**Q.1** <!DOCTYPE html> is it a tag of html? If not, what is it and why do we use it?

<!DOCTYPE HTML> is not html tag , it is document type declaration .   
It is used to declare the the type of document which is being server it usually have definition of type of document say in case of html it has the version of html along with the html , it helps the browser to render the document correctly.

Q.2 Explain Semantic tags in html? And why do we need it?

In Html there specific tags which provide structural and meaning to the content in the page , these tags are not generic they posses special means for the reader (either human or bot).  
some common semantic tags are:

Here are some commonly utilized semantic tags in HTML5:

1. <header>: Represents the introductory content of a page or section.

2. <nav>: Defines a section containing navigation links.

3. <main>: Represents the main content area of a document.

4. <article>: Represents a self-contained composition within a document, such as a blog post or news article.

5. <section>: Defines a standalone section within a document.

6. <aside>: Represents content that is tangentially related to the main content, such as sidebars or callout boxes.

7. <footer>: Defines the footer section of a document or a section.

Utilizing semantic tags offers several benefits:

1. Accessibility: Semantic tags provide meaningful structure to assistive technologies like screen readers, making it easier for users with disabilities to navigate and comprehend the content.

2. Search Engine Optimization (SEO): Search engines rely on semantic structure to understand the content and context of a web page. Properly employing semantic tags can improve the visibility and ranking of a website in search engine results.

3. Readability and Maintainability: Semantic tags make the code more readable and self-explanatory, making it easier for developers to understand and maintain the website in the long run.

4. Future Compatibility: Semantic tags are designed to be forward-compatible, meaning that even if new elements or features are added to HTML in the future, the existing semantic structure will likely still be valid and functional.

Overall, using semantic tags enhances the structure, accessibility, and search engine visibility of a website while improving code readability and maintainability.

Qno3. Differentiate between HTML Tags and Elements?

HTML Tags and Elements are related but have different meanings:

1. HTML Tags: HTML Tags are used to define the structure and appearance of elements in an HTML document. They have angle brackets (< and >) around a tag name. For example, `<p>`, `<div>`, and `<img>` are HTML tags. Tags enclose content or indicate the purpose of sections in HTML.

2. HTML Elements: HTML Elements are created by combining an opening tag, content, and a closing tag. The opening tag is the HTML tag in angle brackets, while the closing tag has the same tag with a forward slash (/) before it. The content between the tags defines the element's content or nested elements.

**Q.6** What are some of the advantages of HTML5 over its previous versions?

HTML5, the latest version of the Hypertext Markup Language, brings various advantages over its previous versions:

1. **Improved Semantics**: HTML5 introduced a set of new semantic elements (e.g., `<header>`, `<nav>`, `<section>`) that provide clearer structure and meaning to web content. This improves accessibility, search engine optimization, and makes the code more readable.

2. **Multimedia Support**: HTML5 includes native support for multimedia elements such as `<video>` and `<audio>`, eliminating the need for external plugins like Flash.

3. **Canvas and SVG**: HTML5 introduced the `<canvas>` element, which provides a powerful drawing API for rendering graphics, animations, and interactive applications directly within the browser. Additionally, HTML5 includes native support for scalable vector graphics (SVG), allowing for resolution-independent and interactive vector-based graphics.

4. **Form Enhancements**: HTML5 introduced several new form input types (e.g., `<input type="date">`, `<input type="email">`).

5. **Mobile Support**: HTML5 includes features designed for mobile devices, such as geolocation support, device orientation detection, and touch events. This allows developers to create responsive and mobile-friendly web applications that adapt to different devices and interactions.

Overall, HTML5 offers enhanced semantics, multimedia support, improved form handling, offline capabilities, and better mobile device integration, among other benefits. These advancements contribute to richer and more interactive web experiences while simplifying development and reducing reliance on external plugins.

**Q.8** What is the difference between <figure> tag and <img> tag?

In HTML, the '<figure>' and '<image>' tags serve various functions and are used differently:

1. Using an image tag to embed an image in an HTML document, use the '<img>' tag. It is a self-closing tag, so a closing tag is not necessary. The source ('src') attribute, which provides the path or URL of the image file, is specified using the '<img>' element. Additionally, it can have optional properties like 'alt' (alternative text for accessibility) and 'width'/'height' (detailing the image's proportions). Displaying a specific picture is the main goal of the "img" tag.
2. The "figure" tag is used to group together a self-contained section of material, usually an image or illustration together with a caption or description. It gives the information a semantic grouping that makes it simpler to style and cite as a whole. The <figcaption> tag, which is used to specify the caption or description of the material within the <figure> element, is often used in conjunction with the <figure> tag.

In summary, the <img> tag is used to embed an individual image, while the <figure> tag is used to group an image or illustration with its accompanying caption or description. The <figure> tag provides a semantic structure for representing the relationship between the image and its related content.

**Q.9** What’s the difference between html tag and attribute and give example of some global attributes?

The difference between HTML tags and attributes lies in their purpose and usage:

1. **HTML Tag**: An HTML tag represents an element in an HTML document and is enclosed in angle brackets (`<>`). HTML tags define the structure and semantics of the content within the document. They can be opening tags (`<tag>`) or self-closing tags (`<tag />`) for elements that don't contain any content.

Example:

<p>This is a paragraph.</p>

In the example above, `<p>` is the HTML tag used to define a paragraph element.

2. **HTML Attribute**: An HTML attribute provides additional information or modifies the behavior of an HTML tag. Attributes are placed within the opening tag of an HTML element and consist of a name-value pair. They provide extra details or instructions for the element.

Example:

<a href="https://www.example.com">Visit Example</a>

In the example above, `href` is an attribute of the `<a>` (anchor) tag that specifies the destination URL when the link is clicked.

**Global Attributes**: Global attributes are attributes that can be applied to any HTML element. They provide common functionalities and behaviors to elements throughout the document. Some examples of global attributes include:

1. **class**: Specifies one or more CSS classes to be applied to the element.

<div class="container">Content goes here</div>

2. **id**: Provides a unique identifier for the element.

<h1 id="main-heading">Welcome to my website</h1>

Global attributes can be used on various HTML elements to provide consistent functionality or customization across different elements within the document.