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COMPARISON OF PYTHON (AN OPEN SOURCE PROGRAMMING LANGUAGE) WITH OTHER PROGRAMMING LANGUAGES

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ABSTRACT

Language is a communication tool through which we can communicate with each other like Hindi, English etc any other language. So if we want to communicate with computer, we need computer programming languages. So in computer we have two types of languages, one is low level language which is easily understood by computer but difficult to learn. Second is high level language which is same like English language, not understood by computer but easy to learn. Python is a high level language. This language was developed by Guido van Rossum. He was a from the Netherlands. Python is a interpreted, high level language and it becomes very popular because of simple and easy syntax which increases the readability of the program. Python is a portable language i.e. we can python in any operating system. The scoreboard system for the Melbourne city of Australian Cricket Ground is written in Python.

I. INTRODUCTION

Python VS Other Languages

In this we will discuss the difference between Python and other high level languages such as java, C, C++ etc.

Python VS JAVA

- Python code runs much slower in contrast to Java code.
- Python code takes very less memory in contrast to Java. That's why space complexity of python is better than Java.
- Python code requires less number of lines or statements in contrast to Java.
- Python code is 3-5 times shorter than a Java snippet for the same program.
- In python no need of declaring variables but in java we need to declare before use it.

Python VS C++:

- Python code is comparatively 5-10 times shorter than a C++ code for the same program.
- Python acts as a glue language that used to combine components written in C++.
- Python provides much flexibility in calling functions and returning values in contrast to C++.
- C++ code works faster in comparison to Python.
- The code written in Python is interpreted. And code of C++ is a pre-compiled.
- Python uses Garbage Collection. And C++ does not use garbage collection.

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Example:
Python
Print ("Hello World!")

C++
```
#include <iostream>
void main()
{
        cout << "Hello World!";
}
```
Output-
Hello World!
>>>

Python VS Perl

- Perl emphasizes support for Common Application oriented Tasks *(For Example: file Scanning, Report Generating etc.)* on the other hand Python emphasizes support for Common Programming Methodologies *(For Example: Data Structure Design, OOPs concepts etc.)*
- Python is reusable than a Perl code.
- Python is High-level language on the other hand, Perl is middle level language.

Example :
Python
Print ("Hello World!")
Perl
print "Hello World!";
Output-
Hello World!
>>>

Python VS JavaScript

- JavaScript is all about classes whereas Python deals with simple functions and variables without getting betrothed in class definition.
- Python provides better code reusability than JavaScript.
- Python is better in scalability and maintainability.
- Python is high-level language whereas JavaScript is low level.

Example:
Python
Print ("Hello World!")
JavaScript
```
<html>
<head> </head>
<body>
  <script>
    alert('Hello, World!')
  </script>
</body>
```

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```
</html>
```
Output-
```
Hello World!
>>>
```

Python VS Smalltalk

- Python contains dynamic binding and dynamic typing on the other hands Smalltalk lacks both, however, it is also an object oriented *language (First object Oriented Language.)*
- Python contains a rich library. It has more features to deal with the internet, web such a WWW, FTP etc. on the other hand Smalltalk's standard library of collection data types is developed.
- Smalltalk follows a monolithic approach while python has a different and separate development and environment distribution of code.

Example:
Python
```
Print ("Hello World!")
```

Smalltalk

```
#include <stdio.h>
void main()
{
  printf("Hello World");
}
```
Output-
```
Hello World!
>>>
```

Python VS PHP

- Python is much more maintainable than PHP.
- Python code executes much faster than PHP.
- Python is better than PHP whenever we talk about developing better scalable applications.
- Python is much more stable and compatible than PHP.
- Python is object oriented language whereas PHP is structure based.
- Space complexity of python is much more less than python.

Example:
Python
```
Print ("Hello World!")
```
PHP
```
<html>
 <head>
  <title>PHP Test</title>
 </head>
 <body>
 <?php echo '<p> Hello World!</p>'; ?>
```

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```
</body>
</html>
```

Output-

```
Hello World!
>>>
```

REFERENCES

No references have been used..