

Java and Advanced Java with OOPS Internship

Project Report

File Conversion

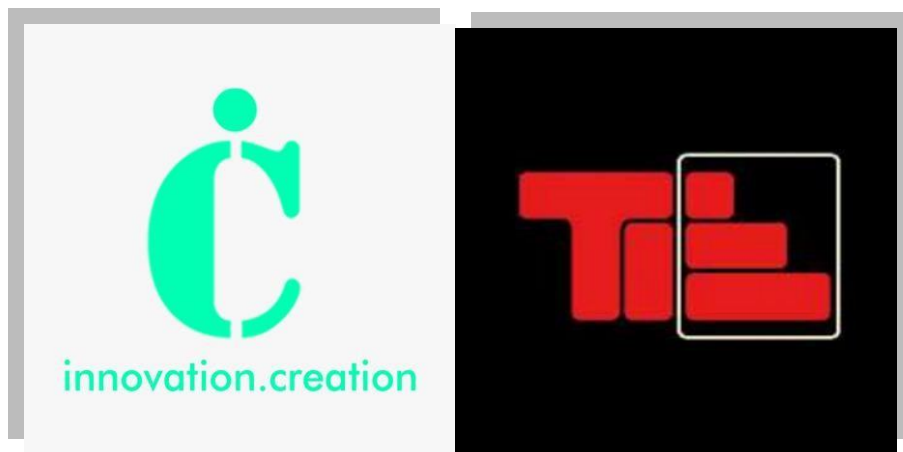
Submitted by:

Prajwal M S [1VE18EC070 gowdaprajwal009@gmail.com]

Online Internship Organizes By:

IC Solutions

In association with **Takeiteasy_Engineers(TIE)**



Under the guidance of

Mr.Nithin K S

Acknowledgement

Firstly I would like to express my special thanks of gratitude to **Take It Easy Engineers(TIE)** for arranging this internship program. Also I would really like to thank **IC Solutions** for giving the students such a golden opportunity to do **Java and Advance Java with OOPS internship** at just **₹499**. Providing such a quality training at low price is really appreciable. As doing an internship is a must for all the VTU students, it was really difficult to find good internship program during the pandemic. This online internship has really helped me.

I would like to extend my gratitude to my instructor **Mr.Nithin K S**. I'm really fortunate that such a good trainer was assigned to me. He has so much knowledge in this area, so all the eleven sessions of this internship program were really informative. He shared his experience in the field of ML during the sessions which was really great. He used to clear all the doubts asked by each & every student, due to which all the concepts taught by him are crystal clear.

I perceive this opportunity as a big milestone in my career development. I will strive to use gained skills and knowledge in the best possible way, and I will continue to work on their improvement, in order to attain desired career objectives.

Hope to continue cooperation with all of you in the future.

Sincerely,
Prajwal M S

Place: Bangalore

Date: 01/06/2021

About the company

IC Solutions(ICS) is a digital service provider that aims to provide software, designing and marketing solutions to individuals and businesses. ICS believes that service and quality is the key to success.

They provide all kinds of technological and designing solutions from Billing Software to Web Designs or any custom demand that you may have. Experience the service like none other!

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Consultancy - They provide expert advice on the client's design and development requirement.

Videos - They create a polished professional video that impresses the audience..

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Overview

Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependences as possible. The project given on Arithmetic Formatter using Java. Arithmetic Formatter is a popular problem that is used by most people to get their basics stronger. And it is thought by many programming language. But now we have to implement the Arithmetic Formatter using Java. The problem statement goes like this "Create a function arithmetic Arranger() that receives a list of Strings that are arithmetic problems and returns the problems arranged vertically and side-by-side. The function should optionally take a second argument. When the second argument is set to True, the answer should be displayed".

Using the knowledge gained by this internship I have completed a Java project which involved Arithmetic Formatter concept.

Advantages and Challenges

Solving this File Conversion problem using Java was really a Challenge for because I was getting errors in the beginning and with the reference of the video and some research papers I code able to debug it.

System Requirements

Hardware Specifications (Minimum Requirement):-

- RAM: 4 GB
- CPU: Processor above Intel Corei3 8th Gen
- OS: Windows 10/Mac OS

Software Requirements:-

- ECLIPSE IDE
- VS CODE

//

IMPLEMENTATION

SOURCE CODE:

APPROACH-1

User.java

```
package pro2;
```

```
import javax.xml.bind.annotation.XmlAccessType;
```

```
@Getter @Setter @NoArgsConstructor @AllArgsConstructor
```

```
@XmlRootElement(name="user")
```

```
@XmlAccessorType(XmlAccessType.FIELD)
```

```
public class User {
```

```
    private String Album;
```

```
    private Integer Year;
```

```
    private Integer US_peak_chart_psost;
```

```
    private Address address;
```

```
}
```

CsvTOJson.java

```
package pro2;
```

```
import java.util.Scanner;
```

```
import java.io.FileNotFoundException;
```

```
import java.io.IOException;
```

```
import java.io.File;
```

```
import java.io.BufferedReader;
```

```
import java.io.BufferedInputStream;
```

```
import java.io.FileReader;
```

```
public class CsvTOJson {
```

```
    public static void main(String[] args) {
```

```
        //readCsvUsingScanner("C:\\Users\\gowda\\Documents\\pro2\\csvjson.csv");
```

```

readCsvUsingBufferedReader("C:\\Users\\gowda\\Documents\\pro2\\csvjson.csv"); }

private static void readScvUsingScanner(String filePath) {
    try {
        Scanner scanner = new Scanner(new File(filePath));
        while (scanner.hasNext()) {
            System.out.println("User data : " + scanner.next().toString());
        }
        scanner.close();
    } catch (FileNotFoundException e) {
        e.printStackTrace();
    }
}

public class User {
    private String Album;
    private Integer Year;
    private Integer US_peak_chart_psost;
    private Address address;

}

private static void readCsvUsingBufferedReader(String filePath) {
    String line= "";
    String deleimeter = ",";
    try {
        BufferedReader reader = new BufferedReader(new FileReader(filePath));
        while ((line = reader.readLine()) !=null) {
            System.out.println("User data : " + line);
            String[] userData = line.split(deleimeter);
            // User user =new User(userData[0], Integer.valueOf(userData[1]),
            Integer.valueOf(userData[2]), null);

            Users.add(new User(userData[0], Integer.valueOf(userData[1]),
            Integer.valueOf(userData[2]), null));

            //System.out.println("User json : " + new Gson().toJson(User) );

```



```

System.out.println("Userjson:"+newGsonBuilder().setPrettyPrinting().create().toJson(user
s));  }

} catch(FileNotFoundException e) {

e.printStackTrace();

} catch (IOException e) {

e.printStackTrace();

}}

```

Approach-2

customer.java

```
package com.grokonez.convertcsv2json;
```

```
public class Customer {
```

```
private String Albums;
```

```
private int year;
```

```
private int US_peak_chart_psost;
```

```
public Customer() {
}
```

```
public Customer(String Albums, int year, int US_peak_chart_psost) {
this.Albums = Albums;
this.year = year;
this.US_peak_chart_psost = US_peak_chart_psost;
}
```

```
public String getAlbums() {
return Albums;
}
```

```
public void setAlbums(String Albums) {
this.Albums = Albums;
}
```

```
public String getyear() {
return year;
}
```

```
public void setyear(String year) {
this.year = year;
}
```

```
public int getUS_peak_chart_psost() {
return US_peak_chart_psost;
}
```

```
public void setUS_peak_chart_psost(int US_peak_chart_psost) {
this.US_peak_chart_psost = US_peak_chart_psost;
}
```

```

@Override
public String toString() {
return "Customer [id=" + id + ", name=" + name + ", address=" + address + ",
US_peak_chart_psost=" + US_peak_chart_psost + "]";
}
}

```

```

csv2json.java
package com.grokonez.pro2;

```

```

import java.io.BufferedReader;
import java.io.FileReader;
import java.io.IOException;
import java.util.ArrayList;
import java.util.List;

```

```

import org.apache.commons.csv.CSVFormat;
import org.apache.commons.csv.CSVParser;
import org.apache.commons.csv.CSVRecord;

```

```

import com.fasterxml.jackson.core.JsonProcessingException;
import com.fasterxml.jackson.databind.ObjectMapper;

```

```

public class csv2json {

public static void main(String[] args) {
List customers = readCsvFile("customers.csv");
String jsonString = convertJavaObject2JsonString(customers);
System.out.println(jsonString);
}

```

```

/**

```

```

*

```

```

* Read CSV File into Memory

```

```

* @param filePath

```

```

* @return

```

```

*/

```

```

private static List readCsvFile(String filePath) {
BufferedReader fileReader = null;
CSVParser csvParser = null;

```

```

List customers = new ArrayList();

```

```

try {
fileReader = new BufferedReader(new FileReader(filePath));
csvParser = new CSVParser(fileReader,
CSVFormat.DEFAULT.withFirstRecordAsHeader().withIgnoreHeaderCase().withTrim());

```

```

Iterable csvRecords = csvParser.getRecords();

```

```

for (CSVRecord csvRecord : csvRecords) {

```

```

Customer customer = new Customer(
csvRecord.get("Album"),
csvRecord.get("Year"),
csvRecord.get("US_peak_chart_posts")
);

customers.add(customer);
}

} catch (Exception e) {
System.out.println("Reading CSV Error!");
e.printStackTrace();
} finally {
try {
fileReader.close();
csvParser.close();
} catch (IOException e) {
System.out.println("Closing fileReader/csvParser Error!");
e.printStackTrace();
}
}

return customers;
}

/**
 *
 * Convert Java Object to JSON String
 *
 * @param customers
 * @return
 */
private static String convertJavaObject2JsonString(List customers) {
    ObjectMapper mapper = new ObjectMapper();
    String jsonString = "";

    try {
        jsonString = mapper.writeValueAsString(customers);
    } catch (JsonProcessingException e) {
        e.printStackTrace();
    }

    return jsonString;
}
}

```

OUTPUT OF THE PROGRAM

Exception in thread "main" java.lang.RuntimeException: Unresolved compilation problems:

Users cannot be resolved

The constructor CsvTOJson.User(String, Integer, Integer, null) is undefined

GsonBuilder cannot be resolved to a type

users cannot be resolved to a variable

```
[
  {
    "album": "Gilgamesh",
    "year": 1975,
    "US_peak_chart_post": "-"
  },
  {
    "album": "Sahakti with John McLaughlin",
    "year": 1976,
    "US_peak_chart_post": 194
  },
  {
    "album": "A Handful of Beauty",
    "year": 1976,
    "US_peak_chart_post": 168
  },
  {
    "album": "Natural Elements",
    "year": 1977,
    "US_peak_chart_post": "-"
  },
  {
    "album": "Another Fine Tune You've Got Me Inot",
    "year": 1979,
    "US_peak_chart_post": "-"
  },
  {
    "album": "Arriving Twice",
    "year": 2000,
    "US_peak_chart_post": 3
  },
  {
    "album": "lcky Thump",
    "year": 2007,
    "US_peak_chart_post": 2
  },
  {
    "album": "Under Great White Northern Lights",
    "year": 2010,
    "US_peak_chart_post": 11
  },
]
```

"album","year","US_peak_chart_post"

"Gilgamesh",1975,"-

"Sahakti with John McLaughlin",1976,194

"A Handful of Beauty",1976,168

"Natural Elements",1977,"-

"Another Fine Tune You've Got Me Inot",1979,"-

"Arriving Twice",2000,3

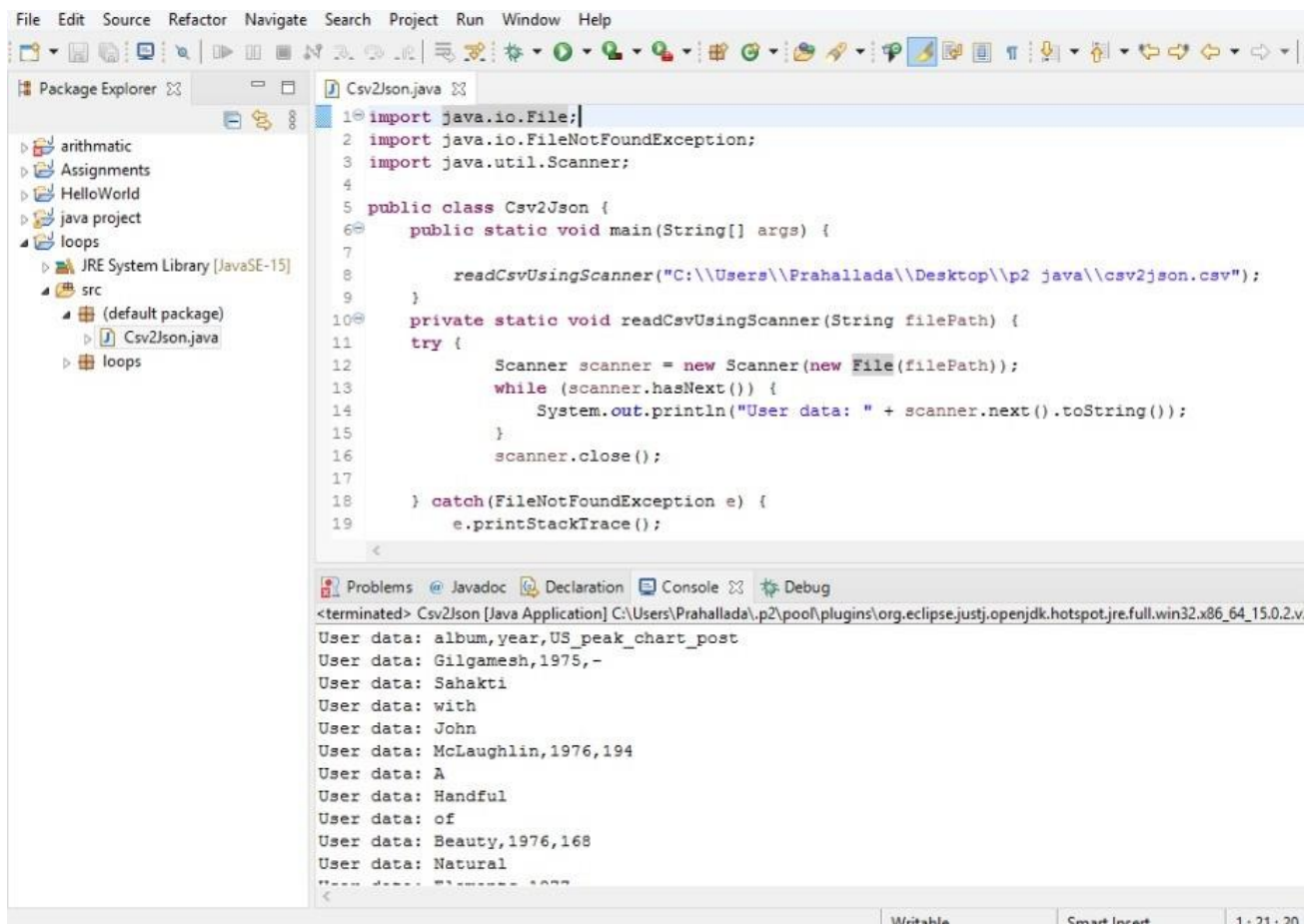
"Icky Thump",2007,2

"Under Great White Northern Lights",2010,11

"Live in Mississippi",2011,"-

"Live at the Gold Dollar",2012,"-

"Nine Miles from the White City",2013,"-



```

File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
  arithmetic
  Assignments
  HelloWorld
  java project
  loops
  JRE System Library [JavaSE-15]
  src
    (default package)
      Csv2Json.java
    loops
Csv2Json.java
1 import java.io.File;
2 import java.io.FileNotFoundException;
3 import java.util.Scanner;
4
5 public class Csv2Json {
6     public static void main(String[] args) {
7
8         readCsvUsingScanner("C:\\Users\\Prahallada\\Desktop\\p2 java\\csv2json.csv");
9     }
10    private static void readCsvUsingScanner(String filePath) {
11        try {
12            Scanner scanner = new Scanner(new File(filePath));
13            while (scanner.hasNext()) {
14                System.out.println("User data: " + scanner.next().toString());
15            }
16            scanner.close();
17        }
18        catch (FileNotFoundException e) {
19            e.printStackTrace();
20        }
21    }
22 }
Problems Javadoc Declaration Console Debug
<terminated> Csv2Json [Java Application] C:\Users\Prahallada\p2\poo\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.2.v
User data: album,year,US_peak_chart_post
User data: Gilgamesh,1975,-
User data: Sahakti
User data: with
User data: John
User data: McLaughlin,1976,194
User data: A
User data: Handful
User data: of
User data: Beauty,1976,168
User data: Natural
User data: Elements,1977,-
User data: Another Fine Tune You've Got Me Inot,1979,-
User data: Arriving Twice,2000,3
User data: Icky Thump,2007,2
User data: Under Great White Northern Lights,2010,11
User data: Live in Mississippi,2011,-
User data: Live at the Gold Dollar,2012,-
User data: Nine Miles from the White City,2013,-
Writable Smart Insert 1 : 21 : 20

```

Conclusion

Solving this File conversion using Java was really a Challenge for because I could find many reference using java but I was unable to execute it. But somehow I worked on it and try to solve the Problem. I have tried executing the code in the way, but I was able to read the csv file in the first then I was worked on it and somehow I got the output. So here I got is the partial output. I gained so much knowledge on competitive programming using Java. And this project and internship gave me a immense knowledge which I can carry through out. I thank the tutor who guided me to achieve this project.

Bibliography

1. Java file given by the tutor.
2. Referred few research papers on File Conversion.