LESSON 04
TOPIC: PROGRAMMING LANGUAGES

AGENDA: YOU WILL LEARN

Vocabulary:
Programming languages.

Grammar:
Comparative and Superlative adjectives.

Pronunciation:
Programming languages and technologies.

Speaking:
Comparing advantages and disadvantages.

Writing & Soft skills:
Replying to bug reports and issues.

🎤 ❓ WARM-UP

Answer the questions.

1. Name 6 programming languages you know or have heard of. What can you use them for?

2. In your opinion, what is the fastest and most effective way to learn a programming language?

READING

🎤 🔲 **EXERCISE 1A**

Read the tweet. Do you think there is a shortage of software engineers in the modern world? Why / why not?

> **Naval**
> @naval
>
> The engineer shortage won't end until coding fluency is as common as literacy and numeracy.

✓ **Shortage** — a situation where there is not enough of something.
Literacy — ability to read and write.
Numeracy — ability to use mathematics.

🔲 **EXERCISE 1B**

Before you read the text, try to complete the sentences with the prepositions below. Read the text in Exercise 1C and check your answers.

up • for • on • out • at • of • to • into • in • by

1. I'm looking _____ a new job in technical recruiting.
2. You need to back _____ your opinions with facts.
3. The number of programming jobs is growing _____ the day.
4. You will need to change your work routine _____ some point.
5. I've heard that PHP is going _____ of use.
6. You have a natural talent for logical thinking that you can tap _____ .
7. It is up _____ you what you decide to do.
8. She can easily take advantage _____ this situation.
9. He's an amazing coder, _____ top of being a great guy.
10. He coded the entire application _____ C++.

📚 EXERCISE 1C

Mark the statements True (T) or False (F).

1. The majority of web browsers are programmed in C++.

2. The number of C# jobs is 75% higher than C++ jobs.

3. PHP is famous for its elegance.

4. Python's syntax is a little complicated.

5. Java remains a viable programming language.

6. JavaScript can be used for a wide range of projects.

There are 6 programming languages that are far above the rest and there is data to back it up.

To give you a detailed understanding, we are going to look at 4 major dimensions:

1. Number of jobs.
2. Number of learning resources.
3. How many people use it at work.
4. Popularity (is the language trending up or down?).

Then, we're going to give each language a score and rank them relative to each other.

Let's jump into it!

#6 C++

C++ is the fastest performing language. If you're going to write software where every millisecond counts, then C++ is the language you're looking for. Fun fact: most browsers (such as Chrome, for instance) are programmed in C++. Overall, there are only 10,000 remote C++ dev jobs on Indeed (popular job search site). It also has the lowest use at 24 % of developers reporting that they code in C++ on a daily basis. But this doesn't mean that it's going to go out of use in the near future. It just means that this language is used for very specific low-level tasks.
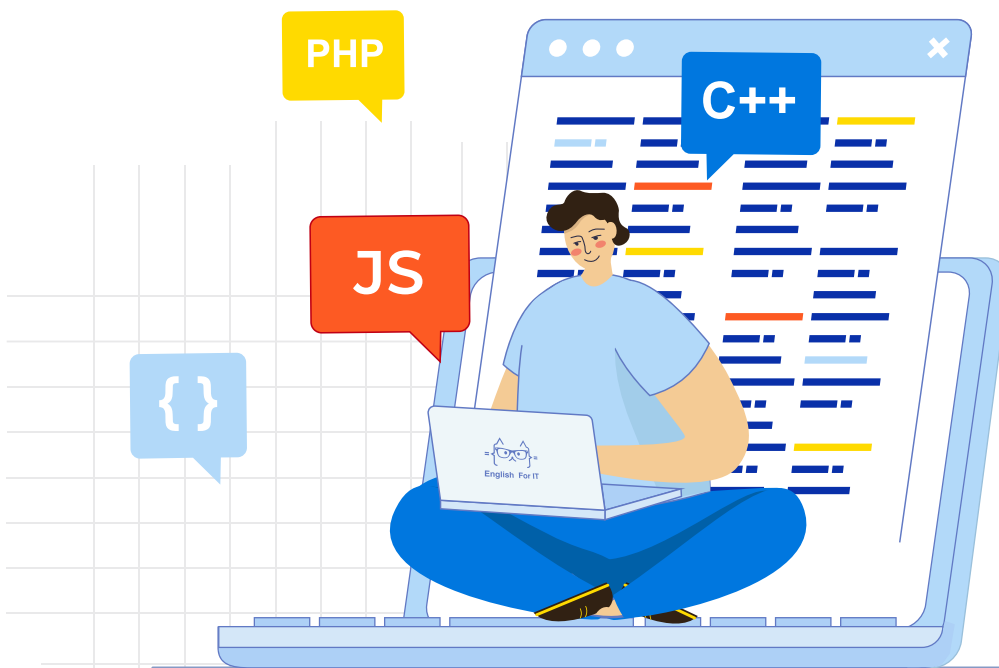
#5 C#

If you want to work with the Microsoft. NET framework, you're going to need C#. You can also use C# for Unity game development and a variety of other different things. C# has double the amount of jobs of C++ at 20,000. There's also some demand for this language on the freelance market which you can take advantage of. About 30% of the development community use it at work. The trend line for this language is kind of flat.

#3 Python

Many people say that Python is the best language for beginners to learn because of its straightforward syntax. It's also very popular for trendy Machine Learning and Artificial Intelligence. 44% of people use Python at work which is really high, it's almost half of all developers. Chances are, you're going to have to learn Python at some point in your career no matter what so it's not a waste of time to learn it.

#4 PHP

The language most developers hate. PHP is notorious for being a cumbersome language but honestly, it's not THAT bad. PHP is the traditional language of the web. These days, it has two big competitors, namely Python and JavaScript which are becoming more popular by the day. This is the major reason why PHP is declining in popularity. That said, this is the exact reason to learn it. Because so many people want to program in any other language other than PHP, there is a demand for PHP developers that you can tap into if you're a PHP expert.

#2 Java

Java is the number one choice for big enterprise projects. It has pretty good performance and can be effective in writing large backend applications. The main concern about Java is that some people say it is a dying language and there are other languages that can replace it such as Go, for example. However, so many big companies have their code written in Java, it is still worth learning today.

JS

#1 JavaScript

No surprise there. JS is the go-to language for front-end which runs in the browser. You can also use it on the backend with runtimes such as Node and Deno. Knowing JavaScript and being familiar with its ecosystem definitely opens a huge door of opportunity for you. Over 65% of developers use JS at work and the market share for this language keeps growing. On top of that, JavaScript is an extremely versatile language that can be used to program many things: from dynamic web pages to apps and video games.

Now that you have this basic overview, it is up to you to decide which language you want to learn this year.

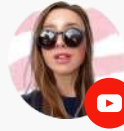🔊 **Listen to the recording of the text (track 4.1) and check your pronunciation.**

▶️ |·····▮▮▮▮▮▯▮▮▮▯▮▮▮·····| **Open in Google Drive**

🎤 EXERCISE 1D

Answer the question.

Which of these 6 languages would you be most interested in learning? Which do you already know?

🔠 EXERCISE 1F

Complete the speech with connective phrases from the text.

on top of that	•	chances are
that said	•	overall

— Can you tell me about the most interesting course you've ever taken?

— Sure. It was a web development course that I took last October. _____ I was very happy with how the course was structured. _____, there were certain parts that were very difficult and not explained in enough detail. What made this course stand out to me were the useful and practical project sections. _____ , there were also plenty of quizzes and gamification features. _____ , if you've ever googled "web development course", you've seen on the first page, that's how popular it is.

📄 Look at the glossary from the text and make sure you understand the meaning of each phrase.

1. Back (something) up	Support something or someone.
2. Dimension	An aspect or feature of a situation.
3. Rank (verb)	Give (someone or something) a rank or place within a grading system (rank high, rank low, rank first etc.)
4. Relative	Considered in relation or in proportion to something else.
5. Look for (something)	Try to find someone or something.
6. Overall	Taken as a whole; in all.
7. Code / program in (a certain language)	Write code in (a certain language).
8. Go out of use	Stop being used (the opposite of "to be in use").
9. Take advantage of	Use something for your own benefit.
10. Notorious	Famous or well known, typically for some bad quality.
11. Cumbersome	Slow or complicated and therefore inefficient.
12. Competitors	Business rivals.
13. By the day	With each day.
14. That said	Despite what one just said.
15. Demand	The desire of consumers, clients, employers, etc. for a particular commodity, service, or other item.
15. Straightforward	Uncomplicated and easy to do or understand.
16. Trendy	Very fashionable or up to date.
17. Chances are	It is very likely that.
18. At some point	At an unspecified time in the future.
19. A waste of time	Something inefficient or unproductive.
20. Enterprise	A for-profit business or company.
21. Concern	A matter of interest or importance to someone.
22. Go-to	Regularly or repeatedly chosen or employed for reliably good results.
23. Market share	The portion of a market controlled by a particular company or product.
24. Keep (growing)	Continue (to grow) constantly.
25. On top of that	In addition to that.
26. Versatile	Having many applications.
27. It is up to you	It depends on what you decide.

GRAMMAR
Comparatives & Superlatives

📚 📖 EXERCISE 1A

Read the text. What does the choice of highlighted words depend on?

The struggle between Apple and Android seems infinite. However, these days you really can't go wrong with either platform. Each one has advantages over the other, and each one is loved by a huge portion of its user base.

According to data shared by Apple CEO Tim Cook, Android users switch to the iPhone ==more often than== iPhone users bail on Apple's platform.

On the other hand, the latest figures from StatCounter show that not only is Android used ==by more== people ==than== iOS, but it's also challenging Windows to be ==the most used== OS in the world (for internet access, at least).

Let's do a quick comparison:
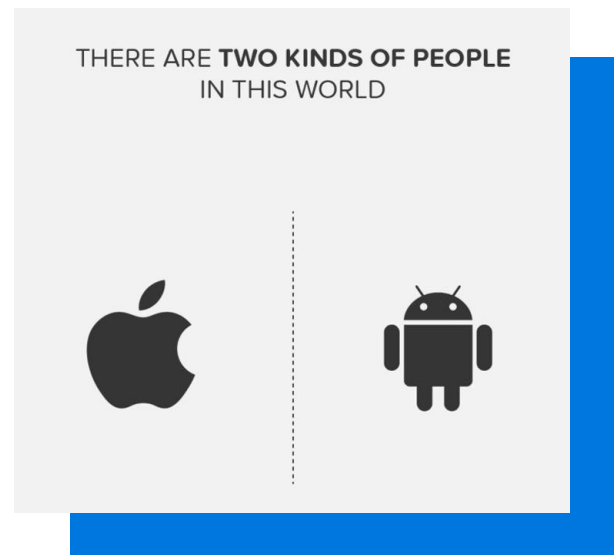
THERE ARE **TWO KINDS OF PEOPLE**
IN THIS WORLD

APPLE

Pros:
- generally good support;
- fewer worries of malware due to the curated app store.

Cons:
- walled-garden ecosystem;
- fewer opportunities for customization.

ANDROID

Pros:
- easier to customize;
- wider choice of phones.

Cons:
- higher chance of malware;
- less reliable support.

📘 Review the rules and do Exercise 1B.

COMPARATIVE ADJECTIVES

EXAMPLES:
- Android smartphones are easier to customize than Apple smartphones.
- Apple smartphones have more reliable support than Android smartphones.

RULE:
- To make a comparison we use the ending -er after short adjectives (or less + adjective).
- In long adjective, we add "more/less" before the adjective.

Short adjectives	**Long adjectives**
High + er = higher	More/less + reliable
Easy + ier = easier	
Big + ger = bigger	
Wide + r = wider	
Less + high	
Less + easy	

📘 EXERCISE 1B
Sort the adjectives below into two columns.

important • significant • healthy • strong • difficult • satisfied
cold • clean • early

+ er	+ more
	E.g. more important

Review the rules and do Exercise 1C.

SUPERLATIVE ADJECTIVES

EXAMPLES:
- Windows is the most common OS in the world.
- This is the greatest phone I've ever owned.

RULE:
- To make a superlative, we use the ending -est after short adjectives (or the least + adjective). We also normally add "the" before the adjective.
- In long adjectives, we add "the most / the least" before the adjective.

Short adjectives	Long adjectives
The + great + est = the greatest	The most common
The + big + gest = the biggest	The most popular
The + wide + st = the widest	The most difficult
The least great	The least important
The least wide	The least supported

NB: Some adjectives have a special comparatives & superlatives form.

Adjective	Comparative	Superlative
Good	Better	The best
Bad	Worse	The worst
Far	Farther / further	The farthest / the furthest
Much	More	The most
Little	Less	The least

📘 EXERCISE 1C

Sort the adjectives below into two columns.

Important • low • cumbersome • famous • new • amazing • smart • long

+ est	The most +
	E.g. the most important

📘 EXERCISE 2A

Choose the correct option.

1. Can you recommend a **safer/more safe** alternative?

2. I would agree to have a **lower-paid/ more low-paid** job, if that meant I could spend more time with my family and friends.

3. Leonardo DiCaprio finally got the award for **better/best** actor in the leading role.

4. This is **more elegant/the most elegant** code I have ever seen.

5. The meeting today was awful. I think this is **more boring/the most boring** presentation I have ever had to sit through.

6. This is the **baddest/the worst** coffee I've had in my life.

7. Unfortunately, we cannot afford this. It seems like we have to look for a more **cheap/cheaper** option.

📘 EXERCISE 2B

Use the right form to complete the sentence.

1. The _____ (close) people get to their deadlines, the _____ (nervous) they become.

2. She is by far _____ (good) developer in the company.

3. English is _____ (little) difficult than Japanese.

4. My PC runs _____ (fast) than yours.

5. He is _____ (experienced) person in our team.

6. This is _____ (exciting) task I have ever had.

7. Generally, Android smartphones are _____ (expensive) than Apple smartphones.

8. Iphone is possibly _____ (profitable) product in modern history.

🔤 ✏️ 🎤 EXERCISE 3

Make comparative sentences using the words in brackets. Write the sentences down.

Discuss your answers with a peer (or just expand on each topic by adding 2-3 more sentences of your own).

E.g. Cats are friendlier than dogs (friendly).

- Cats vs. Dogs (good pets)
- iOS vs. Android (secure)
- Analog clocks vs. Digital clocks (reliable)
- Vim vs Emacs (easy to use)
- Tea vs. Coffee (bitter)

- Adidas vs. Nike (comfortable)
- MacOS vs. Windows (powerful)
- The US vs the UK (big)
- Glasses vs. Contact lenses (trendy)
- Big companies vs Startups (interesting to work at)

There is no one correct way to do this exercise.

🔤 📚 🎤 EXERCISE 4

Read the tweet.

Think of 2-3 recently developed software tools. How have they helped businesses and individuals?

> **Aaron Levie** ✔
> @levie
>
> The promise that software would make companies quicker, <u>flatter</u>, more collaborative, and connected was a distant reality for <u>decades</u>. Now that we're all working in the cloud, this vision is finally happening. And with it we'll see new era of enterprise software.
>
> ✓ **Flat organization** — an organization with few or no levels of middle management.
> **Decade** — a period of 10 years.

PRONUNCIATION
Programming languages and related terms

🎤 🔊 EXERCISE 1

Listen to the audio (track 4.2) and practice saying the following words.

▶ |Ⅲ••Ⅲ•Ⅲ••Ⅲ•Ⅲ••| **Open in
Google Drive**

1. Programming language
2. Object-oriented (language)
3. Interpreted (language)
4. Paradigm
5. Merge
6. Compile
7. Python
8. Java
9. JavaScript or JS
10. PHP
11. HTML
12. CSS
13. Terminal
14. iOS
15. Android

SPEAKING & SOFT SKILLS

🎤 EXERCISE 1

Compare two programming languages of your choice. Consider their advantages and disadvantages and answer the following questions.

1. Which language is more popular / more widely used?
2. Which language is more versatile (meaning one is more multi-purpose)?
3. Which language is older?
4. Which one is easier to learn for a beginner?
5. Which language is less complex?
6. Which kinds of projects are these two languages more appropriate for?

If you're interested in improving your English through speaking practice with a native speaker, then Lean Coffee Speaking Club might be just what you're looking for!

JOIN SPEAKING CLUB >>

WRITING & SOFT SKILLS

When communicating with a customer regarding an issue they're experiencing, you want to make sure that you do these 3 things:

1. Ask clarifying questions instead of assuming what the person meant.
2. Acknowledge that you have received their message even if you don't have a ready solution.
3. Be positive, polite and assure the customer you're taking the right next steps.

🔊 ✏️ EXERCISE 1A

**Listen to the audio (track 4.3) and complete the sentences with the missing words.**

Open in Google Drive

a) Hi! Our team is currently _____ your issue. We'll _____ as soon as we can.

b) Can you please reach out to our customer support _____ customer-support.com so that they can take a look into this?

c) Thanks for _____ this issue! We're working on a solution.

d) Try _____ your OS. This _____ fix the issue.

e) _____ that your laptop is connected to power during the update.

f) Please let us know if the issue _____.

g) We might need a bit more time to troubleshoot the issue in more detail. We'll let you know as soon as we _____ fix it.

h) Thanks for the feedback! That would be a pretty _____ feature to have. Something like that isn't on our current _____ but we'd be happy to explore this idea in the future.

i) Could you _____ provide a screen-shot of the issue? I'm afraid, I'm not entirely _____ on what it is from the description.

🔤 EXERCISE 1B

Match the sentences from Exercise 1A (a-i) to the situations (1-4).

1. Recommendation.
2. Reacting to a feature suggestion.
3. Clarification.
4. Acknowledging an issue that's been reported.
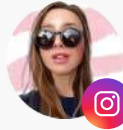
✏️ EXERCISE 2

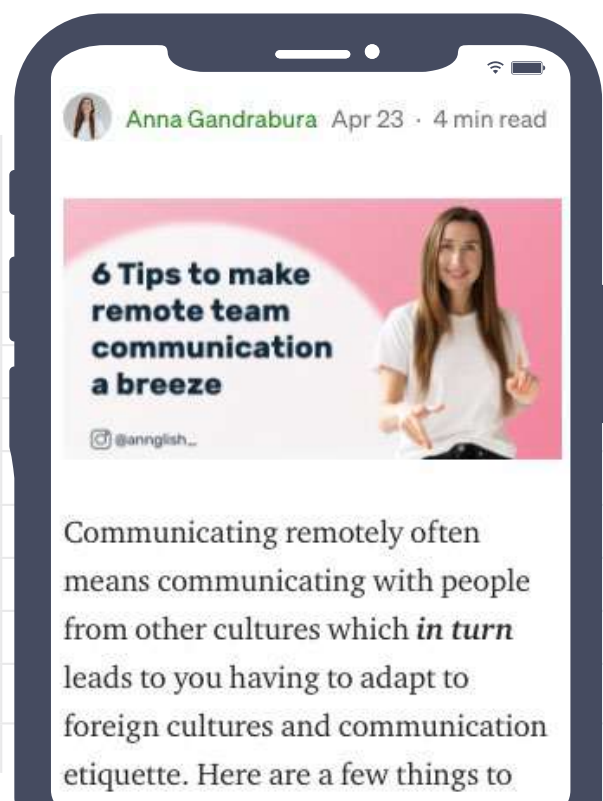**Write 3 messages to the client or customer based on the following scenarios.**

1. The client has reported an issue. Say how you're planning to fix or what the client can do to fix it themselves.
2. You receive customer feedback regarding a feature they want your product to have.
3. A client reports an issue but some key details are missing.

📚 🔤 EXERCISE 3

Check out Anna's article on remote communication.

Write out 5 new phrases you've learned from it and try to use them in your own sentences

GO TO ARTICLE >>

Anna Gandrabura Apr 23 · 4 min read

6 Tips to make remote team communication a breeze

@annglish_

Communicating remotely often means communicating with people from other cultures which *in turn* leads to you having to adapt to foreign cultures and communication etiquette. Here are a few things to

GLOSSARY OF TECHNICAL TERMS

Low-level programming language — a programming language that provides little or no abstraction from a computer's instruction set architecture. In other words, a language that is "closer to the metal".

Runtime environment — the environment in which a program or application is executed.

Object-oriented programming (OOP) — a programming paradigm based on the concept of "objects", which can contain data and code.

Interpreted languages — programming languages which are generally interpreted, without compiling a program into machine instructions (as opposed to compiled languages).

Terminal — a device at which a user enters data or commands for a computer system and which displays the received output.

Merge — combine two or more data sets into a single data set.

Compile — convert (a program) into a machine-code or lower-level form in which the program can be executed.

OS — Operating System (the low-level software that supports a computer's basic functions, such as scheduling tasks and controlling peripherals).

If you want a little extra practice:

Video

Check out the original video on which the reading text is based here:

WATCH VIDEO »

Video

Check out a video ranking different programming languages:

WATCH VIDEO »

Fun stuff

If you want to put your coding skills to the test, check out these two resources:

CODEWARS »

LEETCODE »