**Assignment 8 (21/01/2021): Comparator**

Employee -🡪 id,name,salary

Sorting by Id Asc, Desc

Sorting by Name Asc, Desc

Sorting by Salary Asc, Desc

**Solution:**

Mainclass:

**package** main;

**import** java.util.ArrayList;

**import** java.util.Collections;

**import** java.util.Comparator;

**import** java.util.List;

**import** sort.Sortbyid;

**import** sort.Sortbysalary;

**import** sort.Sortbyname;

**import** java.util.Scanner;

**public** **class** Mainclass {

**public** **static** **void** main(String[] args) {

Scanner sc= **new** Scanner(System.***in***);

System.***out***.println("Sort by What?\n1 for id\n2 for name\n3 for salary");

**int** ch=sc.nextInt();

**if**(ch==1)

{

System.***out***.println("Choose\n a for asc\n d for desc");

**char** c=sc.next().charAt(0);

List<Sortbyid> sid=**new** ArrayList<>();

sid.add(**new** Sortbyid(2,"Raj",12000));

sid.add(**new** Sortbyid(1,"Ramesh",14000));

sid.add(**new** Sortbyid(3,"Vikash",17000));

**if**(c=='a')

{

Comparator<Sortbyid> sortid=**new** Comparator<Sortbyid>()

{

**public** **int** compare(Sortbyid s1, Sortbyid s2)

{

**if**(s1.getId() > s2.getId())

**return** 1;

**else**

**return** -1;

}

};

Collections.*sort*(sid,sortid);

**for**(Sortbyid s: sid)

{

System.***out***.println(s);

}

}

**else** **if**(c=='d')

{

Comparator<Sortbyid> sortid=**new** Comparator<Sortbyid>()

{

**public** **int** compare(Sortbyid s1, Sortbyid s2)

{

**if**(s1.getId() < s2.getId())

**return** 1;

**else**

**return** -1;

}

};

Collections.*sort*(sid,sortid);

**for**(Sortbyid s: sid)

{

System.***out***.println(s);

}

}

**else**

{

System.***out***.println("Invalied choice...");

}

}

//.....................................................................................................

**else** **if**(ch==2)

{

System.***out***.println("Choose\n a for asc\n d for desc");

**char** c=sc.next().charAt(0);

List<Sortbyname> sname=**new** ArrayList<>();

sname.add(**new** Sortbyname(2,"Raj",12000));

sname.add(**new** Sortbyname(1,"Ramesh",14000));

sname.add(**new** Sortbyname(3,"Ajay",17000));

**if**(c=='a')

{

Comparator<Sortbyname> sortnm=**new** Comparator<Sortbyname>()

{

**public** **int** compare(Sortbyname s1, Sortbyname s2)

{

**return** s1.getName().compareTo(s2.getName());

}

};

Collections.*sort*(sname,sortnm);

**for**(Sortbyname s: sname)

{

System.***out***.println(s);

}

}

**else** **if**(c=='d')

{

Comparator<Sortbyname> sortnm=**new** Comparator<Sortbyname>()

{

**public** **int** compare(Sortbyname s1, Sortbyname s2)

{

**return** s2.getName().compareTo(s1.getName());

}

};

Collections.*sort*(sname,sortnm);

**for**(Sortbyname s: sname)

{

System.***out***.println(s);

}

}

**else**

{

System.***out***.println("Invalied choice...");

}

}

//................................................................................................................

**else** **if**(ch==3)

{

System.***out***.println("Choose\n a for asc\n d for desc");

**char** c=sc.next().charAt(0);

List<Sortbysalary> ssal=**new** ArrayList<>();

ssal.add(**new** Sortbysalary(2,"Raj",12000));

ssal.add(**new** Sortbysalary(1,"Ramesh",10000));

ssal.add(**new** Sortbysalary(3,"Vikash",17000));

**if**(c=='a')

{

Comparator<Sortbysalary> sortsal=**new** Comparator<Sortbysalary>()

{

**public** **int** compare(Sortbysalary s1, Sortbysalary s2)

{

**if**(s1.getSalary() > s2.getSalary())

**return** 1;

**else**

**return** -1;

}

};

Collections.*sort*(ssal,sortsal);

**for**(Sortbysalary s: ssal)

{

System.***out***.println(s);

}

}

**else** **if**(c=='d')

{

Comparator<Sortbysalary> sortsal=**new** Comparator<Sortbysalary>()

{

**public** **int** compare(Sortbysalary s1, Sortbysalary s2)

{

**if**(s1.getSalary() < s2.getSalary())

**return** 1;

**else**

**return** -1;

}

};

Collections.*sort*(ssal,sortsal);

**for**(Sortbysalary s: ssal)

{

System.***out***.println(s);

}

}

**else**

{

System.***out***.println("Invalied choice...");

}

}

**else**

{

System.***out***.println("Invalied choice");

}

}

}

Sortbyid.java:

**package** sort;

**public** **class** Sortbyid {

**private** **int** id;

**private** String name;

**private** **float** salary;

**public** Sortbyid(**int** id, String name, **float** salary) {

**super**();

**this**.id = id;

**this**.name = name;

**this**.salary = salary;

}

**public** **int** getId() {

**return** id;

}

**public** **void** setId(**int** id) {

**this**.id = id;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **float** getSalary() {

**return** salary;

}

**public** **void** setSalary(**float** salary) {

**this**.salary = salary;

}

@Override

**public** String toString() {

**return** "Sortbyid[id="+id+", name="+name+",salary="+salary+"]";

}

}

Sortbyname.java

**package** sort;

**public** **class** Sortbyname {

**private** **int** id;

**private** String name;

**private** **float** salary;

**public** Sortbyname(**int** id, String name, **float** salary) {

**super**();

**this**.id = id;

**this**.name = name;

**this**.salary = salary;

}

**public** **int** getId() {

**return** id;

}

**public** **void** setId(**int** id) {

**this**.id = id;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **float** getSalary() {

**return** salary;

}

**public** **void** setSalary(**float** salary) {

**this**.salary = salary;

}

@Override

**public** String toString() {

**return** "Sortbyname[id="+id+", name="+name+",salary="+salary+"]";

}

}

Sortbysalary.java

**package** sort;

**public** **class** Sortbysalary {

**private** **int** id;

**private** String name;

**private** **float** salary;

**public** Sortbysalary(**int** id, String name, **float** salary) {

**super**();

**this**.id = id;

**this**.name = name;

**this**.salary = salary;

}

**public** **int** getId() {

**return** id;

}

**public** **void** setId(**int** id) {

**this**.id = id;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **float** getSalary() {

**return** salary;

}

**public** **void** setSalary(**float** salary) {

**this**.salary = salary;

}

@Override

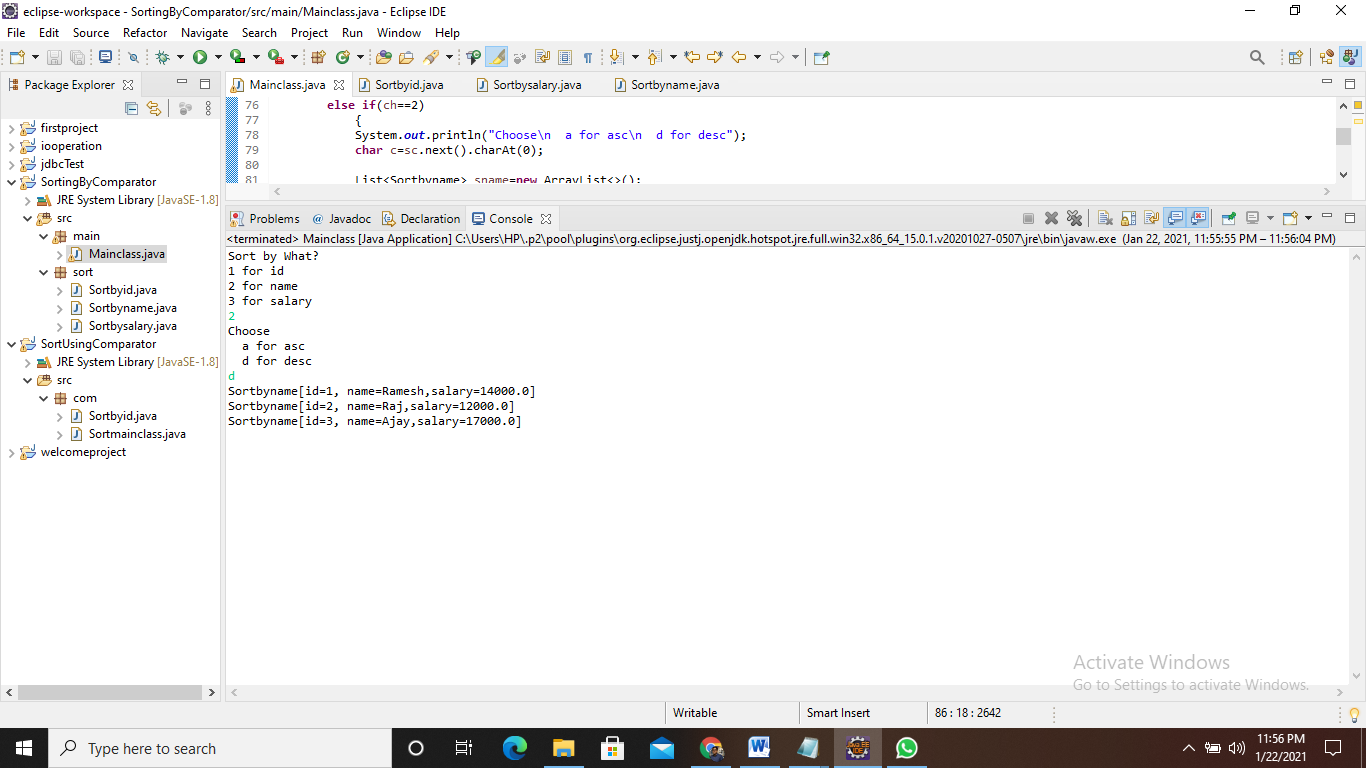
**public** String toString() {

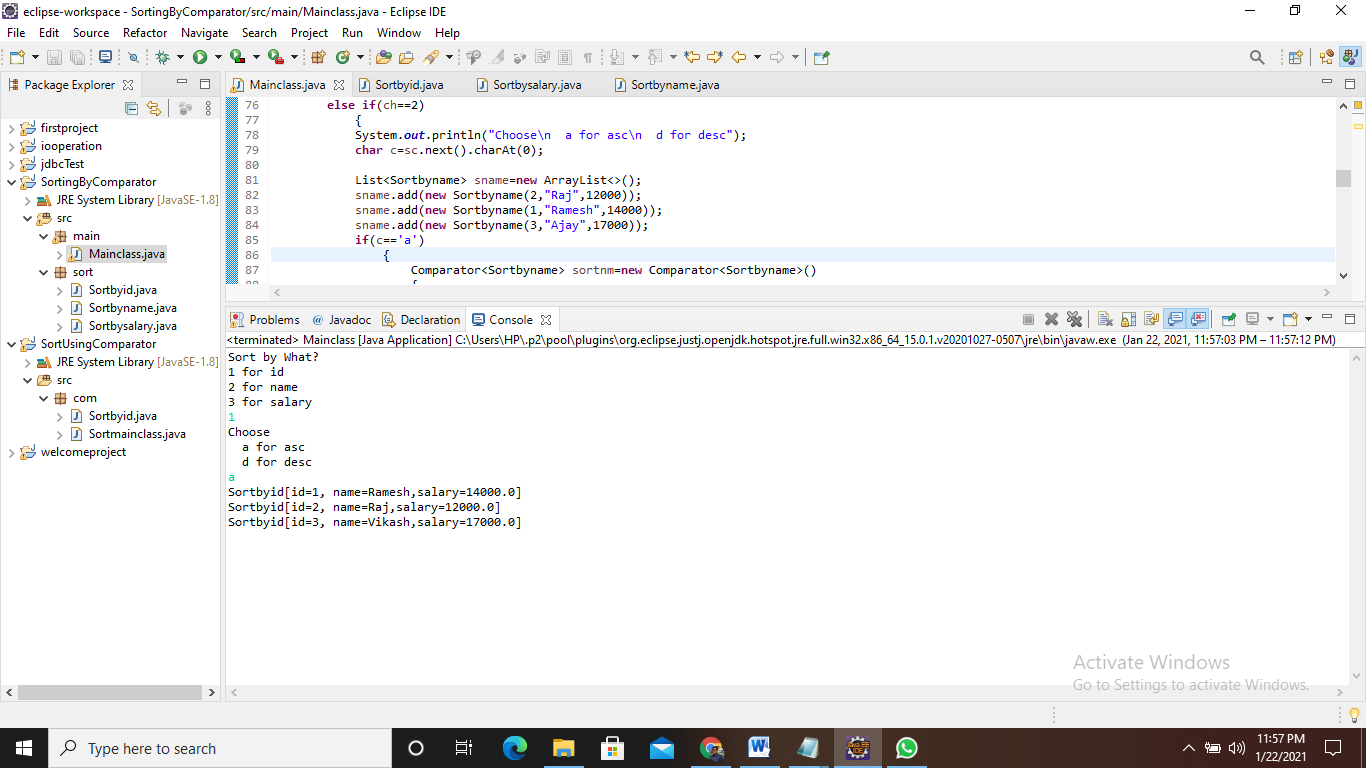
**return** "Sortbysalary[id="+id+", name="+name+",salary="+salary+"]";

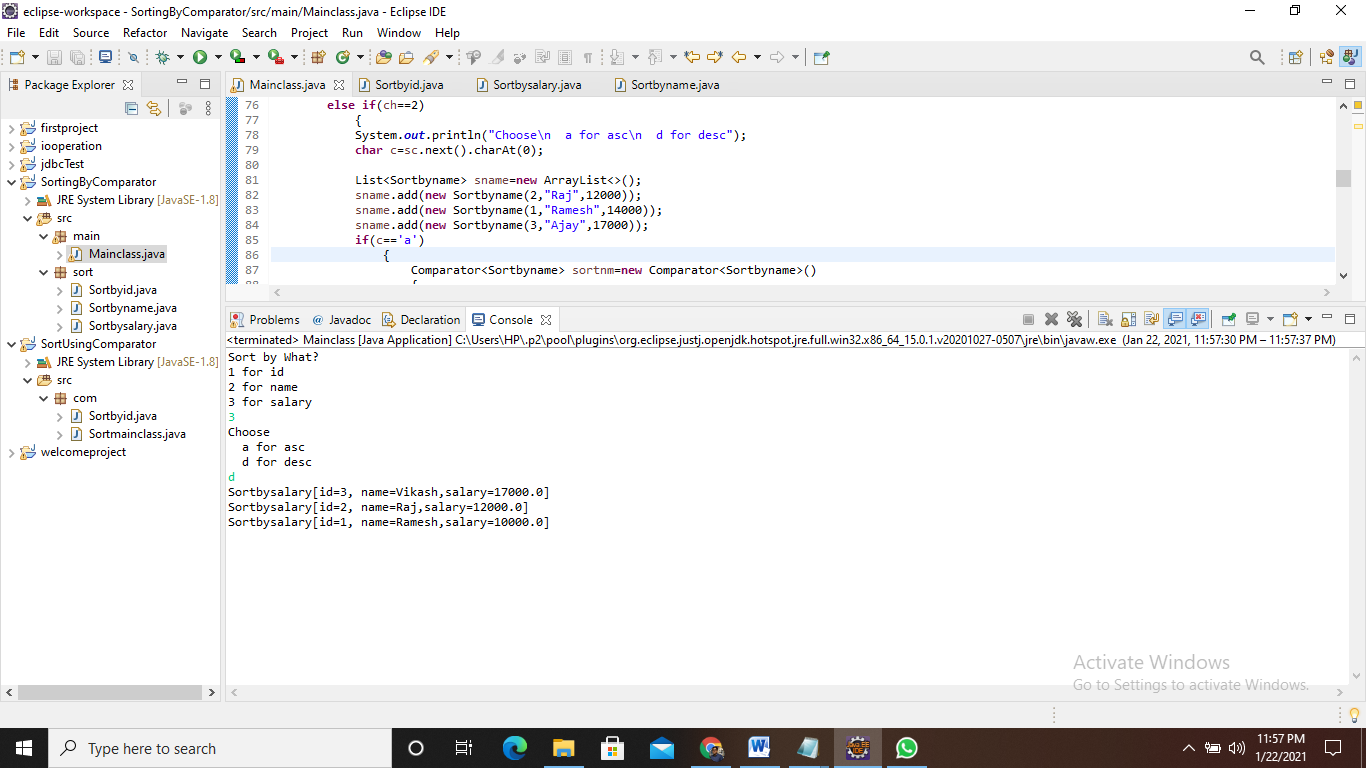
}

}

**Output:**

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