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## Question: 2. Write a program in the python programming language using ...



2. Write a program in the python programming language using object-oriented programming techniques. The program enters a list of students, each with information on name, age and test scores. Sort students by name and order in the alphabet table. Print the list of students before and after the sorting.

(3 points)

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## Expert Answer ①

Anonymous answered this  
461 answers

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In this python program there is a class Student which has a constructor which takes the input of 3 instances that is student name, age and test scores and they are set in the constructor. Outside the class a studentList list is declared and a few names, age and scores of the students are entered manually. Then this unsorted list is printed by using the foreach loop. Then the list is sorted by using sort function and using the lambda expression sorting the list of object using the studentName attribute and thus the array get's sorted by the name of student in an alphabetical order. Finally the sorted list of object is printed using the foreach loop. Comment lines are given in the code.

```
class Student:    #class Student
def __init__(self, stName, stAge, scores): #constructor to set the values
    self.studentName = stName #setting student name
    self.studentAge = stAge #setting student age
    self.testScores=scores #setting student test scores
```

```
studentList=[] #declaring list which will contain student details
#list of objects, setting all the details manually
studentList.append(Student("John",20,80))
studentList.append(Student("Anish",21,50))
studentList.append(Student("Berry",22,87))
studentList.append(Student("Patrick",20,90))
studentList.append(Student("Alexa",19,84))
studentList.append(Student("Cindy",25,96))
studentList.append(Student("Sandy",16,76))
studentList.append(Student("Tom",18,75))
studentList.append(Student("Jerry",17,79))
print("Before Sorting")
#print the unsorted list
for st in studentList: #foreach loop
    print("Name= {}, Age= {}, Scores= {}".format(st.studentName,st.studentAge,st.testScores)) #print the list
#sorting the list using sort()
studentList.sort(key=lambda i:i.studentName)
print("\nAfter sorting")
#print the sorted list
for st in studentList: #using foreach loop
    print("Name= {}, Age= {}, Scores= {}".format(st.studentName,st.studentAge,st.testScores)) #printing the list
```

## Output

```
Before Sorting
Name= John, Age= 20, Scores= 80
Name= Anish, Age= 21, Scores= 50
Name= Berry, Age= 22, Scores= 87
Name= Patrick, Age= 20, Scores= 90
Name= Alexa, Age= 19, Scores= 84
Name= Cindy, Age= 25, Scores= 96
Name= Sandy, Age= 16, Scores= 76
Name= Tom, Age= 18, Scores= 75
Name= Jerry, Age= 17, Scores= 79
```

```
After sorting
Name= Alexa, Age= 19, Scores= 84
Name= Anish, Age= 21, Scores= 50
Name= Berry, Age= 22, Scores= 87
Name= Cindy, Age= 25, Scores= 96
Name= Jerry, Age= 17, Scores= 79
Name= John, Age= 20, Scores= 80
Name= Patrick, Age= 20, Scores= 90
Name= Sandy, Age= 16, Scores= 76
Name= Tom, Age= 18, Scores= 75
```

This is the required output, give an upvote if you are satisfied and if you have any queries ask in the comment section

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