

DAY 21–35 · Part 3 · What It Can Do

Part 3 Review — What It Can Do

From shrinking text to handing over a job · with the real terms · DAY 21-35

No test — a review to read through

Summarizing is choosing what to throw out

- 1 Summarizing isn't cutting a text off from the front.
- 2 AI skims the whole thing first, then asks of every sentence, **how important is this?**
- 3 Then it keeps only the high scorers and rewrites them in its own words.

Pulling out vs. writing anew

1 A summary that lifts sentences straight out of the original is called extractive summarizing.

2 What AI does now is **abstractive summarizing** — it writes new sentences.

3 That reads more smoothly, and that is exactly where words that weren't there get room to slip in.

Summaries taught by human ratings

- 1 A way to pre-train a model for summarizing alone came out in 2019.
- 2 In 2020 came a way to learn from summaries people had picked as good, and **quality jumped**.
- 3 People set the standard there — which is why you have to say your standard too.

Translation carries meaning, not words

- 1 Translation isn't swapping one word for another.
- 2 You catch the meaning of the whole sentence first, then **build it again in the other language.**
- 3 That's why a word-by-word 'You're taking my hair' says nothing to an English ear.

From swapping a dictionary to catching meaning

- 1 Older translators swapped words and short chunks using statistics.
- 2 Now, as you saw on DAY 14, the words in a sentence **look at each other** so the meaning gets caught first.
- 3 A word like bank has several meanings, and you can only pick one by reading what comes before and after.

2016, the year the service changed

- 1 The design that holds meaning in a middle slot and builds a new sentence from it was proposed in 2014.
- 2 Google put it into its live translation service in 2016, **Chinese to English first**.
- 3 That's why feeding in a whole passage gives steadier results — the model picks words with the context in view.

Pieces to hand over, pieces to keep

- 1 AI isn't a machine that writes for you — it's a tool for turning your own writing over and looking at it.
- 2 Your ideas, your experience and checking the facts stay **yours**; tightening and shortening you can hand over.
- 3 Whatever AI writes still goes out with your name on it.

Why the choosing can't be handed over

- 1 AI is good at making plausible sentences, but what matters comes out of your purpose.
- 2 So hand over the boxes where judgment lives and **the writing stays while your writing disappears.**
- 3 UNESCO's 2023 guidance said the same thing: students should keep hold of the judgment.

The last gate is reading and nodding

- 1 The last gate is keeping only sentences you can read and nod at.
- 2 Numbers and quotes whose source you couldn't find are **better deleted**.
- 3 A report on how students actually use AI came out in 2025 too.

Getting the code is only the start

- 1 It's true that code comes out when you describe what you want.
- 2 But the real half of coding sits **after the code appears.**
- 3 Running it, reading the errors and fixing them — that's where it lives.

Code that looks right vs. code that runs

- 1 The judge isn't your eyes, it's the result of running it.
- 2 In a 2021 evaluation, a code model got a problem right on the first try **about three times in ten.**
- 3 So the habit of running a test alongside is the skill itself.

The year a helper became everyday

- 1 A code-completion tool opened to every developer in 2022.
- 2 More tools, but **the checking box** stayed with people, exactly where it was.
- 3 Being able to read an error turns out to be what lets you use the tool at all.

Drawing by clearing away the speckle

- 1 A picture AI doesn't fetch a picture from somewhere.
- 2 It starts from a screen full of dots and draws by **clearing the speckle away bit by bit.**
- 3 Your description is the handle that sets which way the clearing goes.

Diffusion — from noise to a picture

- 1 Training practices covering a picture in noise; drawing practices undoing it the other way.
- 2 The name for this approach is a **diffusion model**.
- 3 In 2021 came a way to do the clearing in a compressed space instead of on the full-size picture, and speed jumped.

The year it took to open up

- 1 In 2021 DALL·E showed this kind of picture AI to a wide audience for the first time.
- 2 In 2022 **a model was released openly** so anyone could download and use one.
- 3 Adding three or four elements at a time and fixing as you go beats cramming everything in at once.

Thirty pictures per second

1 Video isn't a moving picture — it's still pictures stitched together fast.

2 One second usually holds **twenty-four to thirty** of them.

3 So making video is tens of times heavier than yesterday's picture-making.

The weight in numbers

- 1 One picture is called a frame, and one dot inside it is a pixel.
- 2 A ten-minute video comes to **about 37.3 billion pixels**.
- 3 The volume is large, but the harder part is that you can't draw each frame on its own.

Toward imitating a world

- 1 Research stretching the diffusion approach along the time axis came out in 2022.
- 2 In 2024 came a piece describing video generation models as **simulators of a world**.
- 3 The longer it runs, the harder remembering what came before gets — that's the homework still left.

It listens by chopping sound up small

1 AI doesn't take in your speech whole.

2 It writes the sound down as numbers 16,000 times a second and sweeps it with **a 25-millisecond window**.

3 Each piece on its own is just a pattern of highs and lows.

Speaking is the same road backwards

- 1 From letters it builds a pattern of highs and lows, then stamps out vibration values and sends them to the speaker.
- 2 That's **more than 16,000 stamps** a second.
- 3 In 2016 came a way to generate those vibration values directly, and machine voices moved much closer to human ones.

Noise and dictation

- 1 The less noise mixed into each piece, the clearer the pattern.
- 2 In 2022 a dictation model trained at scale on many languages and noisy audio was **released**.
- 3 It's the same story behind why a dictation app works better in a quiet room.

A list of places, or one solid block

- 1 Search doesn't give you an answer, it gives you a list of places to go.
- 2 AI takes what it has already read and builds **one solid block of sentences.**
- 3 There's only one thing to read, so it's fast — but where the words came from isn't written down.

Answering from memory vs. answering after fetching

- 1 If a model answers only from what it memorized, no source is left behind.
- 2 A way to have it **fetch the material first** and then answer came out in 2020.
- 3 Even so, the fetched material and the answer can drift apart, so the checking stays exactly where it was.

If it's going into homework

- 1 The trick is splitting jobs by whether a source is needed or not.
- 2 If the sentence is going into homework, in the end **you click through to the original** once.
- 3 What that 2023 study measured was precisely that degree of support.

What speeds up is the front end

- 1 Researching with AI makes starting faster.
- 2 It throws out search terms and outline options quickly, so **the finding-and-sifting front end** is what speeds up.
- 3 Numbers, years, people's names and quotes you have to click through and check yourself.

Breaking the checking into steps

- 1 Instead of believing the answer as given, a method of splitting it into questions to check and asking again came out in 2023.
- 2 Statistics from the body that published them, quotes **straight from the book.**
- 3 A number copied by someone else sometimes changes in the copying.

Tools that go and find things themselves

- 1 In 2025 came tools that roam the web and bring research back on their own.
- 2 The faster it gets, **the more there is to check.**
- 3 Decide up front which pieces need your hands and you won't get knocked around.

Just the answer, or the steps?

- 1 Ask about the same problem and what comes back changes completely depending on whether you asked for the answer or the steps.
- 2 There's one test for choosing — **will I have to do this on my own later?**
- 3 If you'll be on your own, take the steps; if you only need to know whether it's right, take the answer.

Why steps help

1 Answer only, all at once, and the middle of the calculation gets squashed out of sight.

2 Write the steps out and you can **check each box on its own.**

3 In 2023 came a method that teaches by grading whether each step is right.

The one step that makes it yours

- 1 Ask again about only the box you got wrong and the explanation comes back short and precise.
- 2 Taking the steps for something you only need graded is **a waste of time.**
- 3 Knowing where the hole is makes the question you ask shorter — that's the trick of this lesson.

Collect → table → fix → chart

1 You can't chart scattered material straight away.

2 A table has rules — **one row per case, one value per cell.**

3 Line things up like that and both you and AI can calculate right away.

Tidy rows as a standard

1 A piece laying out 'one row per case, one value per cell' as a standard came out in 2014.

2 Blanks have to be written in too, as **no answer**, or they can't be counted later.

3 Line the rows up in a table and the answers you get from AI are far more accurate too.

Leave the arithmetic to code

1 Instead of having it add numbers in its head, have it write calculation code and the mistakes drop.

2 This method was **written up in 2022**.

3 Which is why making the table well comes before the chart.

A talk breaks into pieces

- 1 Preparing a talk isn't one lump.
- 2 Narrowing the topic, gathering material, building slides, rehearsing — it **breaks into pieces**.
- 3 The pieces AI is good for are the rough draft and the labor-heavy work.

Where you spend the time the draft saved

- 1 Listing outline options and shortening long material are pieces you can fix yourself if they come out wrong.
- 2 Spend the time you save there **on rehearsing**.
- 3 UNESCO's 2023 guidance says the same: students keep hold of the judgment.

The questions come to you

- 1 In the room, you are standing there alone.
- 2 So check numbers where they were first published and quotes **in the original**, and write the sources down.
- 3 In 2025 AI tools made for schools arrived as well, but the checking box is unchanged.

The knob between boring and off-the-wall

- 1 AI picks the next word by probability.
- 2 Grab only the high-probability ones and it turns boring; **reach down to the low ones** and it turns odd.
- 3 That handle for widening and narrowing really exists, and it's called temperature.

How a word gets drawn from probability

- 1 Grabbing only the single highest option makes text repeat itself.
- 2 So a way of drawing from only part of the high-probability side was **written up in 2019**.
- 3 Real temperature values usually run between 0 and 2.

Draw many times and see what overlaps

- 1 A method of drawing the same question many times and taking the most-overlapping answer came out in 2022.
- 2 Pulling wide and **picking well** are a pair.
- 3 Making a pile of candidates is AI's strength; picking is yours.

Goal → break up → order → check

1 When you're stuck, don't ask AI for the answer — ask it to break the job up.

2 Planning isn't knowing the right answer, it's deciding **what to do first**.

3 Goal, break up, order, check — fill those four boxes and you have a plan.

Break it small and it solves better

- 1 Split a hard problem into small ones and have it solve them in turn, and it does better than being asked whole.
- 2 This method was **written up in 2022**.
- 3 A style of planning first and solving afterwards came out in 2023 as well.

Mistakes show up box by box

1 Ask for the four boxes one at a time and where it went wrong shows up box by box.

2 Find out on the last day and **there's no time left to fix it.**

3 Writing the thinking out in steps spread widely from 2022 for the same reason.

If you can undo it, hand it off

- 1 An AI that takes only a goal and then searches, opens files and retries on failure by itself is called an agent.
- 2 There's really one test for what you can hand over — **can you undo it when it's wrong?**
- 3 A file name you can undo; money sent and a report handed in you cannot.

Why many steps are hard

- 1 One wrong step in the middle throws the whole thing off.
- 2 So a style that makes it **alternate** thinking and acting came out in 2022.
- 3 In 2023 evaluations built to measure this kind of work arrived too.

Checks are what let you hand over more

- 1 Slot in a box where a person looks and you can safely hand over more.
- 2 Scores have risen a lot since, but it still doesn't mean **handing it over is free**.
- 3 Anything with someone's feelings in it, don't hand over — write it in your own words.

**Pick by probability, read the neighbors, split into steps.
The last box always stayed with a person.**



Part 4 looks at what to watch out for.