
ICT373: Lab SEVEN

Lab Practice Session 7

Background: You will learn file operations that will be useful in Assignment 2.

(Streams, Persistence and deep copying in Java)

1. Write a java program which creates a Random Access file named “numbers.dat”, and writes all the integer numbers from 0 to 100 to that file. The program then locates the second number on the file and prints it out to the screen. It then prints out every 10th number from the file. Finally, the program prints out the length of the file to the screen.
2. Write a java program which consists of an input method, an output method and a main/test method. The input method creates and initialises three arrays: an array of five numbers, an array of your three friends’ names and an array of four fractions (use your Fraction class which you developed in Exercise 2 of Lab Practice Session 4). The method then writes out these array objects to a file “arrays.dat”. The output method reads data from the file “arrays.dat” and prints it out to the screen. The main/test method just calls the input method and then the output method.
3. Write a java class called “House”. A House has an owner (a name String), an area (a double) and a date when the house was built (a java.util.Date class object). Write constructors and set and get methods for the House class, and a toString method which returns a String consisting of the information about the house (the owner’s name, house area and when built). Also write a copy constructor and a clone method each of which performs deep copy of a House object.

Write a client test program which creates a House object with made-up details and prints out the House details to the screen. It then uses the copy constructor to create a second House object which is a deep copy of the first House object, changes the owner and date of the second object and prints out the details of both first and second House objects to the screen. The program then creates a third House object by using the clone method of House class, changes the owner and date of the third object, and prints out the details of both first and third House objects to the screen.