**Assignment Question and answers - 11.02.2020**

­1. What is Web Application?

A web application is a computer program that utilizes web browsers and web technology to perform tasks over the Internet.

2. What is Website?

A website is a collection of publicly accessible, interlinked Web pages that share a single domain name. Websites can be created and maintained by an individual, group, business or organization to serve a variety of purposes. Together, all publicly accessible websites constitute the World Wide Web.

A website is also known as a web presence.

3. Differences between the Web Application and Website?

Below given are the prime difference between web application and web site:

| **Parameter** | **Web Application** | **Website** |
| --- | --- | --- |
| Created for | A web application is designed for interaction with the end user | A website mostly consists of static content. It is publicly accessible to all the visitors. |
| User interaction | In a web application, the user not only read the page content but also manipulate the restricted data. | A website provides visual & text content which user can view and read, but not affect it 's functioning. |
| Authentication | Web applications need authentication, as they offer a much broader scope of options than websites. | Authentication is not obligatory for informational websites. The user may ask to register to get a regular update or to access additional options. This features not available for the unregistered website visitors. |
| Task and Complexity | Web application functions are quite higher and complex compared to a website. | The website displays the collected data and information on a specific page. |
| Type of software | The web application development is part of the website. It is itself not a complete website. | The website is a complete product, which you access with the help of your browser. |
| Compilation | The site must be precompiled before deployment | The site doesn't need to be pre-compiled |
| Deployment | All changes require the entire project to be re-compiled and deployed. | Small changes never require a full re-compilation and deployment. You just need to update the HTML code. |

4. What is HTML?

* HTML stands for Hyper Text Markup Language.
* HTML describes the structure of a Web page.
* HTML consists of a series of elements.
* HTML elements are the building blocks of HTML pages.
* HTML elements are represented by <> tags ...

5. Differences between the HTML4 & HTML5?

Below given are the important difference between HTML4 & HTML5:

|  |  |  |
| --- | --- | --- |
| **Sl.No** | **HTML 4** | **HTML 5** |
| 1. | Syntax: It's Syntax is little complex. For doctype used: <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd"> | Syntax: It has Simplified and clear syntax. For doctype use: <!DOCTYPE html> |
| 2. | Multimedia: The multimedia content was integrated in web pages via third party plugins such as Silverlight and flash. | Multimedia: HTML5 contains built in support for integrated multimedia files into web page via video and audio tags. |
| 3. | Added more elements to HTML 5 which does not exist in HTML 4. | HTML 5 has many new elements that are not present in HTML 4. |
| 4. | The elements exist in HTML 4 has been removed from HTML 5 and few deprecated tags. | HTML 5 has dropped certain elements. |
| 5. | Client-Side-storage: In HTML4, in order to store important data on client side, browser’s cache was used. However, that cache is limited and doesn’t support relational storage mechanism. | Client-Side-storage: In HTML5, this issue has been addressed via Web SQL database and application cache that can be access via HTML5’s JavaScript interface. |

6. List out the HTML tags?

**1. Basic HTML**

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<!DOCTYPE>**](https://www.w3schools.com/tags/tag_doctype.asp) | **Defines the document type** |
| [**<html>**](https://www.w3schools.com/tags/tag_html.asp) | **Defines an HTML document** |
| [**<head>**](https://www.w3schools.com/tags/tag_head.asp) | **Defines information about the document** |
| [**<title>**](https://www.w3schools.com/tags/tag_title.asp) | **Defines a title for the document** |
| [**<body>**](https://www.w3schools.com/tags/tag_body.asp) | **Defines the document's body** |
| [**<h1> to <h6>**](https://www.w3schools.com/tags/tag_hn.asp) | **Defines HTML headings** |
| [**<p>**](https://www.w3schools.com/tags/tag_p.asp) | **Defines a paragraph** |
| [**<br>**](https://www.w3schools.com/tags/tag_br.asp) | **Inserts a single line break** |
| [**<hr>**](https://www.w3schools.com/tags/tag_hr.asp) | **Defines a thematic change in the content** |
| [**<!--...-->**](https://www.w3schools.com/tags/tag_comment.asp) | **Defines a comment** |

**2. Formatting**

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<acronym>**](https://www.w3schools.com/tags/tag_acronym.asp) | **Not supported in HTML5. Use <abbr> instead. Defines an acronym** |
| [**<abbr>**](https://www.w3schools.com/tags/tag_abbr.asp) | **Defines an abbreviation or an acronym** |
| [**<address>**](https://www.w3schools.com/tags/tag_address.asp) | **Defines contact information for the author/owner of a document/article** |
| [**<b>**](https://www.w3schools.com/tags/tag_b.asp) | **Defines bold text** |
| [**<bdi>**](https://www.w3schools.com/tags/tag_bdi.asp) | **Isolates a part of text that might be formatted in a different direction from other text outside it** |
| [**<bdo>**](https://www.w3schools.com/tags/tag_bdo.asp) | **Overrides the current text direction** |
| [**<big>**](https://www.w3schools.com/tags/tag_big.asp) | **Not supported in HTML5. Use CSS instead. Defines big text** |
| [**<blockquote>**](https://www.w3schools.com/tags/tag_blockquote.asp) | **Defines a section that is quoted from another source** |
| [**<center>**](https://www.w3schools.com/tags/tag_center.asp) | **Not supported in HTML5. Use CSS instead. Defines centered text** |
| [**<cite>**](https://www.w3schools.com/tags/tag_cite.asp) | **Defines the title of a work** |
| [**<code>**](https://www.w3schools.com/tags/tag_code.asp) | **Defines a piece of computer code** |
| [**<del>**](https://www.w3schools.com/tags/tag_del.asp) | **Defines text that has been deleted from a document** |
| [**<dfn>**](https://www.w3schools.com/tags/tag_dfn.asp) | **Represents the defining instance of a term** |
| [**<em>**](https://www.w3schools.com/tags/tag_em.asp) | **Defines emphasized text** |
| [**<font>**](https://www.w3schools.com/tags/tag_font.asp) | **Not supported in HTML5. Use CSS instead. Defines font, color, and size for text** |
| [**<i>**](https://www.w3schools.com/tags/tag_i.asp) | **Defines a part of text in an alternate voice or mood** |
| [**<ins>**](https://www.w3schools.com/tags/tag_ins.asp) | **Defines a text that has been inserted into a document** |
| [**<kbd>**](https://www.w3schools.com/tags/tag_kbd.asp) | **Defines keyboard input** |
| [**<mark>**](https://www.w3schools.com/tags/tag_mark.asp) | **Defines marked/highlighted text** |
| [**<meter>**](https://www.w3schools.com/tags/tag_meter.asp) | **Defines a scalar measurement within a known range (a gauge)** |
| [**<pre>**](https://www.w3schools.com/tags/tag_pre.asp) | **Defines preformatted text** |
| [**<progress>**](https://www.w3schools.com/tags/tag_progress.asp) | **Represents the progress of a task** |
| [**<q>**](https://www.w3schools.com/tags/tag_q.asp) | **Defines a short quotation** |
| [**<rp>**](https://www.w3schools.com/tags/tag_rp.asp) | **Defines what to show in browsers that do not support ruby annotations** |
| [**<rt>**](https://www.w3schools.com/tags/tag_rt.asp) | **Defines an explanation/pronunciation of characters (for East Asian typography)** |
| [**<ruby>**](https://www.w3schools.com/tags/tag_ruby.asp) | **Defines a ruby annotation (for East Asian typography)** |
| [**<s>**](https://www.w3schools.com/tags/tag_s.asp) | **Defines text that is no longer correct** |
| [**<samp>**](https://www.w3schools.com/tags/tag_samp.asp) | **Defines sample output from a computer program** |
| [**<small>**](https://www.w3schools.com/tags/tag_small.asp) | **Defines smaller text** |
| [**<strike>**](https://www.w3schools.com/tags/tag_strike.asp) | **Not supported in HTML5. Use <del> or <s> instead. Defines strikethrough text** |
| [**<strong>**](https://www.w3schools.com/tags/tag_strong.asp) | **Defines important text** |
| [**<sub>**](https://www.w3schools.com/tags/tag_sub.asp) | **Defines subscripted text** |
| [**<sup>**](https://www.w3schools.com/tags/tag_sup.asp) | **Defines superscripted text** |
| [**<template>**](https://www.w3schools.com/tags/tag_template.asp) | **Defines a template** |
| [**<time>**](https://www.w3schools.com/tags/tag_time.asp) | **Defines a date/time** |
| [**<tt>**](https://www.w3schools.com/tags/tag_tt.asp) | **Not supported in HTML5. Use CSS instead. Defines teletype text** |
| [**<u>**](https://www.w3schools.com/tags/tag_u.asp) | **Defines text that should be stylistically different from normal text** |
| [**<var>**](https://www.w3schools.com/tags/tag_var.asp) | **Defines a variable** |
| [**<wbr>**](https://www.w3schools.com/tags/tag_wbr.asp) | **Defines a possible line-break** |

## 3. Forms and Input

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<form>**](https://www.w3schools.com/tags/tag_form.asp) | **Defines an HTML form for user input** |
| [**<input>**](https://www.w3schools.com/tags/tag_input.asp) | **Defines an input control** |
| [**<textarea>**](https://www.w3schools.com/tags/tag_textarea.asp) | **Defines a multiline input control (text area)** |
| [**<button>**](https://www.w3schools.com/tags/tag_button.asp) | **Defines a clickable button** |
| [**<select>**](https://www.w3schools.com/tags/tag_select.asp) | **Defines a drop-down list** |
| [**<optgroup>**](https://www.w3schools.com/tags/tag_optgroup.asp) | **Defines a group of related options in a drop-down list** |
| [**<option>**](https://www.w3schools.com/tags/tag_option.asp) | **Defines an option in a drop-down list** |
| [**<label>**](https://www.w3schools.com/tags/tag_label.asp) | **Defines a label for an <input> element** |
| [**<fieldset>**](https://www.w3schools.com/tags/tag_fieldset.asp) | **Groups related elements in a form** |
| [**<legend>**](https://www.w3schools.com/tags/tag_legend.asp) | **Defines a caption for a <fieldset> element** |
| [**<datalist>**](https://www.w3schools.com/tags/tag_datalist.asp) | **Specifies a list of pre-defined options for input controls** |
| [**<output>**](https://www.w3schools.com/tags/tag_output.asp) | **Defines the result of a calculation** |

## 4. Frames

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<frame>**](https://www.w3schools.com/tags/tag_frame.asp) | **Not supported in HTML5. Defines a window (a frame) in a frameset** |
| [**<frameset>**](https://www.w3schools.com/tags/tag_frameset.asp) | **Not supported in HTML5. Defines a set of frames** |
| [**<noframes>**](https://www.w3schools.com/tags/tag_noframes.asp) | **Not supported in HTML5. Defines an alternate content for users that do not support frames** |
| [**<iframe>**](https://www.w3schools.com/tags/tag_iframe.asp) | **Defines an inline frame** |

## 5. Images

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<img>**](https://www.w3schools.com/tags/tag_img.asp) | **Defines an image** |
| [**<map>**](https://www.w3schools.com/tags/tag_map.asp) | **Defines a client-side image-map** |
| [**<area>**](https://www.w3schools.com/tags/tag_area.asp) | **Defines an area inside an image-map** |
| [**<canvas>**](https://www.w3schools.com/tags/tag_canvas.asp) | **Used to draw graphics, on the fly, via scripting (usually JavaScript)** |
| [**<figcaption>**](https://www.w3schools.com/tags/tag_figcaption.asp) | **Defines a caption for a <figure> element** |
| [**<figure>**](https://www.w3schools.com/tags/tag_figure.asp) | **Specifies self-contained content** |
| [**<picture>**](https://www.w3schools.com/tags/tag_picture.asp) | **Defines a container for multiple image resources** |
| [**<svg>**](https://www.w3schools.com/tags/tag_svg.asp) | **Defines a container for SVG graphics** |

## 6. Audio / Video

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<audio>**](https://www.w3schools.com/tags/tag_audio.asp) | **Defines sound content** |
| [**<source>**](https://www.w3schools.com/tags/tag_source.asp) | **Defines multiple media resources for media elements (<video>, <audio> and <picture>)** |
| [**<track>**](https://www.w3schools.com/tags/tag_track.asp) | **Defines text tracks for media elements (<video> and <audio>)** |
| [**<video>**](https://www.w3schools.com/tags/tag_video.asp) | **Defines a video or movie** |

## 7. Links

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<a>**](https://www.w3schools.com/tags/tag_a.asp) | **Defines a hyperlink** |
| [**<link>**](https://www.w3schools.com/tags/tag_link.asp) | **Defines the relationship between a document and an external resource (most used to link to style sheets)** |
| [**<nav>**](https://www.w3schools.com/tags/tag_nav.asp) | **Defines navigation links** |

## 8. Lists

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<ul>**](https://www.w3schools.com/tags/tag_ul.asp) | **Defines an unordered list** |
| [**<ol>**](https://www.w3schools.com/tags/tag_ol.asp) | **Defines an ordered list** |
| [**<li>**](https://www.w3schools.com/tags/tag_li.asp) | **Defines a list item** |
| [**<dir>**](https://www.w3schools.com/tags/tag_dir.asp) | **Not supported in HTML5. Use <ul> instead. Defines a directory list** |
| [**<dl>**](https://www.w3schools.com/tags/tag_dl.asp) | **Defines a description list** |
| [**<dt>**](https://www.w3schools.com/tags/tag_dt.asp) | **Defines a term/name in a description list** |
| [**<dd>**](https://www.w3schools.com/tags/tag_dd.asp) | **Defines a description of a term/name in a description list** |

## 9. Tables

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<table>**](https://www.w3schools.com/tags/tag_table.asp) | **Defines a table** |
| [**<caption>**](https://www.w3schools.com/tags/tag_caption.asp) | **Defines a table caption** |
| [**<th>**](https://www.w3schools.com/tags/tag_th.asp) | **Defines a header cell in a table** |
| [**<tr>**](https://www.w3schools.com/tags/tag_tr.asp) | **Defines a row in a table** |
| [**<td>**](https://www.w3schools.com/tags/tag_td.asp) | **Defines a cell in a table** |
| [**<thead>**](https://www.w3schools.com/tags/tag_thead.asp) | **Groups the header content in a table** |
| [**<tbody>**](https://www.w3schools.com/tags/tag_tbody.asp) | **Groups the body content in a table** |
| [**<tfoot>**](https://www.w3schools.com/tags/tag_tfoot.asp) | **Groups the footer content in a table** |
| [**<col>**](https://www.w3schools.com/tags/tag_col.asp) | **Specifies column properties for each column within a <colgroup> element** |
| [**<colgroup>**](https://www.w3schools.com/tags/tag_colgroup.asp) | **Specifies a group of one or more columns in a table for formatting** |

## 10. Styles and Semantics

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<style>**](https://www.w3schools.com/tags/tag_style.asp) | **Defines style information for a document** |
| [**<div>**](https://www.w3schools.com/tags/tag_div.asp) | **Defines a section in a document** |
| [**<span>**](https://www.w3schools.com/tags/tag_span.asp) | **Defines a section in a document** |
| [**<header>**](https://www.w3schools.com/tags/tag_header.asp) | **Defines a header for a document or section** |
| [**<footer>**](https://www.w3schools.com/tags/tag_footer.asp) | **Defines a footer for a document or section** |
| [**<main>**](https://www.w3schools.com/tags/tag_main.asp) | **Specifies the main content of a document** |
| [**<section>**](https://www.w3schools.com/tags/tag_section.asp) | **Defines a section in a document** |
| [**<article>**](https://www.w3schools.com/tags/tag_article.asp) | **Defines an article** |
| [**<aside>**](https://www.w3schools.com/tags/tag_aside.asp) | **Defines content aside from the page content** |
| [**<details>**](https://www.w3schools.com/tags/tag_details.asp) | **Defines additional details that the user can view or hide** |
| [**<dialog>**](https://www.w3schools.com/tags/tag_dialog.asp) | **Defines a dialog box or window** |
| [**<summary>**](https://www.w3schools.com/tags/tag_summary.asp) | **Defines a visible heading for a <details> element** |
| [**<data>**](https://www.w3schools.com/tags/tag_data.asp) | **Links the given content with a machine-readable translation** |

## 11. Meta Info

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<head>**](https://www.w3schools.com/tags/tag_head.asp) | **Defines information about the document** |
| [**<meta>**](https://www.w3schools.com/tags/tag_meta.asp) | **Defines metadata about an HTML document** |
| [**<base>**](https://www.w3schools.com/tags/tag_base.asp) | **Specifies the base URL/target for all relative URLs in a document** |
| [**<basefont>**](https://www.w3schools.com/tags/tag_basefont.asp) | **Not supported in HTML5. Use CSS instead. Specifies a default color, size, and font for all text in a document** |

## 12. Programming

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [**<script>**](https://www.w3schools.com/tags/tag_script.asp) | **Defines a client-side script** |
| [**<noscript>**](https://www.w3schools.com/tags/tag_noscript.asp) | **Defines an alternate content for users that do not support client-side scripts** |
| [**<applet>**](https://www.w3schools.com/tags/tag_applet.asp) | **Not supported in HTML5. Use <embed> or <object> instead. Defines an embedded applet** |
| [**<embed>**](https://www.w3schools.com/tags/tag_embed.asp) | **Defines a container for an external (non-HTML) application** |
| [**<object>**](https://www.w3schools.com/tags/tag_object.asp) | **Defines an embedded object** |
| [**<param>**](https://www.w3schools.com/tags/tag_param.asp) | **Defines a parameter for an object** |

## 7. List of No-SQL Database System?

**Complete list of NoSQL databases**

* Hadoop/**Hbase**. Use **Apache HBase** when you need random, real-time read/write access to your Big Data. ...
* Cassandra. The Apache Cassandra database is the right choice when you need scalability and high availability without compromising performance. ...
* Hypertable. ...
* Accumulo. ...
* Amazon SimpleDB. ...
* Cloud Data. ...
* HPCC. ...
* Flink.

8. What is Compiler?

A compiler is a special program that processes statements written in a particular programming language and turns them into machine language or "code" that a computer's processor uses. Typically, a programmer writes language statements in a language such as Pascal or C one line at a time using an editor.

9. What is Interpreter?

In computer science, an interpreter is a computer program that directly executes instructions written in a programming or scripting language, without requiring them previously to have been compiled into a machine language program.

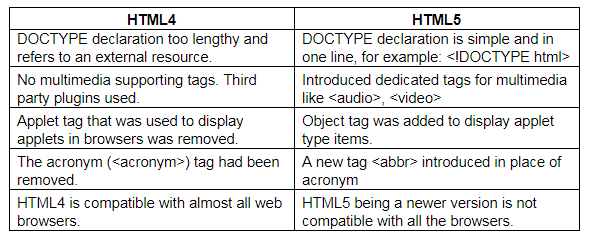
10. Differences between Interpreter and Compiler?

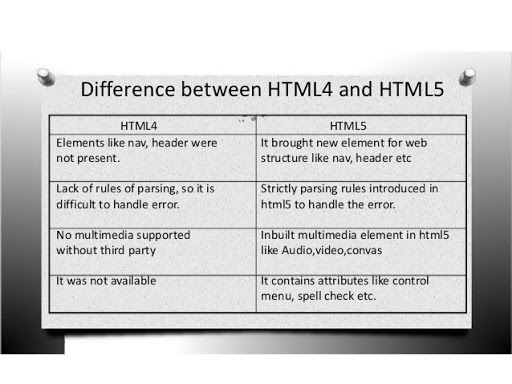
The difference between an interpreter and a compiler is given below:

|  |  |
| --- | --- |
| **Interpreter** | **Compiler** |
| Translates program one statement at a time. | Scans the entire program and translates it as a whole into machine code. |
| It takes less amount of time to analyze the source code but the overall execution time is slower. | It takes large amount of time to analyze the source code but the overall execution time is comparatively faster. |
| No intermediate object code is generated, hence are memory efficient. | Generates intermediate object code which further requires linking, hence requires more memory. |
| Continues translating the program until the first error is met, in which case it stops. Hence debugging is easy. | It generates the error message only after scanning the whole program. Hence debugging is comparatively hard. |
| Programming language like Python, Ruby use interpreters. | Programming language like C, C++ use compilers. |

5. Differences between the HTML4 & HTML5?

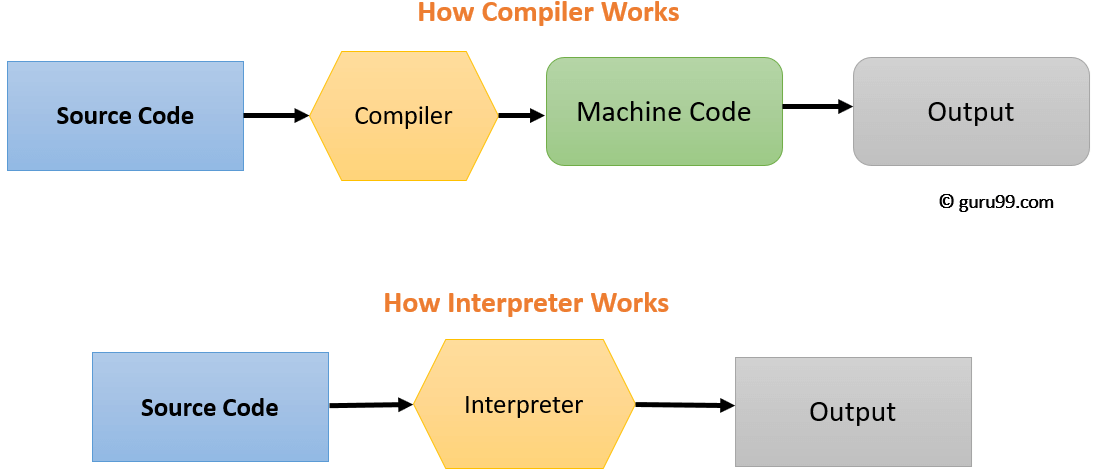
Below given are the important difference between HTML4 & HTML5:

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**How Compiler and Interpreter works**

Below in this diagram shows the Compiler and Interpreter works:



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