**Firstly we need to understand what web-browser is. So…**

**Web-browser is a client program which allows you to send requests to servers to download web pages. In addition to the simplest operations for communicating with servers, the functions of the browser include:**

**processing the received HTML markup,**

**interpreting styles and scripts,**

**checking for errors and correcting them,**

**storing user information.**

**Browsers presented by different companies can implement these mechanisms in different ways or ignore any of them. One of the most important element of wed browser is JavaScript engine.**

**JavaScript engine an interpreter that executes code written in JavaScript. The engine can be implemented using various approaches: as a normal interpreter, as a dynamic compiler (or JIT compiler), which, before executing the program, converts the source code in JS into byte code of a certain format.  
  
Here is a list of popular implementations of JavaScript engines.  
  
V8 is an open source engine written in C ++, developed by Google.  
Rhino - this open source engine supports the Mozilla Foundation, it is completely written in Java.  
SpiderMonkey is the very first JS engine to appear that was used in the past in the Netscape Navigator browser, and today in Firefox.  
JavaScriptCore is another open source engine known as Nitro and developed by Apple for the Safari browser.  
Chakra is a Microsoft Edge engine.**

**How does the browser work?**

**So, we have web server and our web browser.**

**The client writes in browser search bar the name of the site he wants to find. The browser forms an HTTP request and calls the DNS - Domain Name System to find out on which server the site is located and then sends all requests to this server.**

**The server stores HTML files, scripts, style sheets, images, and etc. It receives a message from the browser and looks at the service information in this message and determines the resource that the browser wants to receive. After that, the server accesses the file system or PHP scripts and performs some work on the formation of an HTML document. After that sends this document back to the browser.**

**The browser starts to analyze the HTML document from the left - to the right and from the top - to down. It sees the <! DOCTYPE> tag and determines the rules by which the document should be interpreted. Then it sees the borders of the HTML document, knowing that it can contain the tags <HEAD> and <BODY>. After that, he sees the opening <HEAD> tag and understands that the service information will go on, which will help to correctly identify the document. After the closing tag </ HEAD>, the browser understands that the service information has ended.**

**Passing through the code of the HTML document, the browser sees the opening <BODY> tag and makes a mark that the information that needs to be displayed will go on. Inside this tag It will meet other tags that will also display information. Next end </ BODY> and </ HTML>. This means that the web page has been formed.**

**However, the page code may contain elements such as <img>, <a> tags, and so on, which should display information for which you need to specify the resource: images, links, fonts, media. They are uploaded to the HTML document after the browser sends the following request. In it, he asks the server to send files which resources are specified in the HTML document. Next, the browser displays the client a full web page.**

**This can be observed with a weak Internet. First, the site markup is loaded, and then the images are loaded.**