Lab 3

Due: October 3rd, 2023

MODE – 4201 – 02
Amelia Eric-Markovic
100818139

DURHAM
COLLEGE
SUCCESS MATTERS

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XML

Pasted Code

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

<!DOCTYPE projects SYSTEM "projects.dtd">

<projects>

  <company>

    <companyname>Amelia Tech Solutions</companyname>

    <companyaddress>713 Lake Street, Toronto, ON</companyaddress>

    <logo>ATS_logo.png</logo>

    <website>www.Atechsolutions.com</website>

    <email>info@Atech.com</email>

    <phone>416-813-4061</phone>

    <phone>416-477-3560</phone>

  </company>

  <project projid="P01">

    <title>Project A</title>

    <managers>

      <manager>

        <firstname>Mackenzie</firstname>

        <middlename>David</middlename>

        <lastname>Henry</lastname>

        <phone office="416-964-3741" home="416-224-6437"/>
```

```xml
        <email>mac.henry@Atech.com</email>

    </manager>

</managers>

<teams>

  <team>

    <leader>John</leader>

    <developers>Max</developers>

    <developers>Mitchell</developers>

    <tester>Auston</tester>

    <documenters>Morgan</documenters>

    <documenters>Easton</documenters>

  </team>

</teams>

<clients>

  <client clientid="C01">

    <clientname>EHCOnomics Corporation</clientname>

    <clientaddress>

      <street>152 Waveside Avenue</street>

      <city>Toronto</city>

      <country>Canada</country>

      <postcode>M5V 2R4</postcode>

    </clientaddress>
```

```xml
            <clientemail>contact@EHCOcorp.ca</clientemail>

            <clientphone>416-631-6491</clientphone>

        </client>

    </clients>

    <projectdate start="2023-01-15" end="2023-06-30"/>

    <projectcomments>This project involves developing a new software system.</projectcomments>

  </project>

  <project projid="P02">

    <title>Project B</title>

    <managers>

      <manager>

        <firstname>Linda</firstname>

        <lastname>Ermos</lastname>

        <phone office="416-673-8529" home="416-844-4594"/>

        <email>linda.ermos@Atech.com</email>

      </manager>

    </managers>

    <teams>

      <team>

        <leader>Mark Kettles</leader>

        <developers>Emily</developers>

        <developers>Aby</developers>
```

```xml
            <documenters>Andrea</documenters>

        </team>

    </teams>

    <projectdate start="2023-03-20" end="2023-09-15"/>

    <projectcomments>This project focuses on enhancing existing software.</projectcomments>

  </project>

</projects>
```

DTD

Pasted Code

```
<!ELEMENT projects (company, project+)>
<!ELEMENT company (companyname, companyaddress, logo, website?, email, phone+)>
<!ELEMENT companyname (#PCDATA)>
<!ELEMENT companyaddress (#PCDATA)>
<!ELEMENT logo (#PCDATA)>
<!ELEMENT website (#PCDATA)>
<!ELEMENT email (#PCDATA)>
<!ELEMENT phone (#PCDATA)>
<!ELEMENT project (title, managers, teams, clients?, projectdate, projectcomments)>
<!ATTLIST project projid CDATA #REQUIRED>
<!ELEMENT title (#PCDATA)>
<!ELEMENT managers (manager+)>
<!ELEMENT manager (firstname, middlename?, lastname, phone, email*)>
<!ELEMENT firstname (#PCDATA)>
<!ELEMENT middlename (#PCDATA)>
<!ELEMENT lastname (#PCDATA)>
<!ELEMENT phone (#PCDATA)>
<!ATTLIST phone office CDATA #IMPLIED>
<!ATTLIST phone home CDATA #IMPLIED>
<!ELEMENT email (#PCDATA)>
<!ELEMENT teams (team+)>
<!ELEMENT team (leader, developers+, tester?, documenters*)>
<!ELEMENT leader (#PCDATA)>
<!ELEMENT developers (#PCDATA)>
<!ELEMENT tester (#PCDATA)>
<!ELEMENT documenters (#PCDATA)>
<!ELEMENT clients (client*)>
<!ELEMENT client (clientname, clientaddress, clientemail, clientphone)>
<!ATTLIST client clientid CDATA #REQUIRED>
```
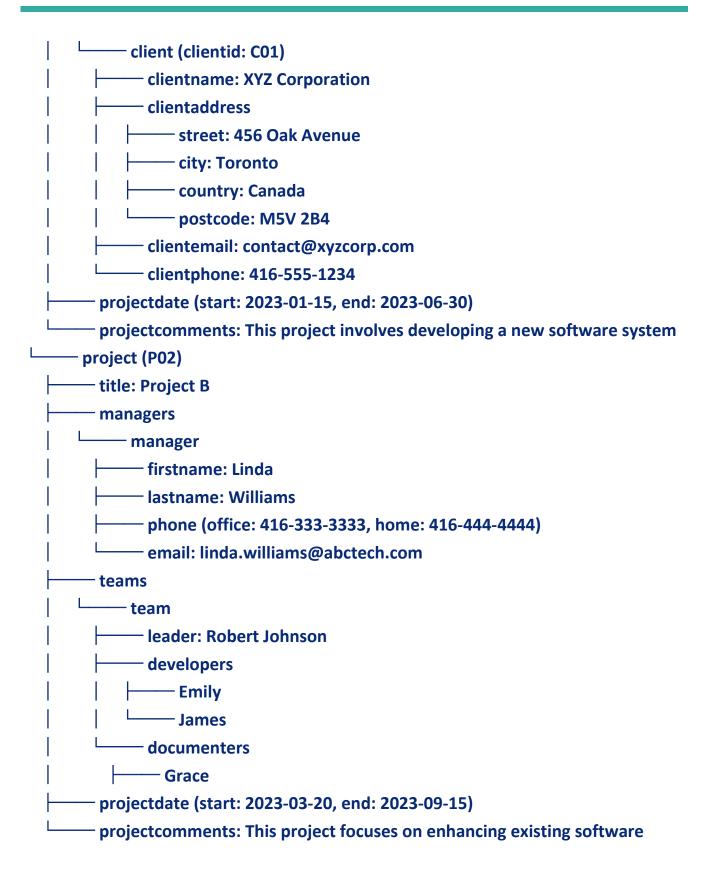
```
<!ELEMENT clientname (#PCDATA)>
<!ELEMENT clientaddress (street?, city, country, postcode?)>
<!ELEMENT street (#PCDATA)>
<!ELEMENT city (#PCDATA)>
<!ELEMENT country (#PCDATA)>
<!ELEMENT postcode (#PCDATA)>
<!ELEMENT clientemail (#PCDATA)>
<!ELEMENT clientphone (#PCDATA)>
<!ELEMENT projectdate (#PCDATA)>
<!ATTLIST projectdate start CDATA #REQUIRED>
<!ATTLIST projectdate end CDATA #REQUIRED>
<!ELEMENT projectcomments (#PCDATA)>
```

XML Tree Diagram

projects

   └──── **company**

      ├──── **companyname: ABC Tech Solutions**

      ├──── **companyaddress: 123 Main Street, Toronto, ON**

      ├──── **logo: company_logo.png**

      ├──── **website: www.abctech.com**

      ├──── **email: info@abctech.com**

      └──── **phone**

          ├──── **416-123-4567**

          └──── **416-987-6543**

   └──── **project (P01)**

      ├──── **title: Project A**

      ├──── **managers**

      │   └──── **manager**

      │   ├──── **firstname: John**

      │   ├──── **middlename: Michael**

      │   ├──── **lastname: Doe**

      │   ├──── **phone (office: 416-111-1111, home: 416-222-2222)**

      │   └──── **email: john.doe@abctech.com**

      ├──── **teams**

      │   └──── **team**

      │   ├──── **leader: Susan Smith**

      │   ├──── **developers**

      │   │   ├──── **David**

      │   │   └──── **Mary**

      │   ├──── **tester: Michael**

      │   └──── **documenters**

      │   ├──── **Alice**

      │   └──── **Bob**

      ├──── **clients**

```
|        └──────  client (clientid: C01)
|        ├──────  clientname: XYZ Corporation
|        ├──────  clientaddress
|        |        ├──────  street: 456 Oak Avenue
|        |        ├──────  city: Toronto
|        |        ├──────  country: Canada
|        |        └──────  postcode: M5V 2B4
|        ├──────  clientemail: contact@xyzcorp.com
|        └──────  clientphone: 416-555-1234
├──────  projectdate (start: 2023-01-15, end: 2023-06-30)
└──────  projectcomments: This project involves developing a new software system
└──────  project (P02)
├──────  title: Project B
├──────  managers
|        └──────  manager
|                 ├──────  firstname: Linda
|                 ├──────  lastname: Williams
|                 ├──────  phone (office: 416-333-3333, home: 416-444-4444)
|                 └──────  email: linda.williams@abctech.com
├──────  teams
|        └──────  team
|                 ├──────  leader: Robert Johnson
|                 ├──────  developers
|                 |        ├──────  Emily
|                 |        └──────  James
|                 └──────  documenters
|                          ├──────  Grace
├──────  projectdate (start: 2023-03-20, end: 2023-09-15)
└──────  projectcomments: This project focuses on enhancing existing software
```

Validation Screenshot