Reading 2

Skills:

- Details

- Vocabulary in context

- Understand negative facts

Getting started: What programming languages do you know? What are some of their characteristics?

THE 5 PROGRAMMING LANGUAGES THAT BUILT THE INTERNET

The internet couldn't possibly **run** without someone somewhere writing some code, but in internet history, there are a few particular languages that provided the foundation upon which the web we know today has been built. These five languages have helped shape the modern internet.

Lisp

This language is actually not widely used on the internet but is responsible for building the internet in many ways. Invented by John McCarthy in the late 1950s, Lisp, despite its **odd** name, tied together the

research community that helped create the internet. Lisp offered some modern features for the first time, such as conditionals. However, what was really impressive about Lisp was that it made no distinction between code and data. Lisp made it possible to extend the language in ways that its designers never intended, giving rise to the term "programmable programming language."

Lisp became the lingua franca of the artificial intelligence community, the community that built what eventually became the internet in the late 1960s. With the "AI Winter" in the late '80s, Lisp's fortunes sank somewhat, although it still had its fans. One of them, Paul Graham, who later founded the startup *Incubator & Combinator*, used it to build one of the first e-commerce companies, *Viaweb*, which was later purchased by *Yahoo*. Graham credited the ability to write powerful software by himself as one of the reasons for its success. The first version of the popular social news website *Reddit* was also built in Common Lisp.

C

The single most influential programming language today might be C. Invented at Bell Labs in the '70s, it was one of the first high-level programming languages to have an operating system written in it, which happens to be Unix. Because it was written in C, it was possible to move Unix to different platforms.

Rewriting Unix in C was **a major breakthrough**. Previously, operating systems were written in assembly language as they had to be really close to the hardware. C, on the other hand, was a higher-level language but was still close enough to the hardware to write an operating system in. This made Unix one of the first portable operating systems. A C program could be compiled to run on different operating systems, but since most of the early C programmers also happened to be Unix programmers, they tended to assume that their programs would be run under Unix and developed their code accordingly. Because it was relatively easy to port Unix to other computers, lots of people did so.

C obviously had a lot of success outside of Unix. For instance, Microsoft Windows is coded in C, as are many other applications. C evidently satisfied a need for a system implementation language efficient enough to displace assembly language, yet sufficiently abstract and fluent to describe algorithms and interactions in a wide variety of environments.

Perl

Perl isn't as talked-about as it was in the '90s, but it is still a major part of the internet. Perl was invented in the late '80s by Larry Wall when he was working for NASA's Jet Propulsion Laboratory. Wall needed a configuration management system to talk to several Unix computers on opposite coasts. None of the existing Unix tools could do the job, so he invented a whole new programming language.

Wall released it in 1987 over Usenet, and it attracted an instant community of developers across the growing internet, one of the first major open-source projects before Linux. When the web took off, Perl found a niche as one of the languages of choice for developing dynamic web pages. Syntactically, it resembled C, but was implemented at an even higher level, without the need to manually manage memory. This meant that developers could write, test and debug programs quickly. Perl is very flexible, and although Python and PHP have stolen a bit of Perl's thunder, its importance to the spread of the internet is undeniable.

PHP

Speaking of PHP, this language has dethroned Perl as one of the major building blocks of modern dynamic web pages. Like Perl, it has a reputation for letting people write **ugly** code, yet it still runs a lot of websites that people use every day, including Facebook.

The reason that it's become so popular is that PHP code can be embedded right into a web page. This means you don't have to put your PHP script in a separate program and generate HTML code using Perl or C. This makes it very easy for people who already know HTML to learn PHP and add interactivity to their pages. It's also easy to integrate PHP with a SQL server such as MySQL.

SQL

SQL stands for Structured Query Language. It's relatively easy to learn as it uses English-like commands. There are plenty of implementations, such as MySQL and PostgreSQL, which are popular open-source relational database servers. SQLite is a smaller variant used in a lot of applications, such as Apple's iTunes.

Although invented by Edgar F. Codd in the 1970s, SQL and the relational database took a while to become popular. Oracle first popularized relational databases, then MySQL made it a must-have

technology for building websites. The relational model provided a simple and efficient way to manage large amounts of data.

Answer the following questions:

1. The word **run** in paragraph 1 is closest in meaning to
   a. go
   b. move
   c. operate
   d. continue

2. The word **odd** in paragraph 2 is closest in meaning to
   a. available
   b. regular
   c. various
   d. strange

3. What is stated about Lisp?
   a. It was crucial in the development of the internet.
   b. It was invented by John McCarthy before 1950.
   c. It was used to build Yahoo's platform.
   d. It disappeared in the 80s.

4. What is NOT stated about C?
   a. It was also called Unix.
   b. It has been used by Microsoft.
   c. It featured a versatile operating system.
   d. It allowed programs to be used in various operating systems.

5. The phrase **a major breakthrough** can be replaced by
   a. a big failure
   b. a scientific discovery
   c. an elementary mistake
   d. an important development

6. What is stated about Perl?
   a. It was launched in 1987.
   b. It was created in the 90s.
   c. It is more popular than Python.
   d. It is an invention of a NASA astronaut.

7. The word **ugly** in paragraph can be replaced by
   a. plain
   b. complex
   c. disgusting
   d. dangerous

8. What is stated about PHP?
   a. It allows programmers to create dynamic pages.
   b. It can't be inserted directly in a website.
   c. It is not used by many internet pages.
   d. It used to be popular in the past

9. What is NOT stated about SQL?
   a. It has been used by several companies like Apple and Oracle.
   b. Its instructions are similar to the English language.
   c. It became very popular in the early 70s.
   d. It's not a complex language to learn.

What do you think?

Which programming language do you prefer? Why?