Perl, PHP, JavaScript Comparison Report

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I. Three language constructs on Perl, PHP, JavaScript

Perl	PHP	JavaScript
The syntax for foreach is	The syntax for foreach is	The syntax for foreach is

foreach var (list) {
...
}
	foreach ($a as $i) {
	…
	}
		for (I in a) {
		…
		}

The syntax for array defined is	The syntax for array defined is	The syntax for array defined is
@arrayName = (element1, element2);	$arrayName = array(element1, element2);	var arrayName = [element1, element2];
The syntax for string match is	The syntax for string match is	The syntax for string match is
$string =~ $pattern	preg_match($pattern, $string)	string.match(pattern)

II. Scripting Language Comparison with Programming Language

First of all, scripting language source code is translated by the interpreter into the object code. While interpreting the source code, it is also running the object code. It means that scripting language is “dynamically”. The application cannot be separated from their interpreters. However, this approach is flexible enough to dynamically adjust and modify the application.

Programming language source code are totally translated into the target code before running, which denotes that the programming is static. Once the application need to be modified, it

must first modify the source code and recompile all the source code file to the object code. If there are no source code, it is inconvenient to modify.

According to efficiency, because scripting language code is interpreted while running, so it is less efficient than programming language, which compiles the whole code before running. However, in the aspect of developing convenience, scripting language is more convenient than programming language. Because after modifying the source code, it does not need to interpret the whole source file.

A scripting language usually sits behind some programming language. Scripting language usually have less access to the native abilities of computers since they run one a subset of original programming language. For example, JavaScript cannot be able to access the file system.

Although scripting language may have less access and low efficient, it can be powerful. One of advantage of scripting language is that it is easy to update. For example, there are many java applets on the web when JavaScript language are not mature. However, java applets were annoying, they need user to load and compile the code. Today, JavaScript is extremely fast to load since most of browser components have been installed already.

Comparing with programming language, scripting language has more simple syntax and semantics. Typically, a "script" is execute from start to finish, with no entry point like main () in Java.

For example, in Java, it is not directly possible to execute Java interactively, because source files can only definitions that must be invoked externally by a host application or application launcher.

```java
public class HelloWorld {
  public void printHelloWorld() {
    System.out.println("Hello World");
  }
}
```

The above code intended to print "Hello World" does nothing because the main () is not declared in HelloWorld class.

However, in php, only one-line code need as follow:

```php
echo "Hello World";
```

Reference

[1] "Scripting Language", en.wikipedia.org, 2018. [Online]. Available: https://en.wikipedia.org/wiki/Scripting_language

[2] "Scripting Language vs Programming Language", stackiverflow.com, 2018. [Online]. Available: https://stackoverflow.com/questions/17253545/scripting-language-vs-programming-language