LONDON METROPOLITAN UNIVERSITY

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Module Code & Module Title

CS5004NA Emerging Programming Platforms and Technologies

Assessment Weightage & Type

100% Individual Coursework

Year and Semester

2019-20 Spring

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Emerging Programming Platforms and Technologies

Contents

Emerging Programming Platforms and Technologies

Shasank Shakya   L2C10

Table of Figures

Table of Figures

Emerging Programming Platforms and Technologies

Shasank Shakya   L2C10

Table of Tables

Table of Tables

Emerging Programming Platforms and Technologies

1. Introduction

This is the second course work of our second year consisting of 30% weightage. It is an individual course work unlike the first one. We learned about structure of XML in our second semester. Also we learned about basic rules we need to follow to write and XML document, CDATA etc. And the main thing we learned about is DTD and Schema of XML. However this course work is just based on building a schema and write about disadvantages of DTD. Here are following programs and applications used to make this coursework.

1.2. Notepad++

Notepad++ is a text editor similar to Notepad but provides additional features, such as advanced source code editing tools. The text editor is made up of a tabbed document interface and split screen editing, while providing drag-and-drop functionality. It supports a lot of programming languages. Some are C++, Java, HTML, etc. Notepad++ has been used for this course work to write XML code and to make the schema file.

1.3. Notepad

Notepad is just a basic text editor for Windows. It was first released as a mouse-based MS-DOS program in 1983, and has been included in all versions of Microsoft Windows since Windows 1.0 in 1985. Notepad has been used for developing the CSS code of XML file.

1.4. Draw.io

Draw.io is a website that provides tools for designing charts and diagrams. Instead of making it in paper they make it relatively easy and more accurate. The XML tree diagram has been made with the help of draw.io.

2. XML

2.1. Tree Diagram

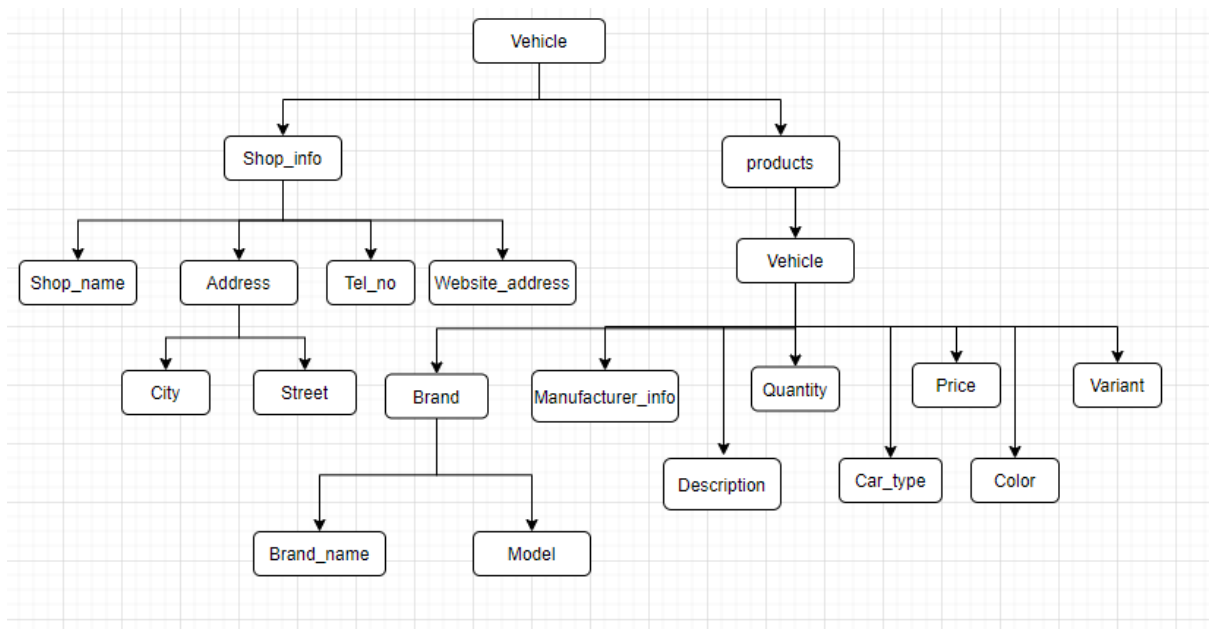*Figure 1 Tree diagram*

This is the structure of the tree diagram of the whole XML document.

2.2. XML Content

```xml
<?xml-stylesheet version="1.0" type="text/css"
href="catalog_18029951.css"?>
<Vehicles>
<Shop_info>
        <Shop_name>Vector Motors</Shop_name>
        <Address>
                <City>Kathmandu</City>
                <Street>Baluwatar</Street>
        </Address>
        <Tel_no>38848495</Tel_no>
        <Website_address>vectormotors.com</Website_address>
</Shop_info>
        <products>
                <Vehicle product_ID="6536">
                        <Brand>
                                <Brand_name>Suzuki</Brand_name>
                                <Model>Wagon R</Model>
                        </Brand>
                        <Manufacturer_info>
                        Suzuki Motor Corporation is a Japanese multinational
corporation headquartered in Minami-ku, Hamamatsu.
                                Suzuki manufactures automobiles, four-wheel drive
vehicles, motorcycles, all-terrain vehicles (ATVs),
                                outboard marine engines, wheelchairs and a variety of
other small internal combustion engines.
                        </Manufacturer_info>

                        <Description>
                        Suzuki Wagon R is one of the practical tall boy hatchback
out there in the Indian as well
                                as Nepalese market ever since it was first introduced
back in 1999.
                        </Description>

                        <Car_type>hatchback</Car_type>

                        <Color finishes="Matte">Black</Color>

                        <Quantity>4</Quantity>

                        <Variant option="Full option"/>

                        <Price payment_method="cash">87000</Price>
                </Vehicle>

                <Vehicle product_ID="6531">
                        <Brand>
                                <Brand_name>Hyundai</Brand_name>
                                <Model>Kona</Model>
                        </Brand>
                        <Manufacturer_info>
                        The Hyundai Motor Company, commonly known as Hyundai
Motors, is
                                a South Korean multinational automotive manufacturer
headquartered in Seoul.
                        </Manufacturer_info>

                        <Description>
```

Emerging Programming Platforms and Technologies

```
                    The Kona isn't perfect, but in a segment full of
compromises it offers a great
                    combination of comfort, practicality, fun and technology,
all wrapped up in a
                    package that feels firmly put together.
             </Description>

             <Car_type>SUV</Car_type>

             <Color finishes="Matte">grey</Color>

             <Quantity>2</Quantity>

             <Variant option="No option"/>

             <Price payment_method="cash">107000</Price>
        </Vehicle>

        <Vehicle product_ID="2535">
             <Brand>
                    <Brand_name>Mazda</Brand_name>
                    <Model>CX-5</Model>
             </Brand>
             <Manufacturer_info>
             Mazda Motor Corporation, commonly referred to as simply
Mazda, is a
             Japanese multinational automaker based in Fuchū, Aki
District, Hiroshima
             Prefecture, Japan.
             </Manufacturer_info>

             <Description>
             The Mazda CX-5 has interior quality and driving dynamics
that
             challenge some luxury vehicles. Cargo space behind the
second
             row isn't class-leading, but the Mazda's strengths still
make
             it a top pick.
             </Description>

             <Car_type>SUV</Car_type>

             <Color finishes="Glossy">red</Color>

             <Quantity>4</Quantity>

             <Variant option="Half option"/>

             <Price payment_method="cash">131000</Price>
        </Vehicle>

        <Vehicle product_ID="9031">
             <Brand>
                    <Brand_name>Hyundai</Brand_name>
                    <Model>Tucson</Model>
             </Brand>
             <Manufacturer_info>
             The Hyundai Motor Company, commonly known as Hyundai
Motors, is
```

```
                    a South Korean multinational automotive manufacturer
headquartered in Seoul.
                </Manufacturer_info>

                <Description>
                With plentiful features at a reasonable price, an
exceptional warranty and agreeable
                interior, the Hyundai Tucson is a good family-focused
choice,
                although fuel economy lags a bit for the class.
                </Description>

                <Car_type>SUV</Car_type>

                <Color>grey</Color>

                <Quantity>5</Quantity>

                <Variant option="No option"/>

                <Price payment_method="cash">94000</Price>
            </Vehicle>

            <Vehicle product_ID="7581">
                <Brand>
                    <Brand_name>Toyota</Brand_name>
                    <Model>Yaris</Model>
                </Brand>
                <Manufacturer_info>
                Toyota Motor Corporation is a Japanese multinational
automotive manufacturer
                headquartered in Toyota, Aichi, Japan.
                </Manufacturer_info>

                <Description>
                A Toyota in name only, the subcompact Yaris sedan is
essentially a
                rebadged Mazda 2. That's a good thing, as Mazda has a
reputation for building cars that are
                fun to drive. You'll like this Toyota's nimble handling,
excellent fuel
                economy and wealth of standard features.
                </Description>

                <Car_type>sedan</Car_type>

                <Color finishes="Glossy">grey</Color>

                <Quantity>4</Quantity>

                <Variant option="Full option"/>

                <Price payment_method="credit card">55000</Price>
            </Vehicle>

            <Vehicle product_ID="9475">
                <Brand>
                    <Brand_name>Honda</Brand_name>
                    <Model>Civic</Model>
                </Brand>
                <Manufacturer_info>
```

```xml
                    Honda Motor Company, Ltd. is a Japanese public
multinational conglomerate
                    corporation primarily known as a manufacturer of
automobiles, motorcycles,
                    and power equipment.
            </Manufacturer_info>

            <Description>
                    The Honda Civic is an outstanding small sedan, combining
excellent performance with modern features,
                    practicality and comfort. It also comes in a plethora of
trim levels to suit various needs and budgets.
            </Description>

            <Car_type>sedan</Car_type>

            <Color>black</Color>

            <Quantity>8</Quantity>

            <Variant option="No option"/>

            <Price payment_method="credit card">73000</Price>
        </Vehicle>

        <Vehicle product_ID="1331">
            <Brand>
                    <Brand_name>Mitsubishi</Brand_name>
                    <Model>Mirage</Model>
            </Brand>
            <Manufacturer_info>
                    Mitsubishi Motors Corporation is a Japanese multinational
automotive manufacturer
                    headquartered in Minato, Tokyo, Japan. In 2011,
Mitsubishi Motors was the sixth-largest
                    Japanese automaker and the nineteenth-largest worldwide
by production.
            </Manufacturer_info>

            <Description>
                    The Mitsubishi Mirage is inexpensive, and it will get you
                    from point A to point B. Refinement, power, technology,
                    quality, attention to detail, and value are all lacking.
            </Description>

            <Car_type>hatchback</Car_type>

            <Color finishes="Glossy">red</Color>

            <Quantity>4</Quantity>

            <Variant option="Full option"/>

            <Price payment_method="cash">67000</Price>
        </Vehicle>

        <Vehicle product_ID="4453">
            <Brand>
                    <Brand_name>Toyota</Brand_name>
                    <Model>Camry</Model>
            </Brand>
```

```xml
            <Manufacturer_info>
            Toyota Motor Corporation is a Japanese multinational
automotive manufacturer
            headquartered in Toyota, Aichi, Japan.
            </Manufacturer_info>

            <Description>
            The 2020 Toyota Camry provides the basic qualities you
expect
            from this popular sedan: a roomy cabin, plenty of trunk
space, a
            comfortable ride and high crash test safety scores.
            </Description>

            <Car_type>sedan</Car_type>

            <Color>grey</Color>

            <Quantity>3</Quantity>

            <Variant option="No option"/>

            <Price payment_method="cash">57000</Price>
        </Vehicle>

        <Vehicle product_ID="7753">
            <Brand>
                <Brand_name>Mitsubishi</Brand_name>
                <Model>Outlander</Model>
            </Brand>
            <Manufacturer_info>
            Mitsubishi Motors Corporation is a Japanese multinational
automotive manufacturer
            headquartered in Minato, Tokyo, Japan. In 2011,
Mitsubishi Motors was the sixth-largest
            Japanese automaker and the nineteenth-largest worldwide
by production.
            </Manufacturer_info>

            <Description>
            The Mitsubishi Outlander is roomy and straightforward,
with some good tech features
            and the option to add some basic all-terrain capability.
There are definite
            shortcomings, though, including an unrefined driving
experience and subpar build quality.
            </Description>

            <Car_type>SUV</Car_type>

            <Color finishes="Glossy">red</Color>

            <Quantity>2</Quantity>

            <Variant option="Full option"/>

            <Price payment_method="credit card">57559</Price>
        </Vehicle>

        <Vehicle product_ID="9186">
        <Brand>
```

```xml
            <Brand_name>Hyundai</Brand_name>
            <Model>Santa Fe</Model>
        </Brand>
        <Manufacturer_info>
        The Hyundai Motor Company, commonly known as Hyundai Motors, is
        a South Korean multinational automotive manufacturer
headquartered in Seoul.
        </Manufacturer_info>

        <Description>
        Fresh from a redesign of last year's model, the 2020 Hyundai
Santa Fe
        carries into the new model year with no significant changes.
        </Description>

        <Car_type>SUV</Car_type>

        <Color>black</Color>

        <Quantity>4</Quantity>

        <Variant option="Half option"/>

        <Price payment_method="cash">157000</Price>
    </Vehicle>
    </products>
</Vehicles>
```

3. Schema Content

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
      <xs:element name="Vehicles">
            <xs:complexType>
                  <xs:sequence>
                        <xs:element name="Shop_info">
                           <xs:complexType>
                                 <xs:sequence>
                                    <xs:element name="Shop_name"
type="xs:string"/>
                                    <xs:element name="Address">
                                         <xs:complexType>
                                           <xs:sequence>
                                                <xs:element name="City"
type="xs:string"/>
                                                <xs:element name="Street"
type="xs:string"/>
                                            </xs:sequence>
                                         </xs:complexType>
                                    </xs:element>
                                    <xs:element name="Tel_no"
type="xs:positiveInteger"/>
                                    <xs:element name="Website_address"
type="xs:string"/>
                                 </xs:sequence>
                           </xs:complexType>
                        </xs:element>
                        <xs:element name="products">
                              <xs:complexType>
                                    <xs:sequence>
                                         <xs:element name="Vehicle"
minOccurs="1" maxOccurs="unbounded">
                                              <xs:complexType>
                                                 <xs:sequence>
                                                      <xs:element
name="Brand">

    <xs:complexType>

    <xs:sequence>

    <xs:element name="Brand_name" type="xs:string"/>

    <xs:element name="Model" type="xs:string"/>

    </xs:sequence>

    </xs:complexType>
                                                      </xs:element>
                                                      <xs:element
name="Manufacturer_info" type="xs:string"/>
                                                      <xs:element
name="Description" type="xs:string"/>
                                                      <xs:element
name="Car_type">

    <xs:simpleType>

    <xs:restriction base="xs:string">
```

```
            <xs:enumeration value="hatchback"/>

            <xs:enumeration value="SUV"/>

            <xs:enumeration value="sedan"/>

            </xs:restriction>

            </xs:simpleType>
                                                        </xs:element>
                                                        <xs:element
name="Color">

            <xs:complexType>

            <xs:simpleContent>

            <xs:extension base="xs:string">

                <xs:attribute name="finishes" use="optional">

                    <xs:simpleType>

                        <xs:restriction base="xs:string">

                            <xs:enumeration value="Matte" />

                            <xs:enumeration value="Glossy" />

                        </xs:restriction>

                    </xs:simpleType>

                </xs:attribute>

            </xs:extension>

            </xs:simpleContent>

            </xs:complexType>
                                                        </xs:element>
                                                        <xs:element
name="Quantity" type="xs:positiveInteger"/>
                                                        <xs:element
name="Variant">

            <xs:complexType>

            <xs:attribute name="option">

            <xs:simpleType>

                <xs:restriction base="xs:string">

                    <xs:enumeration value="Full option" />

                    <xs:enumeration value="Half option" />

                    <xs:enumeration value="No option" />
```

14

```xml
                    </xs:restriction>

        </xs:simpleType>

        </xs:attribute>

        </xs:complexType>
                                                    </xs:element>
                                                    <xs:element
name="Price">

        <xs:complexType>

        <xs:simpleContent>

        <xs:extension base="xs:double">

                <xs:attribute name="payment_method">

                    <xs:simpleType>

                        <xs:restriction base="xs:string">

                            <xs:enumeration value="cash" />

                            <xs:enumeration value="credit card" />

                        </xs:restriction>

                    </xs:simpleType>

                </xs:attribute>

        </xs:extension>

        </xs:simpleContent>

        </xs:complexType>
                                                    </xs:element>
                                            </xs:sequence>
                                        <xs:attribute
name="product_ID" type="xs:string" />

                                        </xs:complexType>
                                    </xs:element>
                                </xs:sequence>
                            </xs:complexType>
                        </xs:element>
                    </xs:sequence>
            </xs:complexType>
        </xs:element>
</xs:schema>
```

Emerging Programming Platforms and Technologies

4. Testing

4.1. Testing no 1

Figure 2 Test no 1

Table 1 Test no 1

Test Description	Not using the important tags properly.
Expected output	XML document does not run properly in browser.
Actual output	It did not run the document in browser giving an error message.

Here the root tag does not have proper syntax. And some of the elements do not have a proper closing tag. Hence it gives an error message at that line where error was found. This makes the whole document not work.

Emerging Programming Platforms and Technologies

4.2. Testing no 2

Figure 3 Test no 2

Table 2 Test no 2

Test Description	Correcting all the tags and elements.
Expected output	XML document gets displayed successfully
Actual output	It got displayed successfully.

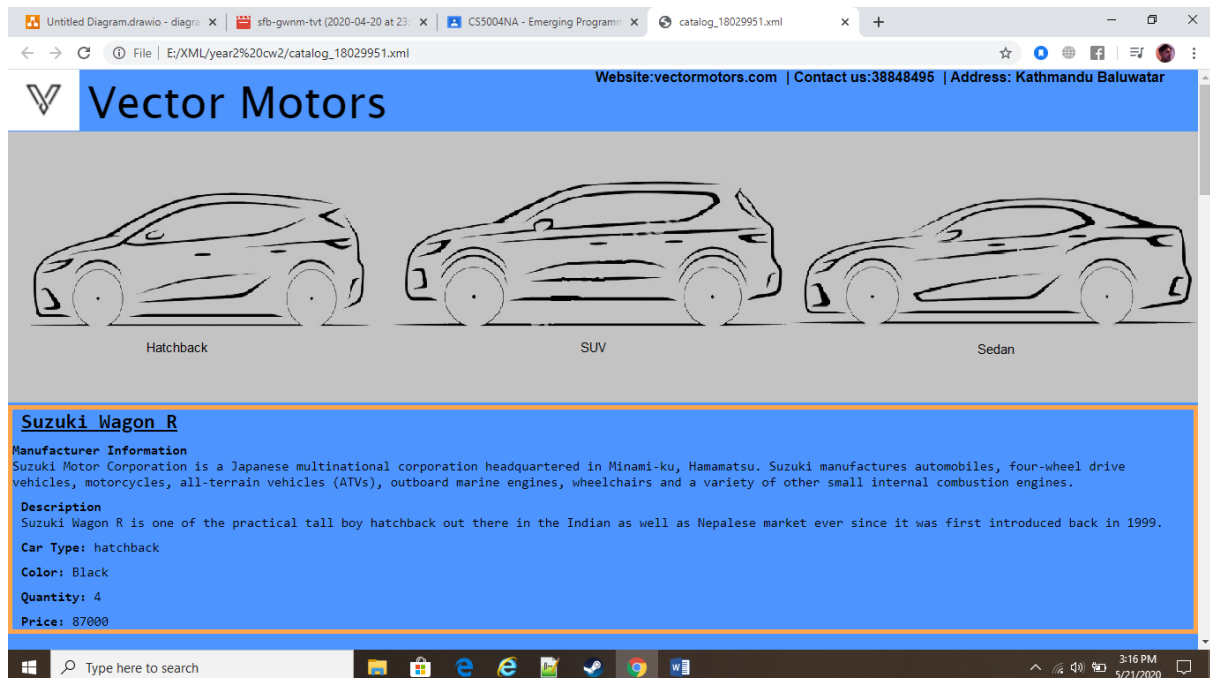All the bugs have been fixed like proper closing tags and use of correct syntax. Hence the full xml document is displayed.

Emerging Programming Platforms and Technologies

4.3. Testing no 3

Validate an XML file

Read here how to validate your XML files (including referenced DTDs) online with just a few mouse clicks.

An error has been found!

Click on ➔❌ to jump to the error. In the document, you can point at ❌ with your mouse to see the error message.
Errors in file xml-schema:

➔❌   22:   7   The element type "xs:complexType" must be terminated by the matching end-tag " </xs:complexType>".

xml-schema

1   <?xml version="1.0" encoding="UTF-8"?>

2   <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

3   <xs:element name="Vehicles">

4   <xs:complexType>

Figure 4 Test no 3

Table 3 Test no 3

Test Description	Validating XML using wrong schema
Expected output	The validating site shows error.
Actual output	Validating site shows error wherever they are found.

Here to validate XML document using external schema an online validating site is used. But the schema and or the XML file do not match with each other. Hence error are shows in the respected lines.

Emerging Programming Platforms and Technologies

4.4. Testing no 4
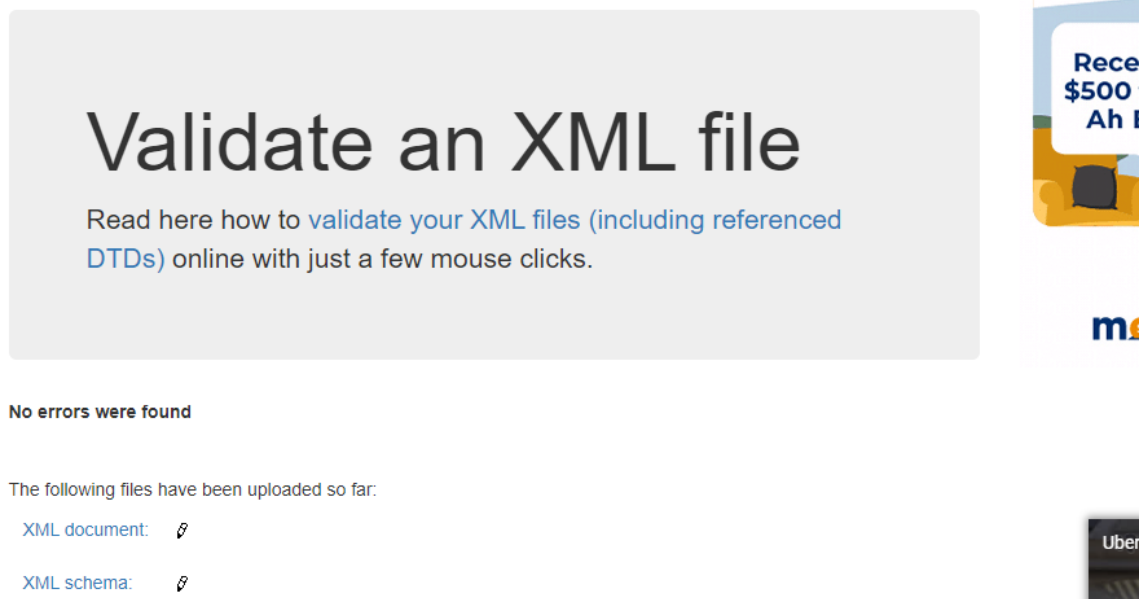
Figure 5 Test no 4

Table 4 Test no 4

Test Description	Correcting all the tags and elements.
Expected output	No errors should be found when validating the document
Actual output	No errors were found when validating the document.

Similarly XML document is validated using the same site. This time the schema and the XML document match each other. Hence no error is shown on both the files.

Emerging Programming Platforms and Technologies

4.5. Testing no 5

Vector Motors Kathmandu Baluwatar 38848495 vectormotors.com Suzuki Wagon R Suzuki Motor Corporation is a Japanese multinational corporation headquartered in Minami-ku, Hamamatsu. Suzuki manufactures automobiles, four-wheel drive vehicles, motorcycles, all-terrain vehicles (ATVs), outboard marine engines, wheelchairs and a variety of other small internal combustion engines. Suzuki Wagon R is one of the practical tall boy hatchback out there in the Indian as well as Nepalese market ever since it was first introduced back in 1999. hatchback Black 4 87000 Hyundai Kona The Hyundai Motor Company, commonly known as Hyundai Motors, is a South Korean multinational automotive manufacturer headquartered in Seoul. The Kona isn't perfect, but in a segment full of compromises it offers a great combination of comfort, practicality, fun and technology, all wrapped up in a package that feels firmly put together. SUV grey 2 107000 Mazda CX-5 Mazda Motor Corporation, commonly referred to as simply Mazda, is a Japanese multinational automaker based in Fuchū, Aki District, Hiroshima Prefecture, Japan. The Mazda CX-5 has interior quality and driving dynamics that challenge some luxury vehicles. Cargo space behind the second row isn't class-leading, but the Mazda's strengths still make it a top pick. SUV red 4 131000 Hyundai Tucson The Hyundai Motor Company, commonly known as Hyundai Motors, is a South Korean multinational automotive manufacturer headquartered in Seoul. With plentiful features at a r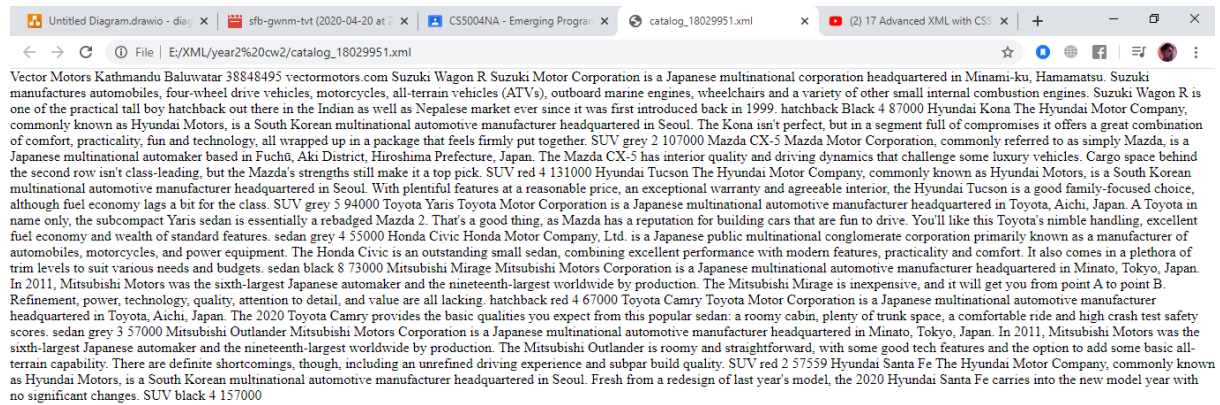easonable price, an exceptional warranty and agreeable interior, the Hyundai Tucson is a good family-focused choice, although fuel economy lags a bit for the class. SUV grey 5 94000 Toyota Yaris Toyota Motor Corporation is a Japanese multinational automotive manufacturer headquartered in Toyota, Aichi, Japan. A Toyota in name only, the subcompact Yaris sedan is essentially a rebadged Mazda 2. That's a good thing, as Mazda has a reputation for building cars that are fun to drive. You'll like this Toyota's nimble handling, excellent fuel economy and wealth of standard features. sedan grey 4 55000 Honda Civic Honda Motor Company, Ltd. is a Japanese public multinational conglomerate corporation primarily known as a manufacturer of automobiles, motorcycles, and power equipment. The Honda Civic is an outstanding small sedan, combining excellent performance with modern features, practicality and comfort. It also comes in a plethora of trim levels to suit various needs and budgets. sedan black 8 73000 Mitsubishi Mirage Mitsubishi Motors Corporation is a Japanese multinational automotive manufacturer headquartered in Minato, Tokyo, Japan. In 2011, Mitsubishi Motors was the sixth-largest Japanese automaker and the nineteenth-largest worldwide by production. The Mitsubishi Mirage is inexpensive, and it will get you from point A to point B. Refinement, power, technology, quality, attention to detail, and value are all lacking. hatchback red 4 67000 Toyota Camry Toyota Motor Corporation is a Japanese multinational automotive manufacturer headquartered in Toyota, Aichi, Japan. The 2020 Toyota Camry provides the basic qualities you expect from this popular sedan: a roomy cabin, plenty of trunk space, a comfortable ride and high crash test safety scores. sedan grey 3 57000 Mitsubishi Outlander Mitsubishi Motors Corporation is a Japanese multinational automotive manufacturer headquartered in Minato, Tokyo, Japan. In 2011, Mitsubishi Motors was the sixth-largest Japanese automaker and the nineteenth-largest worldwide by production. The Mitsubishi Outlander is roomy and straightforward, with some good tech features and the option to add some basic all-terrain capability. There are definite shortcomings, though, including an unrefined driving experience and subpar build quality. SUV red 2 57559 Hyundai Santa Fe The Hyundai Motor Company, commonly known as Hyundai Motors, is a South Korean multinational automotive manufacturer headquartered in Seoul. Fresh from a redesign of last year's model, the 2020 Hyundai Santa Fe carries into the new model year with no significant changes. SUV black 4 157000

Figure 6 Test no 5

Table 5 Test no 5

Test Description	Running without CSS
Expected output	XML document runs in browser but with just plain text.
Actual output	XML document did run in browser but with just plain text

The XML document is being displayed properly. All the elements are being displayed but it is just plain text. This document does not look attractive. It is also hard to read because it does not even have proper line spacing.
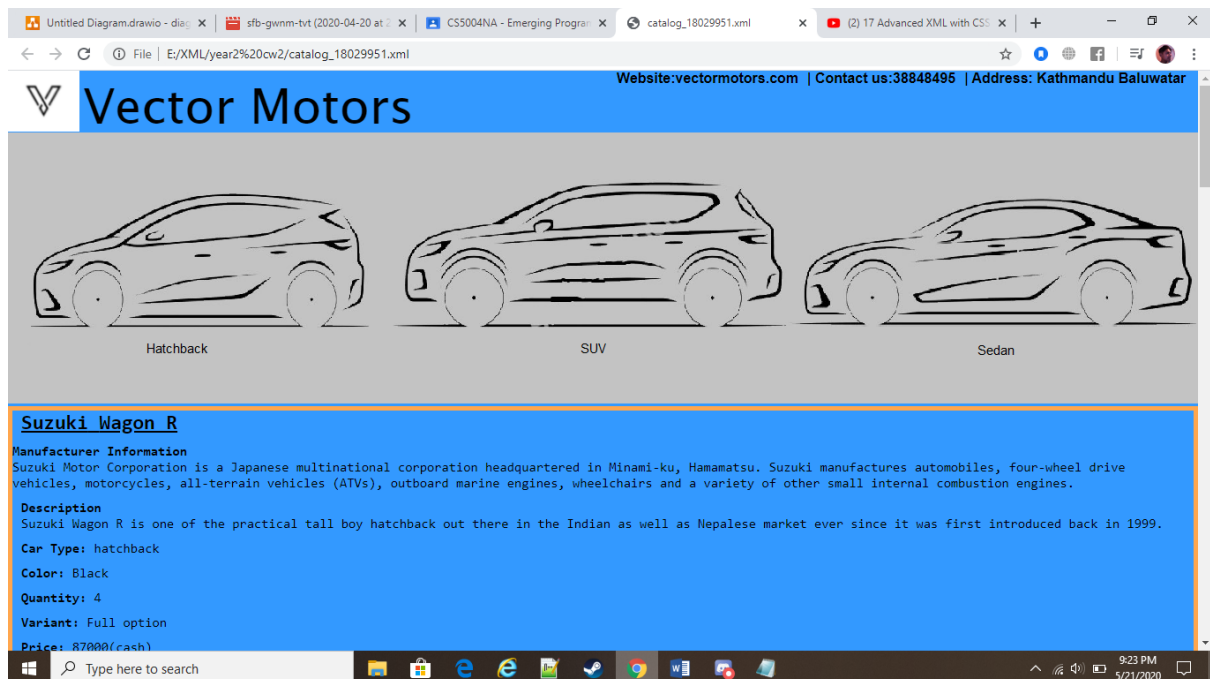
4.6. Testing no 6

Figure 7 Test no 6

Table 6 Test no 6

Test Description	Running with proper CSS
Expected output	XML document runs in browser with proper design
Actual output	XML document did run in browser with proper design

XML document did get displayed in both the cases. But this document looks far better with CSS properties. It has backgrounds and colour to make it attractive. Also text is easier to read especially with good line spacing and proper alignment.

5. How you developed the coursework

First all the important elements and attributes given in the question was taken and then whatever extra elements and attributes required were chosen. All of these were first sketched in a paper like a tree diagram. After this more elements were added to make fifteen elements. Again the sketch of tree diagram had to be updated. And finally started with coding part of this XML document.

XML document has been developed using notepad++. All the information about the car like brand name, model, manufacturer information etc. were taken from car selling/reviewing websites. Some of the element values do not make sense which is done on purpose. It is done to make the document meet different criteria.

After this, a schema suitable for the XML document was made. It was made in notepad++ as well. The Russian doll design has been followed for making the schema.

An online validating site named xmlvalidation.com has been used to validate the XML document with the created schema.

A CSS file has been made with simple notepad to make the XML document more attractive and easy for viewers to view on the browser. CSS properties like background-image has been used as main image and background-colour has been used for the whole background. As for the requirements logo and borders have been added as well. All the title and texts have been properly arranged and sized. Properties like before: and attr: has been used to display meaningful information on the products.

The sketch of the tree diagram has been made for this document as well. For tree diagram on this document draw.io has been used.

Emerging Programming Platforms and Technologies

6. Limitation of DTD and CSS

DTD (Document Type Definition) is one of the two methods to define the structure of XML document. Schema or XSD is the another method of the two. However DTD is the first one to be introduced than schema. Being introduced at first definitely has it flaws. Here are the list of limitation of DTD. (Joan, 2011)

- The main disadvantage of DTD is that it does not have proper data type for all attributes and elements. (Jervis, 2002)
- Not having good control over data type leads to another problem that is not being able to validate the document. (Jervis, 2002)
- DTD also does not provide name space feature which is required for identifying complex type of XML structure. (Joan, 2011)
- DTD is outside of XML hence, it has a different syntax than XML. (David Hunter, 2012)
- DTD also does not have much of content model description. (David Hunter, 2012)

Emerging Programming Platforms and Technologies

CSS is one to the three main technologies for web development. While HTML is the mark-up language for web, Java script handles the functional and interactive part, CSS is for decoration and making webpage readable. Hakon Wium Lie who was working at CERN created a universal style sheet for the web in 1994. The first browser that CSS was demoed on Arena web browser. CSS definitely makes website more attractive and easy to the user but it has its own disadvantages. (PK, 2019)

- CSS can be complex and for creating a website with third party applications like Dreamweaver, Microsoft FrontPage, etc. (Sanford-Brown, 2015)
- CSS embedded HTML sites take a long time to download. (Sanford-Brown, 2015)
- The code and syntax of CSS is not user friendly hence it takes time to get used to. (Sanford-Brown, 2015)
- CSS are of multiple levels like CSS 2, CSS 3, etc. This makes new users confused. (PK, 2019)
- CSS may differ from browser to browser hence might cause problem for cross browser. (PK, 2019)

Emerging Programming Platforms and Technologies

7. Critical Evaluation

This course work did take longer time than I had expected. Creating a tree diagram did not take so much time. The main required features of a car were already given in the question. So it was not a problem to add some features to test the file for worst case scenario. Also making an XML file of this structure and adding values to it was not difficult either. However making a schema for the XML file was very time consuming. Schema for the XML file happen to be more complex than what we have been taught. Also the Russian doll approach got it a bit more confusing as all the elements were kept inside one another. After a while finally got done with the schema. CSS was another time consuming topic which was not expected. CSS happen to be a bit different from what HTML uses. With HTML tags it would have been far easier to work on but we had to use XML tags. Also another reason being not having a strong base of CSS as we do not focus on this topic so much. Hence it was pretty difficult to structure the design as expected. At last the document was completed which was not a problem as well. However the topics that are to be researched for this document were not easily found. Even if they were found there were not many.

Emerging Programming Platforms and Technologies

8. Conclusion

It was a great experience to learn about XML and its structure. I really enjoyed the classes and courses being taught. I would like to thank all the teachers for guiding us through. They were really helpful even in this time of pandemic. I would also like to thank college for providing us this useful course. I am glad to learn this course and do this coursework. I feel like quite an achievement for developing this XML document and design it like own personal webpage. I believe this will come useful in my future.

9. References

David Hunter, J.R.J.F.E.v.d.V.D.A.J.D.A.W.L.M. (2012) *Beginning XML*. 10475 Crossspiont Boulevard: Wiley Publishing, Inc.

Jervis, M. (2002) *XML DTDs Vs XML Schema — SitePoint* [Online]. Available from: https://www.sitepoint.com/xml-dtds-xml-schema/ [Accessed 20 May 2020].

Joan, B. (2011) *Difference Between XML Schema and DTD | Difference Between* [Online]. Available from: http://www.differencebetween.net/technology/difference-between-xml-schema-and-dtd/ [Accessed 20 May 2020].

PK, R. (2019) *All About CSS: History, Features, Advantages & Disadvantages* [Online]. Available from: https://acodez.in/all-about-css/ [Accessed 21 May 2020].

Sanford-Brown. (2015) *The Pros and Cons of CSS* [Online]. Available from: https://www.sanfordbrown.edu/Student-Life/blog/January-2015/Pros-and-Cons-of-CSS [Accessed 21 May 2020].