1. Write a program to store user defined type "Product" into TreeSet

Class Product{

Int id;

String name;

Double price;

}

It should be able to sort products id-wise as natural ordering.

It should be able to sort products price-wise as custom ordering.

It should also provide options to sort same set of products name-wise and price-wise also.

1. Write a program to store entries of user defined type “**Employee**” in HashMap.

It should also be able to search a value based on a key.

Code snippet

{

// declaration of HashSet

HashMap<EmployeePK,Employee> entries;

}

Class Employee{

Int id;

String name;

String entity;

String department;

}

Class EmployeePK{

Int id;

String entity;

}

In those Entries, key is a Composite primary key(**EmployeePK**) consisting of id & entity

And value is object of type **Employee**

1. Write a program to count number of words in a given text file.

4. Write a program to accept a string as command line argument and check whether it is a file or directory. If it is a directory, list the contents of the directory, count how many files the directory has and delete all files in that directory having extension .txt. (Ask the user if the files have to be deleted). If it is a file, display all information about the file (path, size, attributes etc).

5. Write a java program to accept two file names as command line arguments and copy the contains of first to second in such a manner the case of all alphabet is changed and digits are replaced by ‘\*’. Display appropriate error message if the first file does not exist. (Use methods from Character class )

6. Write a program to display the contents of a file in the reverse order.

Write a menu driven program to perform the following operations on a binary file “item.dat” which contains id, name, price and quantity. i. Add an item ii. Search for an item. iii. Delete an item iv. Modify details of an item. v. Display all items.

7. Design classes for Currency, Rupee, and Dollar. Write a program that randomly generates Rupee and Dollar objects and write them into a file using object serialization. Write another program to read that file, convert to Rupee if it reads a Dollar, while leave the value as it is if it reads a Rupee.

8. Write a multi-threaded Java program to print all numbers below 100,000 that are both prime and fibonacci number (some examples are 2, 3, 5, 13, etc.). Design a thread that generates prime numbers below 100,000 and writes them into a pipe. Design another thread that generates fibonacci numbers and writes them to another pipe. The main thread should read both the pipes to identify numbers common to both.

9. Write a program to simulate banking transactions. Following are the constraints for this assignment.

Bank has following data members and operations

transferAmount(toAccount, fromAccount, amount):void

showTotalBalance():void

accounts: Account[]

Account has following data members and operations

Id : int

Balance:double

Deposit(amount):Boolean

Withdraw(amount):Boolean

Window has following data members and operations

performTransfer(void):void

All are public classes. Deposit() and Withdraw() of Account are not visible outside package in a named package.

Write a entry class which is in default package for test.