EXERCISE :2

class Node:

def \_\_init\_\_(self,data):

self.data=data

self.next=None

class Linkedlist:

def \_\_init\_\_(self):

self.head=None

def is\_empty(self):

return self.head is None

def append(self,data):

new\_node=Node(data)

if self.head is None:

self.head=new\_node

return

current=self.head

while current.next:

current=current.next

current.next=new\_node

def prepend(self,data):

new\_node=Node(data)

new\_node.next=self.head

self.head=new\_node

def delete(self,data):

if self.head is None:

return

if self.head.data==data:

self.head=self.head.next

return

current=self.head

while current.next:

if current.next.data==data:

current.next=current.next.next

return

current=current.next

def search(self,data):

current=self.head

while current:

if current.data==data:

return True

current=current.next

return False

def display(self):

current=self.head

while current:

print(current.data,end='->')

current=current.next

print("None")

linked\_list=Linkedlist()

linked\_list.append(1)

linked\_list.append(2)

linked\_list.append(3)

print("linked list")

linked\_list.display()

linked\_list.prepend(0)

linked\_list.prepend(-1)

print("linked list after prepend:")

linked\_list.display()

linked\_list.delete(0)

linked\_list.delete(3)

print("linked list after deletions:")

linked\_list.display()

print("search for 1:",linked\_list.search(1))

print("search for 5:",linked\_list.search(5))

OUTPUT:

== RESTART: C:\Users\24ucs163\Documents\163\data structure using python\Ex2.py =

linked list

1->None

2->None

3->None

linked list after prepend:

-1->None

0->None

1->None

2->None

3->None

linked list after deletions:

-1->None

1->None

2->None

search for 1: True

search for 5: False