ZEN class JS day1 task:

1. Difference between statically and dynamically typed languages:

|  | Static typed | Dynamic typed |
| --- | --- | --- |
| Definition | During variable declaration we have to specifically mention the datatype of the variable. | No need to specifically mention data type of the variable during variable declaration, the language engine will assign the datatype to the variable based on the value stored in it. |
| Popular Languages | C, C++, java | Php, python, javascript |
| Advantages | Compiler will check each and every minute detail of the variable so there is less chance of bugs. | If Interpreter misinterprets the type of variable, will give wrong results in calculations, generate bugs as the real time data is full of uncertainties and unrefined data |
| Useful for developers who want to keep an eye on every detail of the code i.e, variables, operations they are going through. | For Developers who are familiar with the data and operations and want quick execution with flexibility |
| Assigning the data type | Compilers does the type checking | Interpreters do the dynamic type assigning and do the evaluations. |
| Usage in real time | Where more security in code is required with less loopholes. | Where faster execution of code is required with more flexibility. |

1. Scripting language vs programming language

|  | Programming lang | Scripting lang |
| --- | --- | --- |
| Working | Program code is first compiled and then interpreted to execute the results | Direct interpretation of program code as soon as we write something meaningful. |
| Languages | C, java | Javascript, perl |
| Speed of execution | Slow in updating real time data | Fast in updating and pacing up with the real time data |
| Access to system files | Have access to file system | Don't have access to file system and |
| Important difference | Programming languages are actually compiling languages | All scripting languages are programming languages but not compiling languages. |
| Extension | For a programing language scripting part is an extensions after compiling the code | For scripting language it is the only one present and there may or may not be a compile step, if present they are definitely fast. |

1. Difference between http1.1, http2:

|  | HTTP/1.1 | HTTP/2 |
| --- | --- | --- |
| version | First version of http, still in use | This version was created and existent from 2015 |
| Prioritization (refers to which part of the code is loading first, is it the back end which is not visible to user or is it the front end which is visible to user) | Developers have no control on prioritization | Developers use the feature of weighted prioritization, freedom to decide which resource of the page to load first |
| speed | slow | fast |
| HTML header compression | Compression to only some extent for faster page loading | Advanced compression of html elements using HPACK that eliminates redundant html elements info to load page contents faster |
| Multiplexing | All streams of data are sent at once serially, if once resource is blocked all other resources are blocked | Splitting data into coded messages and numbering them so that the client knows what code that binary data belongs to. |
| websites using | Many scripted client solutions | Google, youtube |