Assignment 4

1. def insert(self, data):  
   new\_node = Node(data)  
   new\_node.set\_next(self.head)  
   self.head = new\_node

**Delete**

current = self.head  
previous = None  
isPresent = False  
while current and isPresent is False:  
if current.get\_data() == nodeData:  
isPresent = True  
else:  
previous = current  
current = current.get\_next()  
if current is None:  
raise ValueError(“Data not present in list”)  
if previous is None:  
self.head = current.get\_next()  
else:  
previous.set\_next(current.get\_next())

ls=[int(i) for i in input("enter the valus:").split()]

ls.sort()

key=int(input("Enter the value to be searched:"))

f=0

l=len(ls)-1

while f!=l:

mid=int((l+f)/2)

if ls[mid]==key:

print("Key is at place ",mid)

break

if key<ls[mid]:

l=mid

if key>ls[mid]:

f=mid

if l==f:

print("Key not found")

3.

def printMiddle(self):

        slow\_ptr = self.head

        fast\_ptr = self.head

        if self.head is not None:

            while (fast\_ptr is not None and fast\_ptr.next is not None):

                fast\_ptr = fast\_ptr.next.next

                slow\_ptr = slow\_ptr.next

            print("The middle element is: ", slow\_ptr.data)