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Q1: What do you mean by XML parsers? Explain the types of parsers with their advantages.

Ans-1: XML Parser: The most fundamental XML processor reads an XML document and converts it into an internal representation for other program or sub-routines to use.
This is called a parser, and it's an important component of every xml processing program.

There are two basic types of XML parse

Tree (DOM)-based parser: Whole document is analyzed to create a DOM (Document object model).

Advantages: Multiple and Random access to elements, easier to validate the structure of XML.

Event-based parser (SAX):

→ XML document is interpreted as a series of events.

→ When a specific event occurs, a function is called to handle it.

Advantages: Less memory usage and no wait to complete faster.

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Q. What is the difference between XML and HTML

Ans:

| | HTML | XML |
|---|---|---|
| | HTML is an abbreviation for HyperText Markup Language. | XML stands for eXtensible Markup Language. |
| | HTML was designed to display data with focus on how data looks. | XML was designed to be a software and hardware independent tool used to transport and store. |
| 2. | HTML is a markup language itself. | XML provides a framework for defining markup languages. |
| 3. | HTML is a presentation language. | XML is neither a programming language nor a presentation language. |
| 4. | HTML is case insensitive. | XML is case sensitive. |
| 5. | HTML is used for designing a web-page to be rendered on the client side. | XML is used basically to transport data between the application and the database. |

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| | |
|---|---|
| HTML has its own pre-defined tags. | In XML, custom tags can be defined and the tags are invented by the author of the xml document. |

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Q What are Scripting languages and why Java script is used?

Ans A scripting language is a computer language with a series of commands within a file that is capable of being executed without being compiled.

Javascript is a front-end scripting language developed by Netscape for dynamic content.

Adv. of Java-script

JavaScript allows interactivity such as

- Implementing form validation
- React to user actions, e.g. handle keys
- Changing an image on moving mouse over it
- Sections of a page appearing and disappearing
- Content loading and changing dynamically
- Performing complex calculations
- Custom HTML controls eg: Scrollable table
- Implementing AJAX functionality.

What can JavaScript DO?

- Can handle events
- Can read and write HTML elements and modify the DOM tree.

- Can Validate form data
- Can access / modify browser cookies
- Can detect the user's browser and OS
- Can be used as object-oriented language.
- Can handle exceptions
- can perform asynchronous server calls (AJAX)

Q Write a Javascript function for validating form data like mandatory fields and e-mail fields

Ans <Script>

```
function Studentform()
{ var name = document.forms["Reg form"]["Name"];
  var email = document.forms["Reg form"]["Email"];
  var password = document.forms["Reg form"]["Password"];
  var phone = document.forms["Reg form"]["Phone"];

  if (name.value == "")
{window.alert("Please enter your name.");
  name.focus();
  return false;
  }

  if (address.value == "")
{ window.alert("Please enter your address");
```

```
address.focus();
return false;
}
if (email.value == "")
{ window.alert ("Please enter a valid
                email address");
email.focus();
return false;
}
if (email.value.indexOf (".", 0)<0)
{ window.alert ("Please enter a
        valid email address");
email.focus();
return false;
}
if (phone.value == "")
{ window.alert ("Please enter
    your telephone number");
phone.focus();
return false
}
```

```
if (password.value == "")
{ window.alert("Please enter your
        password");

password.focus();
return false;

}
        return true;

} </script>
```

Q Write difference between Java and JavaScript.

Ans:

| Java | JavaScript |
|---|---|
| It is object oriented programming language | It is scripting language |
| Requires Java virtual Machine to execute the code. | Requires Web browser to execute. |
| There are strongly defined data-types | There are no defined data-types |
| Objects are class-based | Objects are prototype based. |
| Source-code is compiled to an | Codes are in text and do not need to be compiled. |

intermediate code called bytecode

| | |
|---|---|
| Has the file extension .java | Has the file extension .js |
| Can stand on its own | Placed inside HTML |

Q Write a JavaScript program to define a user defined function for sorting the values in an array

Ans:

```
<script>
function func() {
    var arr = [2,5,8,1,4]
    document.write(arr.sort());
    document.write("<br>");
    document.write(arr);
}
fun();
</script>
```

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Q Define a) internal DTD b) external DTD.

Ans: Internal DTD : A DTD (document type definition) is referred to as an internal DTD if elements are declared within the XML files.

To reference it as internal DTD, standalone attribute in XML declaration must be set to yes.

External DTD: It is one that resides in a separate document. To use the external DTD, you need to link to it from your XML document by providing the URI of the DTD file. This URI is typically in the form of a URL.