

Algorithms, Data and Digital Business

Three rehearsal labs: investigate a record, trace a decision, and defend a business claim.

Print and write. This page has no digital answer fields. Complete calculations, explanations and corrections in your paper lab record. Hand the record directly to your teacher at the end of the lab. These are feedback activities; they do not add marks to the existing quiz or replace the independent redesign assessment.

Use a calculator, paper and the named teaching deck. Predict before using a simulator. All datasets and dollar amounts below are synthetic. Provider sources supply real-world context, not the formulas used here.

[Assignment route](#) · [Chapter knowledge and reflection](#)

What does a viewing record actually tell us?

Your brief: A fictional community-event platform wants to estimate which topics interest visitors. Decide whether its viewing log is suitable evidence. Reading: pp. 72–74. Preparation: [Data and analytics teaching deck](#).

Synthetic event-platform log. Blank means unrecorded.

ID	Topic	Clip length (seconds)	Watched (seconds)	Session
E1	Music	20	18	V1
E2	Music	20	18	V1
E3	Food	30	15	V2
E4	Art	40	blank	V3
E5	Food	30	45	V4
E6	Art	10	8	V5

Different-case example: A 12-second museum clip played for 6 seconds has a recorded completion ratio of 0.5. That is a duration ratio, not proof of enjoyment. A replay can make total viewing exceed one clip length; investigate before calling it impossible.

- 1. Predict individually — 3 minutes:** Which topic seems most popular? State your measurement and one assumption.
- 2. Investigate in pairs — 10 minutes:** Annotate every questionable record. E1/E2 might be a duplicate or a genuine repeat; E5 might record replay or an error. State what extra information would distinguish these possibilities. Keep the original log unchanged.
- 3. Compare — 7 minutes:** Calculate Music’s mean watched seconds with both rows, then with one provisionally excluded. Why can an unchanged mean still conceal a distorted count? Calculate Art’s mean for recorded values only, then with the blank assumed zero. Label the denominator and assumption in each result.
- 4. Explain individually — 5 minutes:** Choose a defensible cleaning policy and give an alternative interpretation of viewing. Identify one veracity issue and one limitation of using this small dataset.
- 5. Correct — 5 minutes:** Swap explanations. Challenge one assumption. Retain your first response and add a dated correction. Do not silently replace it.

Check your work: Your record identifies observed versus inferred information, shows both denominators, explains a cleaning choice, and states a limit. A blank is not automatically zero. More rows cannot by themselves repair a biased collection method.

Fresh individual check: A second platform records only signed-in viewers. Explain one claim it can support and one population-level claim it cannot yet support.

Real-world connection: Read the interaction-signals section of [TikTok’s 2020 provider explanation](#). Locate one recorded signal and explain a possible inference. It is a historical provider account, not disclosure of current scoring weights.

One dataset, two objectives

Your brief: A fictional event platform ranks notices. Its editor wants newcomers to encounter accessible activities as well as familiar interests. Explain the rule before proposing a change. Reading: core 3.2A–E, pp. 81–89. Preparation: [Algorithms](#) and [algorithmic dilemmas](#).

The practice rule is `score = 3 × interest_match + completion_ratio`. Match is 0 or 1. Rank larger scores first; break equal scores by notice ID alphabetically. All notices are eligible initially.

Synthetic notices. This is not the independent assessment dataset.

ID	Activity	Match	Completion ratio	Newcomer suitable
A	Open studio	1	0.60	1
B	Advanced ensemble	1	0.90	0
C	Beginner cooking	0	0.80	1
D	Community choir	1	0.60	1

Different-case example: A gardening notice with match 0 and completion 0.4 scores 0.4. A condition such as “include only notices with complete measurements” is a filtering rule; the score orders those that remain. Keep these operations distinct.

- 1. Predict individually — 3 minutes:** Sketch the likely order without calculating every score. Identify the tie-break rule.
- 2. Trace in pairs — 8 minutes:** Calculate the four scores and sort them. Write a finite loop that visits each notice once. Name the input, changing variable, condition if any, and stopping point.
- 3. Redesign — 8 minutes:** Choose a newcomer weight from 0 to 4 and add `weight × newcomer_suitable` to the practice rule. Predict which positions may change, recalculate, and explain one changed or unchanged position. You choose the weight; there is no universally correct value.
- 4. Test — 6 minutes:** Write a new boundary case with a missing ratio or a tie. State the handling policy before testing it. Then use [Tune the Feed](#) to examine a similar relationship on its separate dataset. It cannot check your notice-table arithmetic.
- 5. Defend individually — 5 minutes:** Explain the intermediate calculation, one stakeholder trade-off, and what evidence would be needed before claiming the rule improved participation.

Check your work: Retain prediction, original scores/order, chosen rule, new scores/order, boundary test and defence. Correct arithmetic does not settle whether an objective is fair. This synthetic rule cannot predict a real platform’s audience behaviour.

P1-style formative application: Explain how the changed objective could alter visibility for a notice publisher. Use an intermediate operation and qualify the consequence. No new scored task or maximum is assigned.

Independent boundary: Put this rehearsal away before the registered `ibds-26-s03-d08` /8 task. Use its original dataset, instructions and permitted conditions.

Percentage of what—and evidence for whom?

Your brief: A fictional creator is choosing between long-form and short-form production. Evaluate what a revenue-share statement establishes. Reading: pp. 213–219. Preparation: [Business and labour teaching deck](#).

Advertiser pays → platform applies its revenue rules → eligible creator receives a share

The arrows describe an exchange. The amount available to share and the applicable conditions still need evidence.

Real source: [YouTube’s partner earnings overview](#), checked 11 October 2026, describes a 55% share of net Watch Page advertising revenue and a 45% share of allocated Shorts Creator Pool revenue under the relevant modules. Those are different bases. The rates alone do not establish an individual creator’s income.

Different-case example: In a fictional licensing agreement, 20% of a \$50 eligible base is \$10. Twenty per cent of total sales would be a different calculation if only part of those sales was eligible.

Hypothetical amounts for arithmetic only; not real earnings forecasts

Case	Specified eligible base	Share used in this exercise	Creation time
Long-form example	\$300 net Watch Page advertising revenue	55%	10 hours
Short-form example	\$600 already allocated Creator Pool revenue	45%	20 hours

- 1. Predict individually — 3 minutes:** Is the larger percentage enough to choose a format? Give a reason before calculating.
- 2. Calculate in pairs — 7 minutes:** Find each hypothetical payment and payment per stated creation hour. Label both bases. These ratios omit expenses, unpaid work and tax; do not call them wages or profit.
- 3. Read and locate — 7 minutes:** Find the provider’s revenue-share terms. Record the heading, provider purpose, one supported claim and one unanswered question. Identify a source you would seek for workers’ experiences; do not invent its findings.
- 4. Decide individually — 8 minutes:** Explain a conditional recommendation. Connect a platform rule to a creator opportunity or risk. State a cost or uncertainty and the evidence that could change your recommendation.
- 5. Converse and correct — 5 minutes:** A partner challenges your denominator or inference. Record the challenge, retained original claim and your correction. Your teacher may ask you to explain it aloud.

Check your work: Accurate bases and calculations; a claim tied to an exact source locator; a clear distinction between provider terms and evidence of lived outcomes; a conditional judgement.

P2-style formative preparation: Explain how an independent worker study could complement this provider source and where their purposes might differ. This exercise has one supplied source, so it is preparation for synthesis—not a full two-source Paper 2 response. Use both assigned provider/regulator sources in the original `ibds-26-s03-d07` synthesis.

Later retrieval: Without notes, explain a new percentage statement’s denominator and one reason a technical efficiency gain might not improve every worker’s experience.

These labs rehearse existing learning targets and preserve the original assessment identities and marks. Independent assessment answers remain private. Paper lab records are handed directly to the teacher. Use the separate chapter Form for the assigned independent knowledge check; the Form does not upload your paper lab. School-account checks are reported separately from author testing.