

Homework – Java I/O Streams

Question 1 – Reading a File

Write a Java program that reads the contents of a text file named input.txt line by line and prints each line to the console.

- Use FileReader and BufferedReader.
- Handle exceptions properly.
- Make sure the file is closed after reading.

Question 2 – Writing to a File

Write a Java program that asks the user to enter their name and age from the console and then writes this information into a file called user.txt in the following format:

Name: John Doe

Age: 25

- Use FileWriter and BufferedWriter.
- Append to the file if it already exists instead of overwriting it.

Question 3 – Copying a File (Binary Stream)

Write a Java program that copies an image file (image.jpg) to another file named copy.jpg using byte streams (FileInputStream and FileOutputStream).

- Read and write in chunks of 1024 bytes.
- Print the total number of bytes copied.

Question 4 – Object Serialization

Create a Student class with the following fields:

- String name
- int age
- double grade

Write a program that:

1. Creates a Student object.
2. Saves it to a file called student.dat using ObjectOutputStream.
3. Reads it back from the file using ObjectInputStream and prints its details.

Question 5 – Counting Words in a File

Write a Java program that counts the total number of words in data.txt.

- Use FileReader and BufferedReader.
- Consider words to be separated by spaces, tabs, or newlines.
- Print the result to the console.

Bonus Question – Mixed I/O

Write a Java program that:

1. Reads all the integers from a file numbers.txt.
2. Calculates their sum and average.
3. Appends the results to the same file at the end in the format:
Sum = 150
Average = 30.0