Collections In Java

Newer ID - 4092

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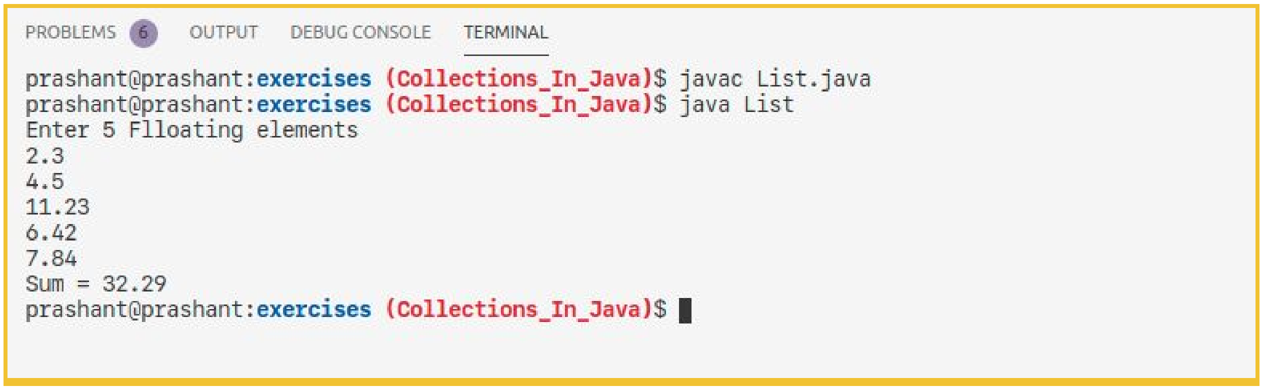
1. Write Java code to define List . Insert 5 floating point numbers in List, and using an iterator, find the sum of the numbers in List.

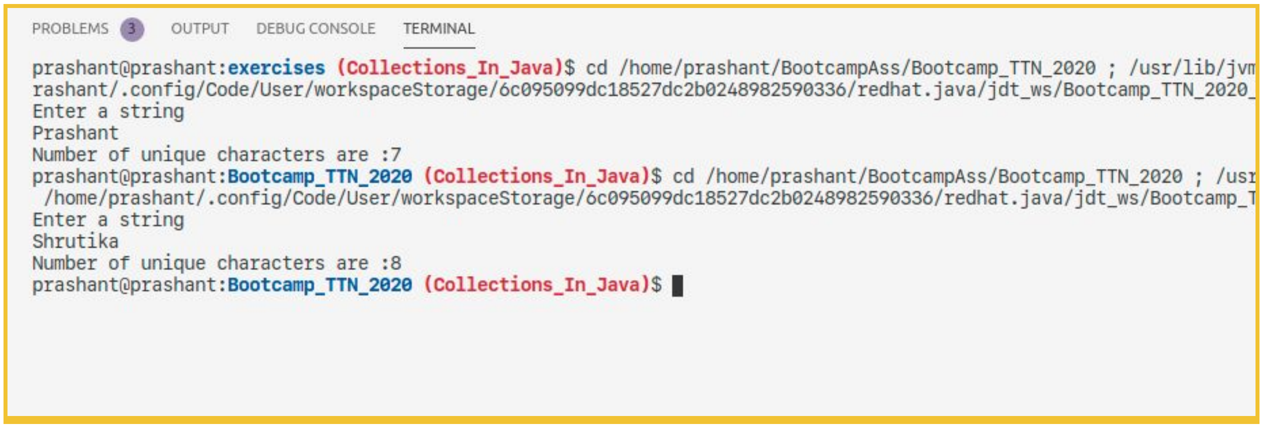
   ANS: Filename- List.java



```
prashant@prashant:exercises (Collections_In_Java)$ javac List.java
prashant@prashant:exercises (Collections_In_Java)$ java List
Enter 5 Flloating elements
2.3
4.5
11.23
6.42
7.84
Sum = 32.29
prashant@prashant:exercises (Collections_In_Java)$ 
```

2. Write a method that takes a string and returns the number of unique characters in the string.

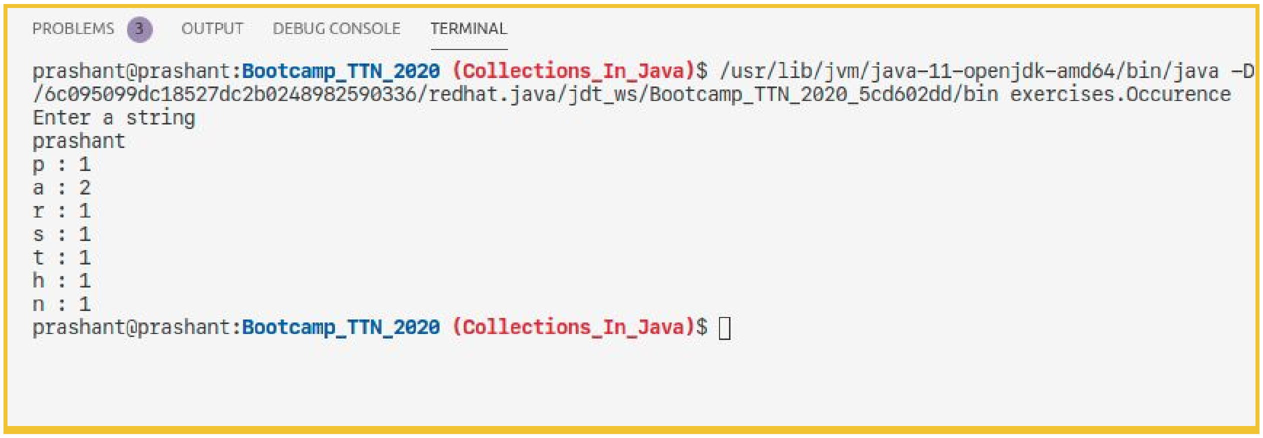
   ANS: Filename- Unique.java



```
prashant@prashant:exercises (Collections_In_Java)$ cd /home/prashant/BootcampAss/Bootcamp_TTN_2020 ; /usr/lib/jvm
rashant/.config/Code/User/workspaceStorage/6c095099dc18527dc2b0248982590336/redhat.java/jdt_ws/Bootcamp_TTN_2020_
Enter a string
Prashant
Number of unique characters are :7
prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ cd /home/prashant/BootcampAss/Bootcamp_TTN_2020 ; /usr
 /home/prashant/.config/Code/User/workspaceStorage/6c095099dc18527dc2b0248982590336/redhat.java/jdt_ws/Bootcamp_T
Enter a string
Shrutika
Number of unique characters are :8
prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ 
```

3. Write a method that takes a string and print the number of occurrence of each character characters in the string.

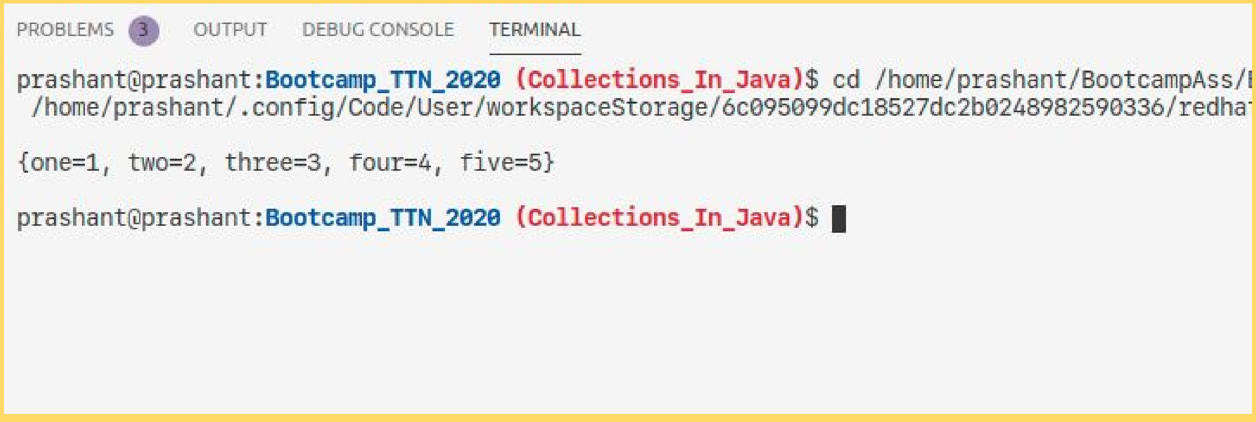
   ANS: Filename- Occurence.java



```
prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ /usr/lib/jvm/java-11-openjdk-amd64/bin/java -D
/6c095099dc18527dc2b0248982590336/redhat.java/jdt_ws/Bootcamp_TTN_2020_5cd602dd/bin exercises.Occurence
Enter a string
prashant
p : 1
a : 2
r : 1
s : 1
t : 1
h : 1
n : 1
prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ 
```

4. Write a program to sort HashMap by value.

ANS: Filename- HashmapValueSort.java



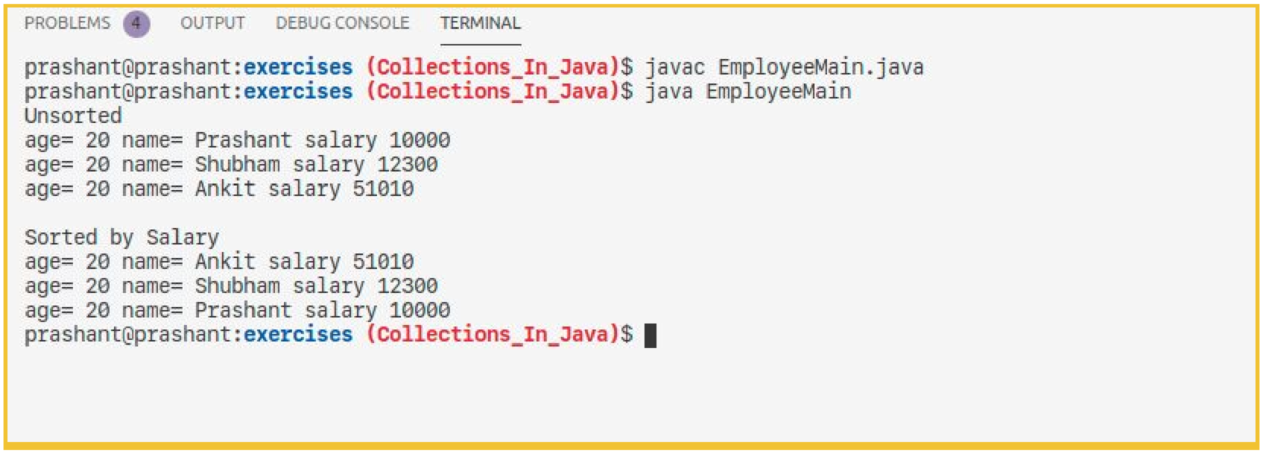
```
prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ cd /home/prashant/BootcampAss/B
 /home/prashant/.config/Code/User/workspaceStorage/6c095099dc18527dc2b0248982590336/redhat

{one=1, two=2, three=3, four=4, five=5}

prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ 
```

5. Write a program to sort Employee objects based on highest salary using Comparator. Employee class{ Double Age; Double Salary; String Name.

ANS: Filename- EmployeeMain.java

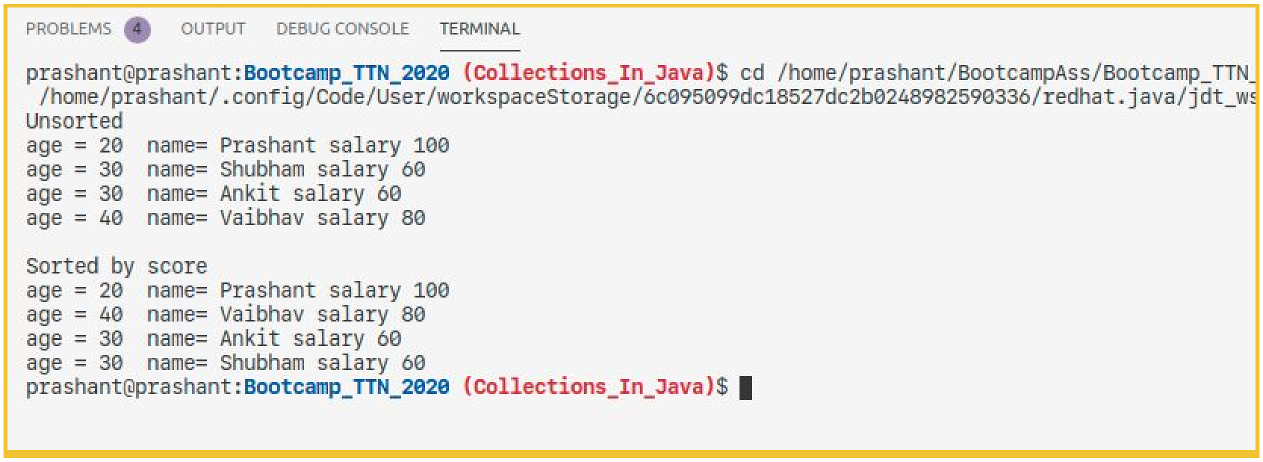


```
prashant@prashant:exercises (Collections_In_Java)$ javac EmployeeMain.java
prashant@prashant:exercises (Collections_In_Java)$ java EmployeeMain
Unsorted
age= 20 name= Prashant salary 10000
age= 20 name= Shubham salary 12300
age= 20 name= Ankit salary 51010

Sorted by Salary
age= 20 name= Ankit salary 51010
age= 20 name= Shubham salary 12300
age= 20 name= Prashant salary 10000
prashant@prashant:exercises (Collections_In_Java)$ 
```

6. Write a program to sort the Student objects based on Score , if the score are same then sort on First Name . Class Student{ String Name; Double Score; Double Age.

   ANS: Filename- SortStudent.java

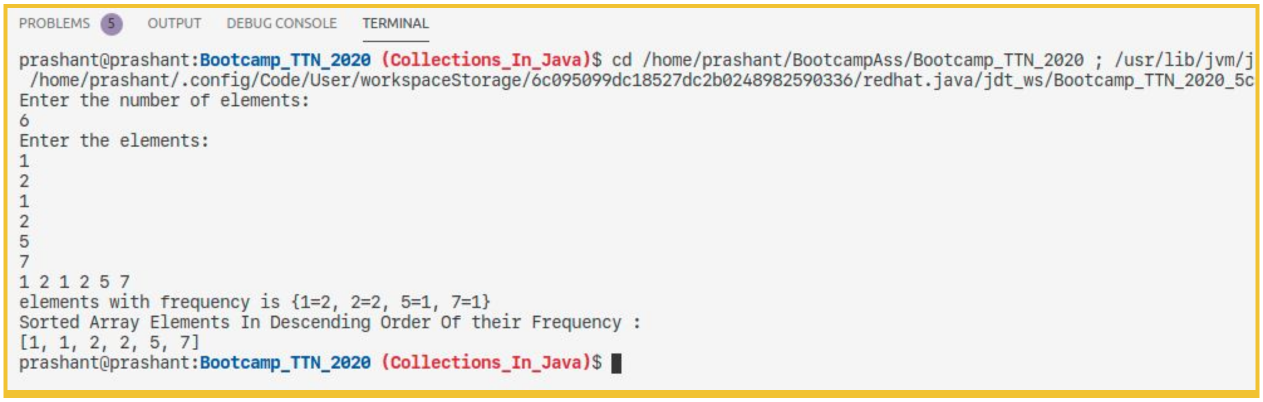


```
prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ cd /home/prashant/BootcampAss/Bootcamp_TTN_
 /home/prashant/.config/Code/User/workspaceStorage/6c095099dc18527dc2b0248982590336/redhat.java/jdt_ws
Unsorted
age = 20  name= Prashant salary 100
age = 30  name= Shubham salary 60
age = 30  name= Ankit salary 60
age = 40  name= Vaibhav salary 80

Sorted by score
age = 20  name= Prashant salary 100
age = 40  name= Vaibhav salary 80
age = 30  name= Ankit salary 60
age = 30  name= Shubham salary 60
prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ 
```

7. Print the elements of an array in the decreasing frequency if 2 numbers have same frequency then print the one which came first.

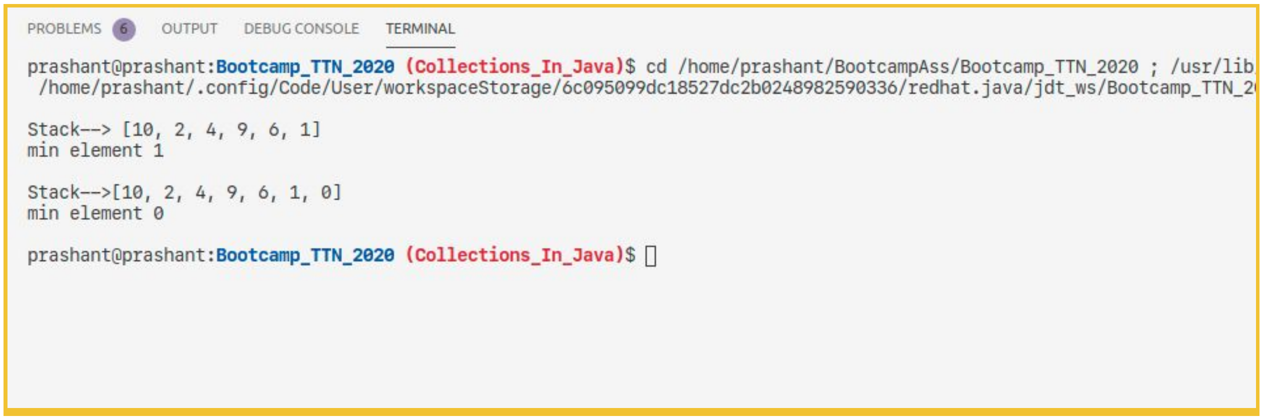
   ANS: Filename- Frequency.java



```
prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ cd /home/prashant/BootcampAss/Bootcamp_TTN_2020 ; /usr/lib/jvm/j
 /home/prashant/.config/Code/User/workspaceStorage/6c095099dc18527dc2b0248982590336/redhat.java/jdt_ws/Bootcamp_TTN_2020_5c
Enter the number of elements:
6
Enter the elements:
1
2
1
2
5
7
1 2 1 2 5 7
elements with frequency is {1=2, 2=2, 5=1, 7=1}
Sorted Array Elements In Descending Order Of their Frequency :
[1, 1, 2, 2, 5, 7]
prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ 
```

8. Design a Data Structure SpecialStack that supports all the stack operations like push(), pop(), isEmpty(), isFull() and an additional operation getMin() which should return minimum element from the SpecialStack. (Expected complexity O(1)).

   ANS: Filename- StackNew.java



```
prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ cd /home/prashant/BootcampAss/Bootcamp_TTN_2020 ; /usr/lib
 /home/prashant/.config/Code/User/workspaceStorage/6c095099dc18527dc2b0248982590336/redhat.java/jdt_ws/Bootcamp_TTN_2

Stack--> [10, 2, 4, 9, 6, 1]
min element 1

Stack-->[10, 2, 4, 9, 6, 1, 0]
min element 0

prashant@prashant:Bootcamp_TTN_2020 (Collections_In_Java)$ 
```