Best programming language for a Beginner

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Abstract- **An opinion is often heard that why to bother about learning c language when it has been taken place by languages like C++, C# and java. It is time to change this opinion. There are many reasons for this. The main is C is fundamental programming language. Moreover major parts of popular operating systems are still written in C. Mobile devices are becoming very popular these days. Also, common consumer devices like microwave oven, washing machines and digital cameras are getting smarter day by day. This smartness comes from a microprocessor, an operating system and a program embedded in this devices. These programs not only have to run fast but also have to work in limited amount of memory. Such programs are also written in C language. Even some gaming frameworks are also built in using c language. These must be the most convincing reasons why one should adopt learning C language as first step.**

I. INTRODUCTION

Frequently asked questions by a beginner of computer programming learner is what language is to start with? Even educators debate on this as well. If you ask ten experienced programmer as what is the best suited language for a beginner, you will surely get ten answers as per their experiences. The fact is that there are numerous options available. A language suitable for one person may not be suitable for another. It not only dependent on the beginner friendliness of a language but also on the nature of project one intend to work on and also whether coding would be done for living. Most of the known programming languages like C, C#, Java, python and Perl etc. can nearly do the same task. The syntax or structure of the language is nearly identical, so learning one often helps in learning the other language. For example, to print "Hello World," Java and C# are almost similar to as Perl and Python:

```
Java                           C#

                               public class Hello1
public class HelloWorld {      {
public static void main(String[] args) { public static void Main()
System.out.println("Hello, World");  {
}                              System.Console.WriteLine("Hello, World!");
}                              }
                               }
```

```
vs

Perl             Python

#!/usr/bin/perl   #!/usr/bin/python
print "Hello World.\n";   print "Hello World\n"
```

However, when observed closely, one can notice that some are simple, others are complex, and some may require semicolons at the ends of lines while others don't. All this depends on the syntax of the language.

II. COMPARISON OF MOST POPULAR LANGUAGES

- *C:*
  According to a programmer and writer Joel Spolsky (Spolsky 2005), C is becoming rare, but it is still the most common language of programmers. Learning C is like studying the basic anatomy by a doctor. C language teaches you the discipline of coding.
- **Java:**
  Java is known to be as second most popular programming language .Java is being taught from decades. It is widely used in android

app development. It is a very practical language to learn.

- **Python:**
  Many programmers recommend Python as the best suited language for beginners because of its simplicity and still having the great capabilities. The code is easy to read without being strict about the syntax and have good programming styles. It's popularity is also rising these days for its widw adoption by Pinterest and Instagram.

- *JavaScript:*
  JavaScript, shares a little relation to Java. As it is already built into web browsers therefore it requires the least amount of set up to get started. One can code loosely without following the syntax so often. The code results are immediate and hardly require any tool. If one wants to make interactive things for the web, JavaScript is best suited for this.

III.   LANGUAGE SKILLS FOR DIFFERENT JOBS

Different languages are suitable for different types of requirements of different software projects. According to a Technology Blog (Dev/Code/Hack 2012), have summerised the different job roles and the required programming skills as:

Back-end/Server-side Programmer:
Usually uses one of the following: Python, Ruby, PHP, Java or .Net.

Front-end/Client-side Programmer:
HTML, CSS, JavaScript and may have design skill.

Mobile Programmer:
Objective-C or Java (for Android). HTML/CSS for mobile websites. Also must have server-side knowledge.

3D Programmer/Game Programmer:
C/C++, OpenGL, Animation. If possible should have good artistic skill.

High-Performance Programmer:
C/C++, Java. May have background knowledge in mathematics or quantitative analysis.

IV.   LANGUAGE OF CHOICE FOR A COMPUTER SCIENCE STUDENT

We have seen above, there are number of choices between various available languages. Any language can be used for achieve the similar objectives. Yet, it can also be observed from the above discussion the in different situations tasks require different skill sets. A Computer Science Engineering Student is more interested in learning the theoretical concepts. For progress and to be successful in future, it is very important to start with a language which teaches disciple in coding and fundamental concepts. C Language appears to be ideal and right choice for students. Others reasons are summed up as below:
C was the programming language developed at AT & T's Bell Laboratories of USA in 1972. It was written by a man name Dennis Ritchie.

- Nobody can learn C++ or Java directly. To master these languages you need to have a strong concept of programming element such as polymorphism, classes, inheritance etc. C is a language which begins from scratch and it has foundational concepts on which today concepts stand on.
- It is language on which C++ is based on, hence C# also derive its origin from the C. Java is also a distant cousin of C and share the same programming concept and syntax of C. These are the most dominant languages in the world and all are based on C.
- C++, Java, and C # make use of OOP (Object Oriented Programming). Not all programs need it even though it is a powerful tool. Such programs are still written in C.
- Whenever it comes to performance (speed of execution), C is unbeatable.
- Major parts of the Windows, UNIX and Linux are still written in C. So if you want program these OS or create your own you need to know C.

- Device drivers of new devices are always written in C. The reason is that C provides you access to the basic elements of the computer. It gives you direct access to memory of your CPU through pointers. It allows you to manipulate and play with bits and bytes.
- Mobiles, Palmtops, PDA's etc. are gaining popularity every second. Also appliances such as T.V., Refrigerators, and Microwaves etc. are becoming an integral part of our daily needs. You may not know but they have a CPU with them which do need programming and the software's written for them are known as embedded system programs. These programs have to be fast in execution but also have a very little memory. No question why C is ideally suited for embedded system programming.
- You must have played games on your PC. Even today these astounding 3D games use C as their core. Why? The simple reason who will play the game when it takes a lot of time fire a bullet after you have given command from the console. The reply to the command should be damn prompt and fast. Reply in 1 Nano second is an outstanding game; Reply in 10 Nano seconds is crap. Even today there is no match for C.
- C is a middle level language. There are three types of language - High Level, Middle Level & Low Level. High level languages are user oriented, giving faster development of programs, example is BASIC. Low level languages are machine oriented; they provide faster execution of programs. C is a middle level language because it combines the best part of high level language with low level language. It is both user and machine oriented and provides infinite possibilities.
- Last but not least it is a block structured language. The first symbol of a modern language is that it is block structured. Each code exists in separate block and is not known to code in other block providing easy means of programming and minimizing the possibilities of undesirable side effects. C is designed from the base to top to be a block structured language. Many older languages, most popular being BASIC tried to introduce this concept but their short coming can never fulfilled as they were never built along these line.

V. CONCLUSION

There are many modern day popular programming languages like C, C#, Java, Perl, Ruby, and Python etc. All can do nearly do the same tasks as the others however some are more suited to do particular type of task. A student of Computer Science Engineering would greatly benefit from C Language as it teaches discipline, syntax and fundamental of computing.

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