**Why?**

**package** com.test;

**import** java.util.ArrayList;

**import** java.util.Collections;

**public** **class** ArrayListDemo2 {

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

ArrayList<Integer> al = **new** ArrayList<Integer>(); // generics

al.add(10);

al.add(20);

al.add(15);

al.add(12);

al.add(3);

System.***out***.println("before sorting>>" + al);

Collections.*sort*(al);

System.***out***.println("after sorting>>" + al);

}

}

**Output-**

before sorting>>[10, 20, 15, 12, 3]

after sorting>>[3, 10, 12, 15, 20]

Suppose I have one employee class that containing following items now I want to sort the custom objects then go for comparable or comparator interface

**package** com.comp;

**public** **class** Employee{

**int** id;

String name;

**int** salary;

**public** Employee(**int** id, String name, **int** salary) {

**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** **int** getSalary() {

**return** salary;

}

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

**this**.salary = salary;

}

@Override

**public** String toString() {

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

}

}

**package** com.test;

**import** java.util.ArrayList;

**import** java.util.Collections;

**public** **class** Test {

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

ArrayList<Employee> al = **new** ArrayList<Employee>();

al.add(**new** Employee(101, "ram", 9000));

al.add(**new** Employee(102, "ashok", 3000));

al.add(**new** Employee(103, "ajay", 8000));

Collections.*sort*(al);

}

}

Here, I am getting error at collection.sort(al);

Now to resolve this issue, need to implement comparable<Employee> into Employee class.

**Comparable interface-**

1. This interface is present in java.lang package.
2. It contain the only one method compareTo()

Public int compareTo(Object obj)

1. Example- obj1.compareTo(obj2)

return 1 if obj1 is greater than obj2

return -1 if obj1 is less than obj2

return 0 if obj1 & obj2 are equal.

Example-1

**package** com.sort;

**public** **class** Employee **implements** Comparable<Employee> {

**int** id;

String name;

**int** salary; // custom objects

**public** Employee(**int** id, String name, **int** 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** **int** getSalary() {

**return** salary;

}

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

**this**.salary = salary;

}

// sort data by using salary, comparsion, id

@Override

**public** **int** compareTo(Employee employee) {

//equal must return 0, > return 1, < return -1

**if** (salary == employee.salary)

**return** 0;

**else** **if** (salary > employee.salary)

**return** 1;

**else**

**return** -1;

}

@Override

**public** String toString() {

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

}

}

**package** com.sort;

**import** java.util.ArrayList;

**import** java.util.Collections;

**public** **class** Test {

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

ArrayList<Employee> al = **new** ArrayList<Employee>();

al.add(**new** Employee(101, "ram", 9000));

al.add(**new** Employee(102, "ashok", 3000));

al.add(**new** Employee(103, "ajay", 8000));

Collections.*sort*(al);

**for**(Employee emp : al) {

System.***out***.println("id>>" + emp.getId() + " name>>" + emp.getName() + " salary" + emp.getSalary());

}

}

}

Output-

id>>102 name>>ashok salary>>3000

id>>103 name>>ajay salary>>8000

id>>101 name>>ram salary>>9000