Collection Framework

1. Write a class Person having weight, height & name. Create multiple person objects & print them in the sorted order. In the sorting order first sort based upon their weight & it two persons have same weight them sort them based upon their height. Use TreeSet.
2. Prove that HashSet is unordered & LinkedHashSet is ordered**.**
3. Create a ArrayList with few elements & print it in backward direction. Use ListIterator.
4. Write a program using HashMap where Date of birth is a key & Employee name as value. Design the class Date is such a way where the get method fails if two employees have same day & month of birth but birth year is different.
5. Write a user defined class say Employee that overrides equals() & hashCode() methods. Equals() always returns true & hashCode() always returns a fixed number. Make such a class as key of you HashMap. Observe the behavior while calling put & get methods.
6. Implement the console based chatting using collections. Here are the options to be placed for to the user:

>java ChatApplication

Options:

A) Create a chatroom

B) Add the user

C) User login

D) Send a message

E) Display the messages from a specific chatroom

F) List down all users belonging to the specified chat room.

G) Logout

H) Delete a user

I) Delete the chat room.

Please enter your option:

1. There is parking slot available in R-Mall with 3 floors; each floor has 4 sections and each section can maximum park 20 cars. You need to design one application which will maintain all car details in such way when a car owner arrives to collect his car your application should provide details including where it is located.

a. Create class Parked\_CarOwner\_Details which will have field’s ownerName, carModel, carNO, ownerMobileNo, ownerAddress with setter and getter methods.

b. Create class Parked\_CarOwnerList which will have method’s int add\_new\_car(Parked\_CarOwner\_Details obj), remove\_car(), get\_parked\_car\_location(token)

1. Test fail-fast & fail-safe iterators within multithreaded environment. Note example of fail fast iterator is Vector, ArrayList, HashSet etc. And fail-safe is ConcurrentHashMap, CopyOnWriteArrayList etc.