Page No.
Date

Assignment B7

Date of completion: 10/11/20 Date of Submission: 12/11/20.

Title: JSON objects in Java.

Problem Statement:
Encode and Decode JSON objects using Java.

Objectives:
1) Learn about JSON objects in Java.
2) Learn how to encode and decode JSON.
3) Connect Mongodb to Java & perform operation.

Outcomes:
1) Should be able to insert JSON object Documents in Mongodb.
2) Should learn to connect Java & Mongodb.

S/W & H/W:
MongoDB, mongo-java jar file, json jar file. Java Development Kit. Windows/Ubuntu.

Theory:
What is JSON?
JSON (Javascript Object Notation is a light weight / data-interchage format. It is easy for humans to read & write. It is easy for machine to parse & generate. JSON is a text format that is completely language independent but uses conventions that are familar to programmers of C-family of languages.

Page No.
Date

Encoding JSON in Java:

Following is a simple example to encode a JSON object using Java JSONObject which is a subclass of java.util.HashMap. No ordering is provided. If you need the strict ordering of elements use JSONValue.toJSONString(map) method.

```
import org.json.simple.JSONObject;

class JSONEncodeDemo{
    public static void main(string[] args){
        JSON object obj = new JSONObject()
        obj.put("name", "foo");
        obj.put("num", new Integer(100));
        obj.put("balance", new Double(1000.21));

        System.out.print(obj);
    }
}.
```

Decoding JSON in Java:

The following makes use of JSONObject and JSONArray where JSONObject is a java.util.Map & JSONArray is a java.util.List, so you access them with standard operation of Map or List.

```
import org.json.simple.JSONObject;
import org.json.simple.JSONArray;
import org.json.simple.parser.ParseException;
import org.json.simple.parser.JSONParser;

Class JSONDecodeDemo{
    public static void main(String[] args){
        JSONParser parser = new JSONParser();
        String s = "[0,{"1":{"2":{"3":{"4":[5,{"6":7}]}}}}]";
        try{
            object obje = parser.parse(s);
            JSONArray array = (JSONArray) obj;
```

```
            System.out.println("The 2nd element of array" + array.get(1));
        } catch (ParseException pe){
            System.out.println(pe);
        }
    }
};
```

Conclusion:

Learnt how to encode and decode JSON object & JSON Array in Java and implement mongoDB. &