DAY 1 ASSIGNMENT

<u>1.HTTP1.1 vs HTTP2</u>

HTTP stands for hypertext transfer protocol, and it is the basis for almost all web applications. More specifically, HTTP is the method computers and servers use to request and send information.

HTTP/2 solves several problems that the creators of HTTP/1.1 did not anticipate. In particular, HTTP/2 is much faster and more efficient than HTTP/1.1.

1. **Multiplexing**: HTTP/1.1 loads resources one after the other, so if one resource cannot be loaded, it blocks all the other resources behind it. In contrast, HTTP/2 is able to use a single TCP connection to send multiple streams of data at once so that no one resource blocks any other resource. HTTP/2 does this by splitting data into binary-code messages and numbering these messages so that the client knows which stream each binary message belongs to.
2. **Server push**: Typically, a server only serves content to a client device if the client asks for it. However, this approach is not always practical for modern webpages, which often involve several dozen separate resources that the client must request. HTTP/2 solves this problem by allowing a server to "push" content to a client before the client asks for it. The server also sends a message letting the client know what pushed content to expect – like if Bob had sent Alice a Table of Contents of his novel before sending the whole thing.
3. **Header compression**: Small files load more quickly than large ones. To speed up web performance, both HTTP/1.1 and HTTP/2 compress HTTP messages to make them smaller. However, HTTP/2 uses a more advanced compression method called HPACK that eliminates redundant information in HTTP header packets. This eliminates a few bytes from every HTTP packet. Given the volume of HTTP packets involved in loading even a single webpage, those bytes add up quickly, resulting in faster loading.
4. **Prioritization:** Prioritization refers to the order in which pieces of content are loaded. Prioritization affects a webpage's load time. For example, certain resources, like large JavaScript files, may block the rest of the page from loading if they have to load first. More of the page can load at once if these render-blocking resources load last. In HTTP/2, developers have hands-on, detailed control over prioritization. This allows them to maximize perceived and actual page load speed to a degree that was not possible in HTTP/1.1. HTTP/2 offers a feature called weighted prioritization. This allows developers to decide which page resources will load first, every time.

2.OBJECTS AND ITS INTERNAL REPRESENTATION IN JAVASCRIPT

Objects, in JavaScript, is it's most important data-type and forms the building blocks for modern JavaScript. These objects are quite different from JavaScript's primitive data-types(Number, String, Boolean, null, undefined and symbol) in the sense that while these primitive data-types all store a single value each (depending on their types). Objects are more complex and each object may contain any combination of these primitive data-types as well as reference data-types.
An object, is a reference data type. Variables that are assigned a reference value are given a reference or a pointer to that value. That reference or pointer points to the location in memory where the object is stored. The variables don't actually store the value. objects in JavaScript may be defined as an unordered collection of related data, of primitive or reference types, in the form of "key: value" pairs. These keys can be variables or functions and are called properties and methods, respectively, in the context of an object. A property of an object can be explained as a variable that is attached to the object. Object properties are basically the same as ordinary JavaScript variables, except for the attachment to objects. The properties of an object define the characteristics of the object. You access the properties of an object with a simple dot-notation

Like all JavaScript variables, both the object name (which could be a normal variable) and property name are case sensitive. You can define a property by assigning it a value. For example, let's create an object named `myCar` and give it properties named `make`, `model`, and `year` as follows:

```
var myCar = new Object();
myCar.make = 'Ford';
myCar.model = 'Mustang';
myCar.year = 1969;
```