XML is a Extensible markup language for documents containing structured information. Structured information contains any type of content (words, pictures, etc.) and some indication of what role that content plays (for example, content in a section heading has a different significance from content in a footnote, which means something different than content in a figure caption or content in a database table, etc.). XML was developed so that richly structured documents could be used over the web.

WHAT IS XML?

- XML stands for E**X**tensible **M**arkup **L**anguage [1]
- XML is a **markup language** much like HTML [2]
- XML was designed to **describe data [3]**
- XML is a universal format for structured documents and data on the Web [4]
- XML tags are not predefined. You must **define your own tags [6]**
- XML tags/elements/attributes are not predefined [6]
- **XML is a cross-platform, software and hardware independent tool for transmitting information.**
- XML is a meta-language. A meta-language is a language that's used to define other languages. [7]
- XML simplifies business-to business transactions on the web. [8]
- XML is used for Exchange of data. [8]
- XML was not designed to do anything. (XML does not do anything) [9]
- XML is free and extensible [1]

[2] Markup language

HTML (Hyper Text Markup Language), SGML (Standard Generalized Markup Language) and XML (EXtensible Markup Language) are examples for markup languages. The word 'Markup' refers to the sequence of characters or other symbols that you insert at certain places in a text. Markup indicates how the file should look when it is displayed. Markup may also used to describe the document's logical structure. Markup is added to the data of a document in order to convey information about it.

By *markup language* we mean a set of markup conventions used together for encoding texts. A markup language must specify what markup is allowed, what markup is required, how markup is to be distinguished from text, and what the markup means.

[3][4] XML is used to define the structure of the document. XML is used to store the document in electronic form. XML is system-independent methods of representing texts in electronic form. XML is used for defining descriptions of the structure and content of different types of electronic documents in many fields of human activity, from transcription of ancient Sumerian tablets to the technical documentation for stealbombers, and from patient's clinical records to musical notations. XML is a language that publishers, technical writers and library automation personnel have been **using to create "documents"** such as museum catalogs, technical publications and product catalogs from manufacturing specifications. XML may be used to describe chemical structures, or other scientific or artistic data that cannot be readily displayed using HTML.

[6] XML tags are not predefined. You must "invent" your own tags.

The tags used to mark up HTML documents and the structure of HTML documents is predefined. The author of HTML documents can only use tags that are defined in the HTML standard (like <p>, <h1>, etc.).
XML allows the author to define his own tags and his own document structure.

The tags in the example above (like <to> and <from>) are not defined in any XML standard. These tags are "invented" by the author of the XML document.

<vehicle color = "green" type ="bus">volvo</vehicle>

In this above statement, attributes color and type are defined by the author of the document. User or author of the document can add or create any attribute (eg. T1, a1, att1, etc) to tag 'vehicle'. But in the HTML document attribute used in a given tag is predefined. Author of the HTML document cannot add attribute to tag other than list of attributes assigned for that tag.

In html attributes predefined for tag <table> are align, valign, width, border, cellpadding, cellspacing, colspan and rowspan, so we cannot use attributes other than this. Attributes like t1, a1, att1 cannot use in tag <table> in html file.

[7] XML is a meta-language

XML is a meta-language. A meta-language is a language that's used to define other languages. You can use XML to define a language like WML. By utilizing their own DTD (Document Type Definition) there are many implementations of XML. Many have different purposes such as math formulas, writing technical documentation, sheet music, and so forth. The biggest drawback to these various implementations of XML is that in order to use it you will need to read the DTD or read documentation about the XML implementation. Therefore without having to learn each implementation there should be supporting programs that allow users to use XML implementations. **XML is the mother of WML & WAP.**

[8] Data Interchange: XML is used to aid the exchange of data. It makes it possible to define data in a clear way. Both the sending and the receiving party will use XML to understand the kind of data that's been sent. By using XML everybody knows that the same interpretation of the data is used. **EDI** (**E**lectronic **D**ata Interchange) has been for several years the way to exchange data between businesses. EDI is expensive, it uses a dedicated communication infrastructure. And the definitions used are far from flexible. XML is a good replacement for EDI. It uses the Internet for the data exchange. And it's very flexible.

XML's strongest point is its ability to do data interchange. Because different organizations (or even different parts of the same organization) rarely standardize on a single set of tools, it takes a significant amount of work for two groups to communicate. XML makes it easy to send structured data across the web so that nothing gets lost in translation.

[9] XML Does not DO Anything

XML was not designed to DO anything. Maybe it is a little hard to understand, but XML does not DO anything. XML was created to structure, store and to send information.
The following example is a note to Tove from Jani, stored as XML:

        <note>
        <to>Tove</to>
        <from>Jani</from>

```
<heading>Reminder</heading>
<body>Don't forget me this weekend!</body>
</note>
```

The note has a header and a message body. It also has sender and receiver information. But still, this XML document does not DO anything. It is just pure information wrapped in XML tags. Someone must write a piece of software to send, receive or display it.

There is nothing special about XML. It is just **plain text with the addition of some XML tags enclosed in angle brackets**.

XML: What it can do

With XML you can:

    Define data structures

    Make these structures platform independent

    Process XML defined data automatically

    Define your own tags

With XML you cannot

Define how your data is shown. To show data, you need other techniques.

THE MAIN DIFFERENCE BETWEEN XML AND HTML

XML was developed so that richly structured documents could be used over the web. The only alternatives like HTML and SGML are not practical for this purpose. XML is **not a replacement for HTML**. In future Web development it is most likely that XML will be used to describe the data, while HTML will be used to format and display the same data.

XML and HTML were designed with different goals: XML was designed to **describe data** and to focus on **what data is**. HTML was designed to **display data** and to focus on **how data looks**. HTML is about **displaying** information.

XML is fundamentally a language to manage resources, whether those resources are documents, data, graphics, programs or concepts. It has evolved out of the realization that we are becoming adrift in a sea of too much data and too little information.

XML is used to aid the exchange of data. It makes it possible to define data in a clear way. Both the sending and the receiving party will use XML to understand the kind of data that's been sent. By using XML everybody knows that the same interpretation of the data is used.

The tags used to mark up HTML documents and the structure of HTML documents is predefined. The author of HTML documents can only use tags that are defined in the HTML standard (like <p>, <h1>, etc.). XML tags are not predefined. You must **define your own tags.**

With XML, White Space is Preserved

With XML, the white space in your document is not truncated.

This is unlike HTML. With HTML, a sentence like this:

Hello   my name is Tove,

Will be displayed like this:

Hello my name is Tove,

Because HTML reduces multiple, consecutive white space characters to a single white space.

1) Explain the difference between HTML and XML
2) What is meta language?
3) XML is metalanguage. Why?
4) XML does not do anything, justify this statement
5) XML can be used for data exchange,why?
6) Write an essay about XML