Assignment 1

Group Name : Uniform

Members:

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Exercise 1: To which category or categories of the web applications belongs “Klips” https://klips.uni-koblenz-landau.de/.

Answer: "Klips" belongs to portal category of web application

Exercise 2: What are the differences between Dom and SAX parsers? Please explain

Answer:

Dom	SAX
Dom is tree model parser.(object based)	Event based parser (sequence of events)
Loads file into the memory and parses the file	Parses the file as it reads I.e node by node
Is read and write (can insert or delete the node)	Is read only (can only read nodes)
Has memory constraints since it loads entire file into the memory	Has not memory constraints as it doesn’t store the content into the memory
Slower at runtime	Faster at rumtime

Exercise 3: Provide the sequence of events that would be handled when parsing the XML document below using a SAX parser.

<>

Answer: The sequence to events that would be handled are as follows:

1- first line (<?xml>) is XML declaration and not a processing Instruction.

2- XML Element start, named \textbf{note}, with an attribute \textbf{id} equal to "1.0"

3- XML Element start, named \textbf{to}

4- XML Text node, with data equal to "John"

5- XML Element end, named \textbf{to}

6- XML Element start, named \textbf{from}

7- XML Text node, with data equal to "Jenny"

8- XML Element end, named \textbf{from}

9- XML Element start, named \textbf{heading}

10- XML Text node, with data equal to "Reminder"

11- XML Element end, named \textbf{heading}

12- XML Element start, named \textbf{body}

13- XML Text node, with data equal to " Don't "

14- XML Element start, named \textbf{b}

15- XML Text node, with data equal to "Forget"

16- XML Element end, named \textbf{b}

17- XML Text node, with data equal to "out meeting!"

18- XML Element end, named \textbf{body}

19- XML Element end, named \textbf{node}

Exercise 4: Provide a DTD for a XML document, which describes a student semester plan. Express the following rules in DTD. A student semester plan contains:
• The personal information of the student, namely name, family, birthday (provided as day, month, year), and address (provided as street, number, code, city).
• The educational information, namely semester (mandatory), and field of study (optional).
• The registered course(s) and their relevant information, namely name of the course, time, and room.

Answer:

```
<!DOCTYPE address [
  <!ELEMENT student (personalInformation,educationalInformation,registeredCourses)>
  <!ELEMENT personalInformation (firstName,familyName,dateOfBirth,address)
  <!ELEMENT firstName (#PCDATA)>
  <!ELEMENT familyName (#PCDATA)>
  <!ELEMENT dateOfBirth (day,month,year)>
  <!ELEMENT day (#PCDATA)
  <!ELEMENT month (#PCDATA)
  <!ELEMENT year (#PCDATA)
  <!ELEMENT address (street,houseNumber,postCode,city)
  <!ELEMENT street (#PCDATA)
  <!ELEMENT houseNumber (#PCDATA)
```

```
  <!ELEMENT postCode (#PCDATA)
  <!ELEMENT city (#PCDATA)
  <!ELEMENT educationalInformation(semester,field)
  <!ELEMENT semester (#PCDATA)
  <!ELEMENT field(#PCDATA)
  <!ELEMENT registeredCourses (courseName,Time,Room)
  <!ELEMENT courseName (#PCDATA*)
<!ELEMENT Time #PCDATA)
<!ELEMENT Room(#PCDATA)


]>
```