

# Python

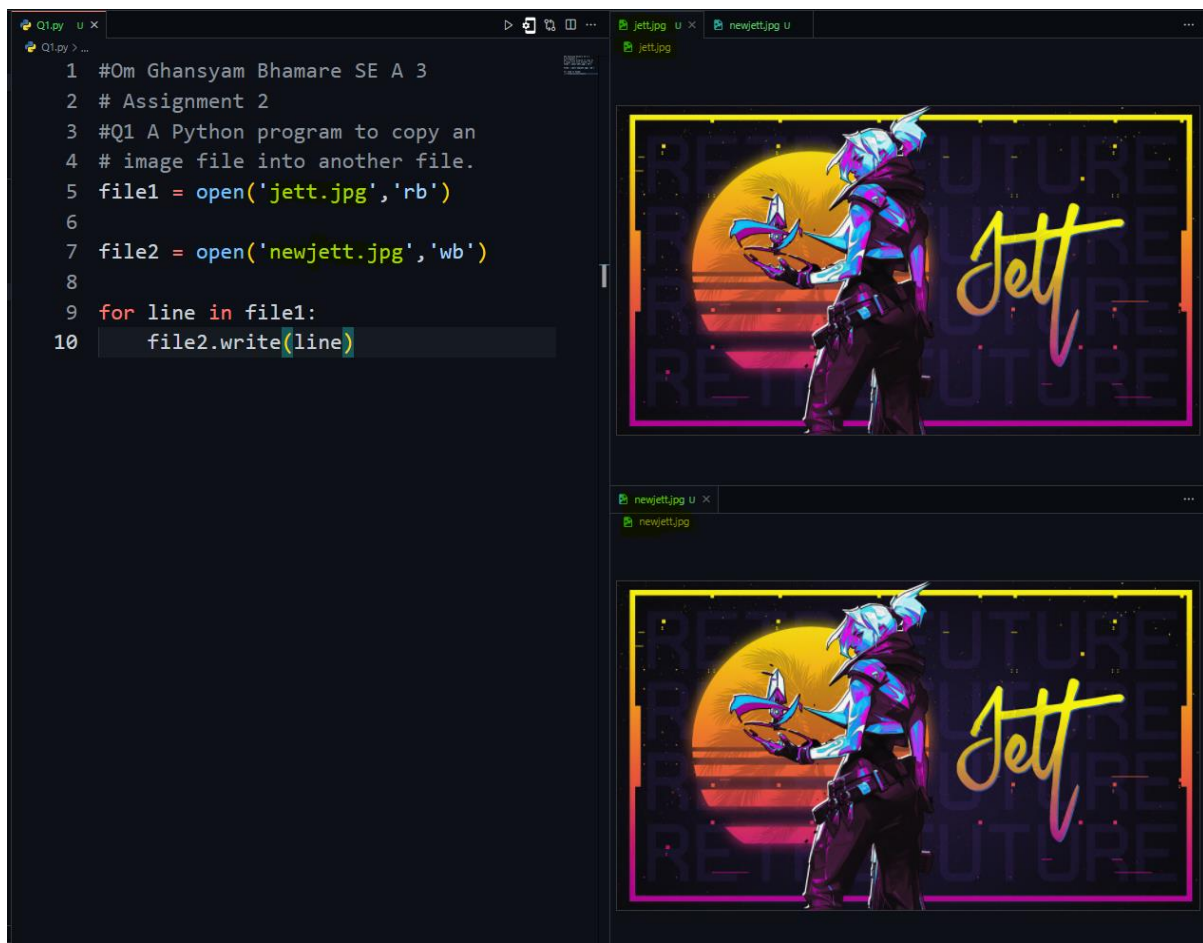
Om Ghanshyam Bhamare

SE A 3

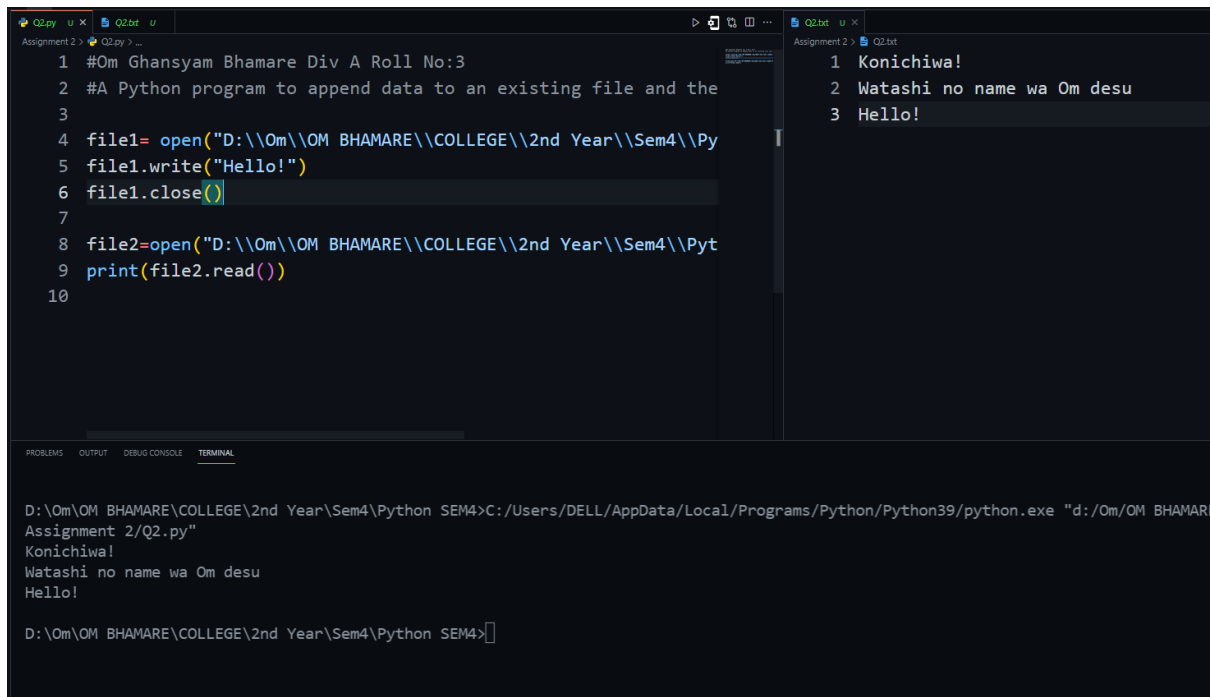
Github: <https://github.com/ombhamare4/Python-SEM4.git>

## Assignment 2

Q1] A Python program to copy an image file into another file.



Q2] A Python program to append data to an existing file and then displaying the entire file.



The screenshot shows a code editor with two files: Q2.py and Q2.txt. The Q2.py file contains a Python program that appends data to an existing file and then displays the entire file. The Q2.txt file contains the output of the program. The terminal window at the bottom shows the command to run the program and the resulting output.

```
1 #Om Ghansyam Bhamare Div A Roll No:3
2 #A Python program to append data to an existing file and the
3
4 file1= open("D:\\Om\\OM BHAMARE\\COLLEGE\\2nd Year\\Sem4\\Py
5 file1.write("Hello!")
6 file1.close()
7
8 file2=open("D:\\Om\\OM BHAMARE\\COLLEGE\\2nd Year\\Sem4\\Pyt
9 print(file2.read())
10
```

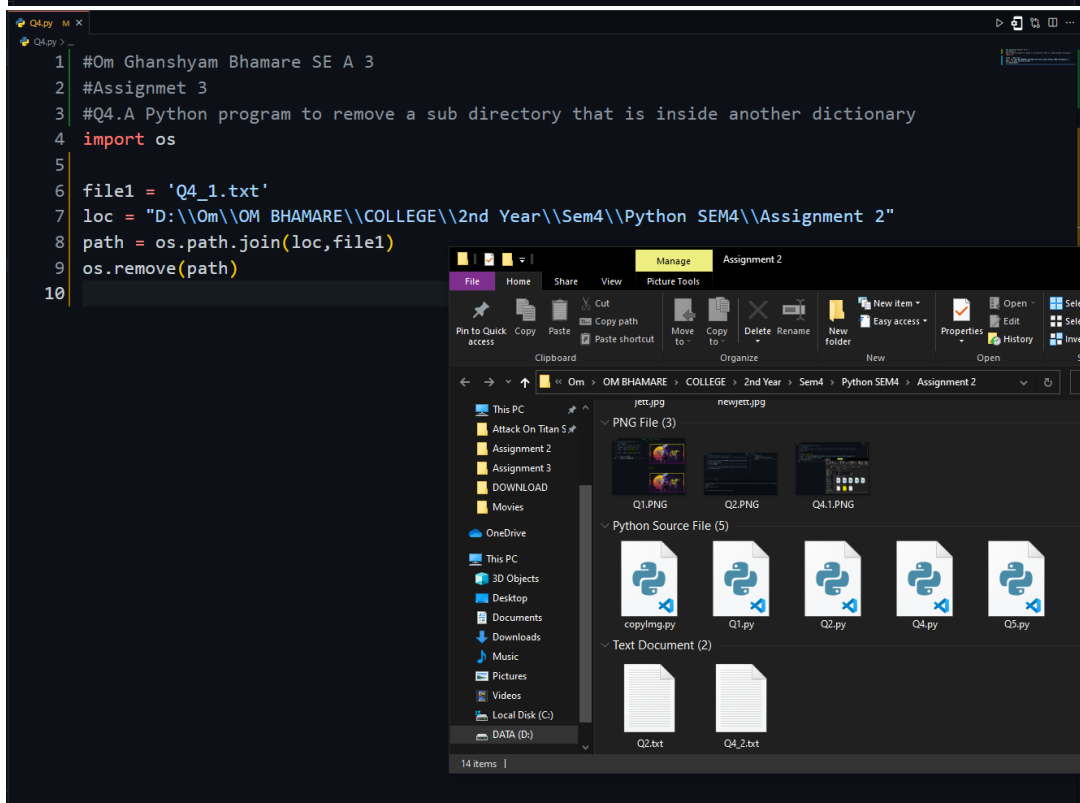
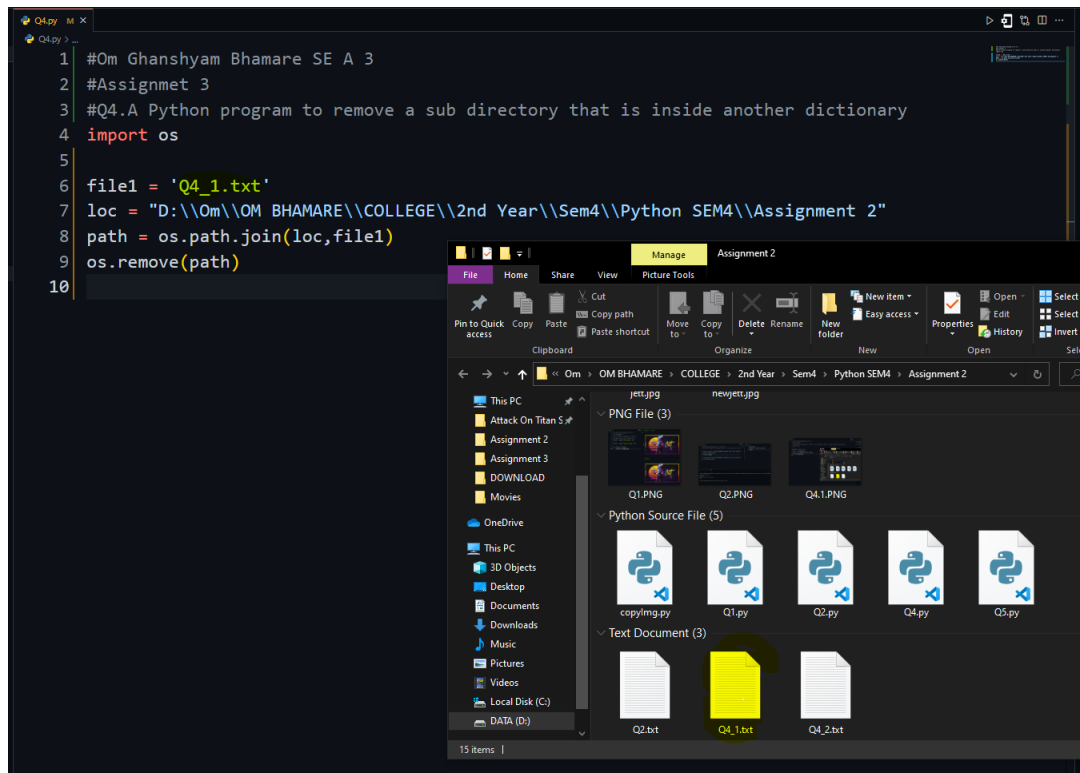
```
1 Konichiwa!
2 Watashi no name wa Om desu
3 Hello!
```

D:\Om\OM BHAMARE\COLLEGE\2nd Year\Sem4\Python SEM4>C:/Users/DELL/AppData/Local/Programs/Python/Python39/python.exe "d:/Om/OM BHAMARE\Assignment 2/Q2.py"

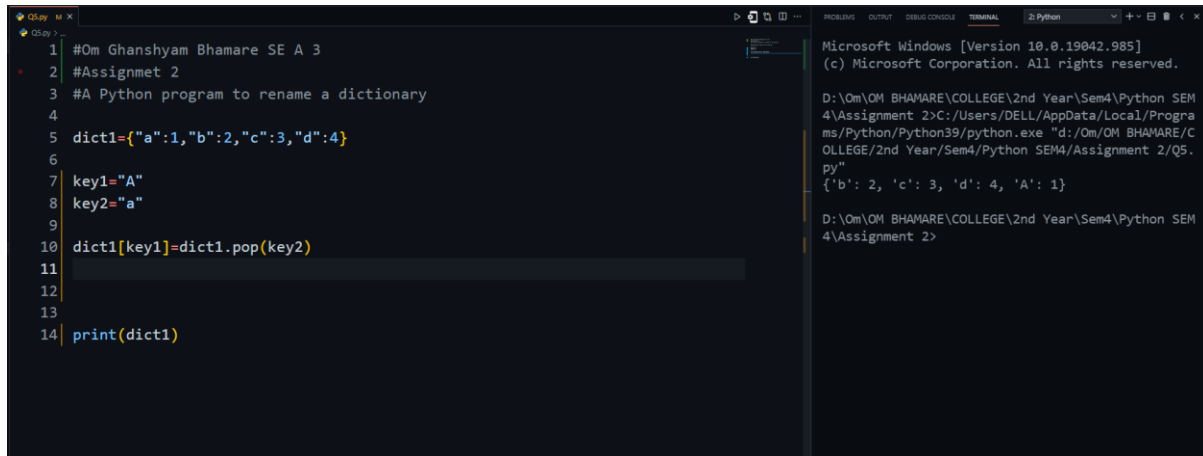
Konichiwa!  
Watashi no name wa Om desu  
Hello!

D:\Om\OM BHAMARE\COLLEGE\2nd Year\Sem4\Python SEM4>

Q4] A Python program to remove a sub directory that is inside another dictionary



## Q5] A Python program to rename a dictionary

A screenshot of a Python IDE with a dark theme. The editor on the left contains a Python script with 14 lines of code. The script defines a dictionary 'dict1' with keys 'a', 'b', 'c', and 'd'. It then defines two variables, 'key1' and 'key2', both set to the string 'a'. The script uses 'dict1[key1] = dict1.pop(key2)' to rename the key. Finally, it prints the dictionary. The output console on the right shows the execution path and the resulting dictionary: {'b': 2, 'c': 3, 'd': 4, 'A': 1}.

```
1 #Om Ghanshyam Bhamare SE A 3
2 #Assignmet 2
3 #A Python program to rename a dictionary
4
5 dict1={"a":1,"b":2,"c":3,"d":4}
6
7 key1="A"
8 key2="a"
9
10 dict1[key1]=dict1.pop(key2)
11
12
13
14 print(dict1)
```

Microsoft Windows [Version 10.0.19042.985]  
(c) Microsoft Corporation. All rights reserved.

D:\Om\OM BHAMARE\COLLEGE\2nd Year\Sem4\Python SEM 4\Assignment 2>C:/Users/DELL/AppData/Local/Programs/Python/Python39/python.exe "d:/Om/OM BHAMARE/COLLEGE/2nd Year/Sem4/Python SEM4/Assignment 2/Q5.py"

{'b': 2, 'c': 3, 'd': 4, 'A': 1}

D:\Om\OM BHAMARE\COLLEGE\2nd Year\Sem4\Python SEM 4\Assignment 2>

## Q6] A Python program to create a package using data structures for a linked list and perform and use all the operations.

```
1 #Om Ghanshyam Bhamare SE A 3
2 #Assignmet 2
3 #A Python program to create a package using data
4 # structures for a linked list and perform and use all the
5 #operations.
6 from test_package import first
7 first.info()
8 first.linkedlist()
9
```

Microsoft Windows [Version 10.0.19042.985]  
(c) Microsoft Corporation. All rights reserved.

D:\Om\OM BHAMARE\COLLEGE\2nd Year\Sem4\Python SEM4\Assignment 2>C:/Users/DE  
LL/AppData/Local/Programs/Python/Python39/python.exe "d:/Om/OM BHAMARE/COLL  
EGE/2nd Year/Sem4/Python SEM4/Assignment 2/ll.py"

Watashi no name om Desu  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...: 2  
Enter Element in Linked list: 1 2 3 4 5  
[1, 2, 3, 4, 5]  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...:

```
1 #Om Ghanshyam Bhamare SE A 3
2 #Assignmet 2
3 #A Python program to create a package using data
4 # structures for a linked list and perform and use all the
5 #operations.
6 def info():
7     print("Watashi no name om Desu")
8
9 def linkedlist():
10     choice=0
11     ll=[]
12     while(choice!=8):
13         print("Linked List\nSelect Operation\n1]Traverse\t2]Appen
14         choice=int(input("Enter Your Choice...: "))
15         if choice==1:
16             for i in ll:
17                 print(i)
18         if choice==2:
19             a = input("Enter Element in Linked list: ")
20             b = a.split()
21             for i in range(len(b)):
22                 # ll[i]=int(ll[i])
23                 ll.append(int(b[i]))
24             print(ll)
25         if choice==3:
26             a=int(input("Enter Postion: "))
27             b = int(input("Enter Element: "))
28             ll.insert(a,b)
29         if choice==4:
30             if ll==[]:

```

Enter Your Choice...: 2  
Enter Element in Linked list: 1 2 3 4 5  
[1, 2, 3, 4, 5]  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...: 3  
Enter Postion: 2  
Enter Element: 12  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...: 1  
1  
2  
12  
3  
4  
5  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...:

```
30
31         if ll==[]:
32             print("Linked List is Empty: ")
33         else:
34             a = int(input("Enter Element to remove: "))
35             ll.remove(a)
36         if choice==5:
37             n =int(input("Enter the Element to Remove: "))
38             b=int(input("Enter New Element: "))
39             if n in ll:
40                 i=ll.index(n)
41                 ll.pop(i)
42                 ll.insert(i,b)
43         if choice==6:
44             a=int(input("Eneter Element to search: "))
45             if a in ll:
46                 print("Element found...")
47             else:
48                 print("Element Not Fouund...")
49         if choice==7:
50             length=len(ll)
51             print(length)
52         if choice==8:
53             break
54
```

2  
12  
3  
4  
5  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...: 4  
Enter Element to remove: 12  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...: 1  
1  
2  
3  
4  
5  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...:

```
test_package > first.py > ...
1 #Om Ghanshyam Bhamare SE A 3
2 #Assignmet 2
3 #A Python program to create a package using data
4 # structures for a linked list and perform and use all the
5 #operations.
6 def info():
7     print("Watashi no name om Desu")
8
9 def linkedlist():
10     choice=0
11     ll=[]
12     while(choice!=8):
13         print("Linked List\nSelect Operation\n1]Traverse\t2]Append\n3]")
14         choice=int(input("Enter Your Choice...: "))
15         if choice==1:
16             for i in ll:
17                 print(i)
18         if choice==2:
19             a = input("Enter Element in Linked list: ")
20             b = a.split()
21             for i in range(len(b)):
22                 # ll[i]=int(ll[i])
23                 ll.append(int(b[i]))
24             print(ll)
25         if choice==3:
26             a=int(input("Enter Postion: "))
27             b = int(input("Enter Element: "))
28             ll.insert(a,b)
29         if choice==4:
30             if ll==[]:
```

```
2
3
4
5
Linked List
Select Operation
1]Traverse    2]Append
3]Insert      4]Remove
5]Replace     6]Search
7]Length      8]Exit

Enter Your Choice...: 5
Enter the Element to Remove: 3
Enter New Element: 15
Linked List
Select Operation
1]Traverse    2]Append
3]Insert      4]Remove
5]Replace     6]Search
7]Length      8]Exit

Enter Your Choice...: 1
1
2
15
4
5
Linked List
Select Operation
1]Traverse    2]Append
3]Insert      4]Remove
5]Replace     6]Search
7]Length      8]Exit

Enter Your Choice...: 
```

```
5 #operations.
6 def info():
7     print("Watashi no name om Desu")
8
9 def linkedlist():
10     choice=0
11     ll=[]
12     while(choice!=8):
13         print("Linked List\nSelect Operation\n1]Traverse\t2]Append\n3]")
14         choice=int(input("Enter Your Choice...: "))
15         if choice==1:
16             for i in ll:
17                 print(i)
18         if choice==2:
19             a = input("Enter Element in Linked list: ")
20             b = a.split()
21             for i in range(len(b)):
22                 # ll[i]=int(ll[i])
23                 ll.append(int(b[i]))
24             print(ll)
25         if choice==3:
26             a=int(input("Enter Postion: "))
27             b = int(input("Enter Element: "))
28             ll.insert(a,b)
29         if choice==4:
30             if ll==[]:
```

```
Select Operation
1]Traverse    2]Append
3]Insert      4]Remove
5]Replace     6]Search
7]Length      8]Exit

Enter Your Choice...: 1
1
2
15
4
5
Linked List
Select Operation
1]Traverse    2]Append
3]Insert      4]Remove
5]Replace     6]Search
7]Length      8]Exit

Enter Your Choice...: 6
Enter Element to search: 2
Element found...
Linked List
Select Operation
1]Traverse    2]Append
3]Insert      4]Remove
5]Replace     6]Search
7]Length      8]Exit

Enter Your Choice...: 
```

```
5 #operations.
6 def info():
7     print("Watashi no name om Desu")
8
9 def linkedlist():
10     choice=0
11     ll=[]
12     while(choice!=8):
13         print("Linked List\nSelect Operation\n1]Traverse\t2]Append\n3]Insert\t4]Remove\n5]Replace\t6]Search\n7]Length\t8]Exit")
14         choice=int(input("Enter Your Choice...: "))
15         if choice==1:
16             for i in ll:
17                 print(i)
18         if choice==2:
19             a = input("Enter Element in Linked list: ")
20             b = a.split()
21             for i in range(len(b)):
22                 # ll[i]=int(ll[i])
23                 ll.append(int(b[i]))
24             print(ll)
25         if choice==3:
26             a=int(input("Enter Postion: "))
27             b = int(input("Enter Element: "))
28             ll.insert(a,b)
29         if choice==4:
30             if ll==[]:
31                 print("Empty List")
32             else:
33                 ll.remove(ll[a])
34                 print(ll)
35         if choice==5:
36             a=int(input("Enter Postion: "))
37             b = int(input("Enter Element: "))
38             ll[a]=b
39             print(ll)
40         if choice==6:
41             a=int(input("Enter Element to search: "))
42             if a in ll:
43                 print("Element found...")
44             else:
45                 print("Element Not Found...")
46         if choice==7:
47             print(len(ll))
48         if choice==8:
49             break
50     print("Linked List")
51     print("Select Operation")
52     print("1]Traverse\t2]Append\n3]Insert\t4]Remove\n5]Replace\t6]Search\n7]Length\t8]Exit")
53     choice=int(input("Enter Your Choice...: "))
54     linkedlist()
55
56 if __name__ == '__main__':
57     info()
58     linkedlist()
59
60 # Om Ghanshyam Bhamare SE A 3
61 # Assignmet 2
62 # A Python program to create a package using data
63 # structures for a linked list and perform and use all the
64 # operations.
```

4  
5  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...: 6  
Eneter Element to search: 2  
Element found...  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...: 6  
Eneter Element to search: 100  
Element Not Found...  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...:

test\_package > first.py > ...

```
1 #Om Ghanshyam Bhamare SE A 3
2 #Assignmet 2
3 #A Python program to create a package using data
4 # structures for a linked list and perform and use all the
5 #operations.
6 def info():
7     print("Watashi no name om Desu")
8
9 def linkedlist():
10     choice=0
11     ll=[]
12     while(choice!=8):
13         print("Linked List\nSelect Operation\n1]Traverse\t2]Append\n3]Insert\t4]Remove\n5]Replace\t6]Search\n7]Length\t8]Exit")
14         choice=int(input("Enter Your Choice...: "))
15         if choice==1:
16             for i in ll:
17                 print(i)
18         if choice==2:
19             a = input("Enter Element in Linked list: ")
20             b = a.split()
21             for i in range(len(b)):
22                 # ll[i]=int(ll[i])
23                 ll.append(int(b[i]))
24             print(ll)
25         if choice==3:
26             a=int(input("Enter Postion: "))
27             b = int(input("Enter Element: "))
28             ll.insert(a,b)
29         if choice==4:
30             if ll==[]:
31                 print("Empty List")
32             else:
33                 ll.remove(ll[a])
34                 print(ll)
35         if choice==5:
36             a=int(input("Enter Postion: "))
37             b = int(input("Enter Element: "))
38             ll[a]=b
39             print(ll)
40         if choice==6:
41             a=int(input("Enter Element to search: "))
42             if a in ll:
43                 print("Element found...")
44             else:
45                 print("Element Not Fouund...")
46         if choice==7:
47             print(len(ll))
48         if choice==8:
49             break
50     print("Linked List")
51     print("Select Operation")
52     print("1]Traverse\t2]Append\n3]Insert\t4]Remove\n5]Replace\t6]Search\n7]Length\t8]Exit")
53     choice=int(input("Enter Your Choice...: "))
54     linkedlist()
55
56 if __name__ == '__main__':
57     info()
58     linkedlist()
59
60 # Om Ghanshyam Bhamare SE A 3
61 # Assignmet 2
62 # A Python program to create a package using data
63 # structures for a linked list and perform and use all the
64 # operations.
```

3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

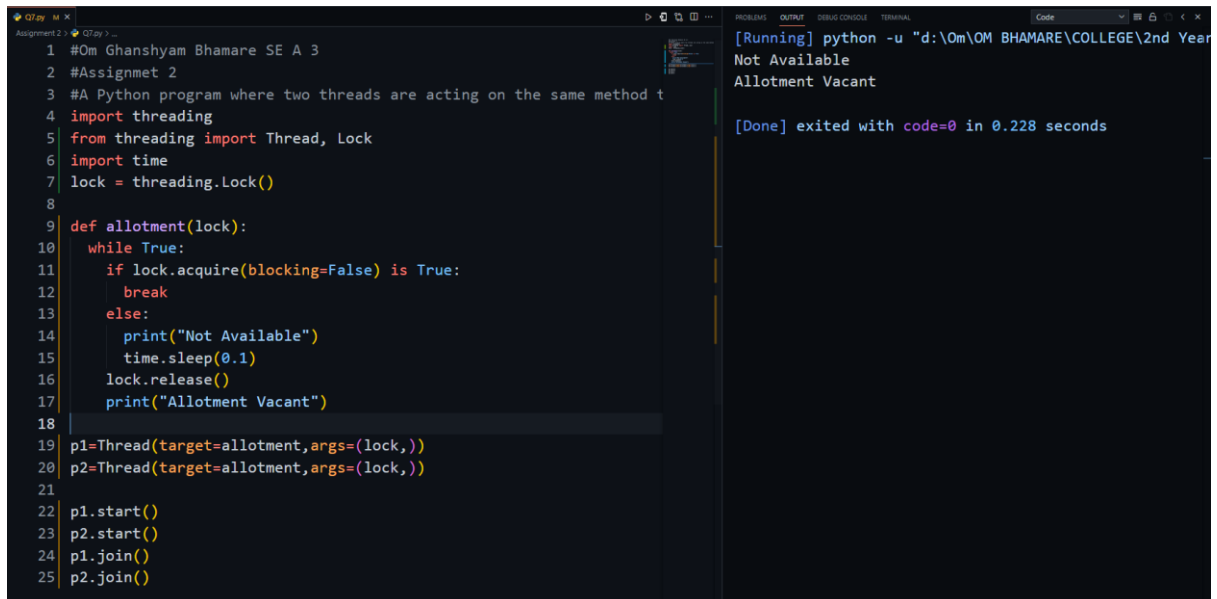
Enter Your Choice...: 6  
Eneter Element to search: 2  
Element found...  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...: 100  
Element Not Fouund...  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...: 7  
5  
Linked List  
Select Operation  
1]Traverse 2]Append  
3]Insert 4]Remove  
5]Replace 6]Search  
7]Length 8]Exit

Enter Your Choice...:

Q7] A Python program where two threads are acting on the same method to allot a berth for the passenger



The image shows a screenshot of a Python IDE with a dark theme. The editor window on the left contains a Python script. The script defines a function `allotment(lock)` that uses a `Lock` object to manage access to a shared resource. Two threads, `p1` and `p2`, are created and started, both calling the `allotment` function. The output window on the right shows the execution results.

```
1 #Om Ghanshyam Bhamare SE A 3
2 #Assignmet 2
3 #A Python program where two threads are acting on the same method t
4 import threading
5 from threading import Thread, Lock
6 import time
7 lock = threading.Lock()
8
9 def allotment(lock):
10     while True:
11         if lock.acquire(blocking=False) is True:
12             break
13         else:
14             print("Not Available")
15             time.sleep(0.1)
16         lock.release()
17         print("Allotment Vacant")
18
19 p1=Thread(target=allotment,args=(lock,))
20 p2=Thread(target=allotment,args=(lock,))
21
22 p1.start()
23 p2.start()
24 p1.join()
25 p2.join()
```

Output:

```
[Running] python -u "d:\Om\OM BHAMARE\COLLEGE\2nd Year
Not Available
Allotment Vacant

[Done] exited with code=0 in 0.228 seconds
```