2:

    print("##Update PC Information##")

    PC_ID=int(input("Enter The PC Number: "))

    if PC_ID in Computer_Lab:

        Computer_Lab[PC_ID]={}

        OS= input("Enter Operating System: ")

        Status= input("Enter The PC Status: ")

        Computer_Lab[PC_ID]["Operating_System"]=OS

        Computer_Lab[PC_ID]["Status"]=Status

        print("Pc Update Successfully")

elif x==3:

    print("#Remove PC From Computer Lab")

    PC_ID=int(input("Enter The PC Number: "))

    if PC_ID in Computer_Lab:

        del Computer_Lab[PC_ID]

        print("Removed Successfully")

    else:

        print("PC is not found")

elif x==4:

    print("Print All PC Information")

    print(Computer_Lab)

```

```

        break
elif x==5:
    PC_ID=int(input("Enter The PC Number: "))
    if PC_ID in Computer_Lab:
        print("PC Serial NO",Computer_Lab[PC_ID])
        print("Operating System: ",Computer_Lab[PC_ID]["Operating_System"])
        print("PC status: ",Computer_Lab[PC_ID]["Status"])
    else:
        print("PC is not found")
elif x==6:
    PC_ID=int(input("Enter The PC Number: "))
    if PC_ID in Computer_Lab:
        print("PC Information:",Computer_Lab[PC_ID])
        # print("Operating System: ",Computer_Lab[PC_ID]["Operating_System"])
        # print("PC status: ",Computer_Lab[PC_ID]["Status"])
    else:
        print("PC is not found")
elif x==7:
    print("Store ALL Information")
    filename='MyDict.json'
    with open(filename,'w') as f:
        json.dump(Computer_Lab,f)
    filename='MyDict.json'
    with open(filename) as f:
        my_dict=json.load(f)
    print(Computer_Lab)
elif x==8:
    print("Quit program")
    loop =False
else:
    print("Wrong Choice")
continue

```

Picture of Output and functionality:

1.Adding functionality:

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS E:\Python project> & C:/Users/USER/AppData/Local/Programs/Python/Python311/python.exe "e:/Python project/ComputerLabManagement.py"
***Welcome to ABC Computer Lab***
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: 1
Add New Pc in lab
Enter the Number Of the PC You want to Add: 2
Enter the Serial Of PC: 3
Enter Operating System: Windows
Enter The PC Status: Ok
Pc Add Successfully
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: █
```

Ln 15, Col 39 Spaces: 4 UTF-8 CRLF Python 3.11.1 64-bit

Updating functionality:

```
Pc Add Successfully
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: 2
##Update PC Information##
Enter The PC Number: 1
Enter Operating System: Linux
Enter The PC Status: ok
Pc Update Successfully
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: █
```

Remove functionality:

```
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: 3
#Remove PC From Computer Lab
Enter The PC Number: 3
Removed Successfully
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: █
```

All PC display functionality

```
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: 4
Print All PC Information
{1: {'Operating_System': 'Linux', 'Status': 'ok'}, 2: {'Operating System': 'Linux', 'Status of PC': 'OK'}}
```

Individual PC display functionality:

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS E:\Python project> & C:/Users/USER/AppData/Local/Programs/Python/Python311/python.exe "e:/Python project/ComputerLabManagement.py"
***Welcome to ABC Computer Lab***
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: 5
Enter The PC Number: 2
PC Serial NO {'Operating System': 'Linux', 'Status of PC': 'OK'}
```

Search functionality:

```
PS E:\Python project> & C:/Users/USER/AppData/Local/Programs/Python/Python311/python.exe "e:/Python project/ComputerLabManagement.py"
***Welcome to ABC Computer Lab***
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: 6
Enter The PC Number: 1
PC Information: {'Operating System': 'Windows', 'Status of PC': 'OK'}
```

Checking functionality:

```
PS E:\Python project> & C:/Users/USER/AppData/Local/Programs/Python/Python311/python.exe "e:/Python project/ComputerLabManagement.py"
***Welcome to ABC Computer Lab***
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: 1
Add New Pc in lab
Enter the Number Of the PC You want to Add: 1
Enter the Serial Of PC: 1
This ID already Exist
```

Store functionality

```
PC Information: {'Operating System': 'Windows', 'Status of PC': 'OK'}
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: 7
Store ALL Information
{1: {'Operating System': 'Windows', 'Status of PC': 'OK'}, 2: {'Operating System': 'Linux', 'Status of PC': 'OK'}}
```


8. Quit Program

```
Press--> 1 for Add New PC
Press--> 2 for Update PC Information
Press--> 3 for Remove PC from Lab
Press--> 4 Display All PC
Press--> 5 Display Individual PC
Press--> 6 Search For PC
Press--> 7 Store PC in text file
Press--> 8 Exit Program
Enter Your Choice: 8
Quit program
PS E:\python project>
```