

Secondary Memory

Lesson_04 Secondary Memory

Lesson Title: Secondary Memory and Persistent Storage

Lesson 2.1.5 Identify the need for persistent storage

SWBAT/IB Teaching Standard for Assessment: Persistent storage is needed to store data in a non-volatile device during and after the running of a program.

(Consequences of data loss., If there are no consequences of data loss, why is it stored?, TOK There is no such thing as persistent storage., AIM 9 An appreciation of the issues related to both the ever increasing amount of data and a need to retain it.

Do Now / Coding Component (5 minutes) Show this to the class and ask students to attempt to “annotate” and explain the code

```
import com.opencsv.CSVWriter;
public class WritingToCSV {
    public static void main(String args[]) throws Exception {
        //Instantiating the CSVWriter class
        CSVWriter writer = new CSVWriter(new FileWriter("D://output.csv"));
        //Writing data to a csv file
        String line1[] = {"id", "name", "salary", "start_date", "dept"};
        String line2[] = {"1", "Krishna", "2548", "2012-01-01", "IT"};
        String line3[] = {"2", "Vishnu", "4522", "2013-02-26", "Operations"};
        String line4[] = {"3", "Raja", "3021", "2016-10-10", "HR"};
        String line5[] = {"4", "Raghav", "6988", "2012-01-01", "IT"};
        //Instantiating the List Object
        List list = new ArrayList();
        list.add(line1);
        list.add(line2);
        list.add(line3);
        list.add(line4);
        list.add(line5);
        //Writing data to the csv file
        writer.writeAll(list);
        writer.flush();
        System.out.println("Data entered");
    }
}
```

Part A. Introducing the Lesson (5 minutes) Build on the discussion from the DO NOW and quickly share with students your personal journey from floppy disks (small and large) to hard-drives, through cd/dvd, then usb, then cloud systems!

Part B. Student Centered Activity. (20 minutes)

Task 1: Explain the difference between persistent data and non-persistent data.

Task 2: See <https://aws.amazon.com/products/storage/persistent-file-storage-for-modern-apps/> and explain what is the claim being made by AWS that makes their product “better”.

Task 3: Read and discuss in your group (use Turn-and-Talk Protocol)
<https://www.techtarget.com/searchstorage/definition/Persistent-storage>

Part C. Whole Group Lesson Component /Harkness Protocol (15 minutes)

TOK Discussion: Is there a truly “persistent storage” object?

TOK Discussion: Is there a consequence to data loss? If none, then why should data be stored?

AIM9: There is no end to the need to store data and several companies - local and international - are engaged in the business of providing the service. How has this need affected the economy and society?

Part D. Read: Microsoft’s underwater servers host seacreatures and data.
<https://www.technology.org/2017/05/09/microsofts-underwater-servers-host-sea-creatures-and-data/>