1. a) Statically Typed and Dynamically Typed Languages

» Statically typed languages do type checking at compile time against run time.
» Can't able to change the variable to a type, because typing associated with variables.
» Bug are caught at early stage.

e.g. C, C++, Java

» Dynamically typed languages do type checking at runtime against compile time.
» Can able to change the variable to a type, because typing is associated with value it assumes at run time.
» Can write a code quickly.

e.g. Javascript, Ruby, Python

1. b) Programming Language VS Scripting Language

» Programming language is formal language that specifies the set of instructions for computer to produce output.
» Programming languages are compile based and run independently.
» It is used to build an application and harder to use.

e.g. C, C++, Java

» Scripting language is a programming language that supports scripts.
» Scripts are written to perform special runtime environment by human operator.
» Scripting languages are interpreter based and run inside another program.
» It is used to control app behaviour and easy to use.

e.g. Javascript, Ruby, Python

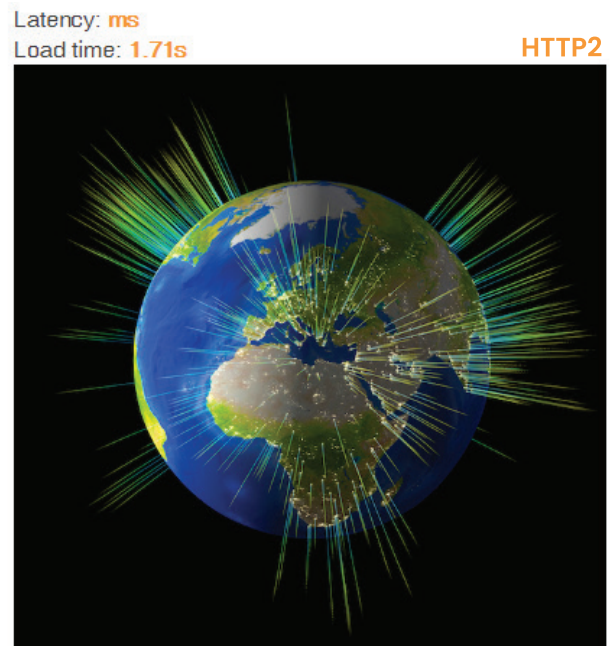> **Statically Typed Language = Programming Language**
>
> **Dynamically Typed Language = Scripting Language**

3. Difference between HTTP1.1 vs HTTP2

» HTTP1.1 keeps all requests and responses in plain text format.

» It has to break and remake the TCP connection with every new request.

» HTTP2 uses binary framing layer to sum up all messages in binary format.

» It sends multiple requests between browsers and servers at the same time over a single TCP connection.

- » HTTP2 uses HPACK header compression to reduce overhead.

- » HTTP2 allows servers to 'push responses proactively into browser caches instead of waiting for a new request for each resource

- » HTTP2 reduces additional round-trip times (RTT), meaning websites load faster with less optimisation.