datacamp

DataCamp Skill Assessments

An effective and reliable tool for data and AI skill assessment

Whitepaper, 2026

What are DataCamp Skill Assessments?

DataCamp Skill Assessments are online, adaptive assessments that use state-of-the-art techniques from adaptive testing and psychometrics to accurately measure data and AI skills.

Data and AI skills are essential for any organization to remain competitive, but without a scalable means of assessing skills, it can be difficult to know where you stand. Skill Assessments solve this problem by helping you understand how skills are distributed within your organization: across departments, teams, and individuals.

They achieve this through a guided learning process. When a learner completes an assessment, they receive a score (0-200), a percentile (0%-100%), and an associated proficiency level based on their performance. By diagnosing the learner's most prominent strengths and skill gaps, Skill Assessments provide a list of personalized learning recommendations to address their gaps. As learners improve their skills over time by completing the recommendations, they can retake the assessment to measure their progress.



Figure 1. An example results screen: a score on the 0–200 scale, the learner's percentile, and their level.



Figure 2. The guided learning process: learners take an assessment, receive personalized recommendations based on their gaps, complete them, and retake the assessment to measure their progress.

How does it work?

DataCamp Skill Assessments are built on decades of research into test theory, with a focus on building statistical models to answer three key questions:

1 Which questions yield the most information about a learner?

Skill Assessments use Item Response Theory (IRT) to estimate how difficult questions are, how effectively they separate beginners from experts, and ultimately to estimate an individual learner's skill level. In IRT models, questions yield the most information when their difficulty matches a learner's skill level. Depending on the topic, assessments combine conceptual questions with hands-on challenges that require learners to write code and work with data, which gives us more information about their actual skills.

2 How can we adaptively select better questions as an assessment progresses?

Skill Assessments use Computerized Adaptive Testing (CAT) to estimate a learner's skill as they progress through an assessment. When a learner answers correctly, the next question is harder; when they answer incorrectly, it is easier. This allows the assessment to select increasingly more informative questions, so that only 15 questions, typically completed in around 10 minutes, are needed to obtain a high degree of information on a learner's skill level. Every learner receives a different set of questions, balanced across the different subskills of the topic, yet all scores are reported on the same scale. This makes scores directly comparable between learners, teams, and over time.

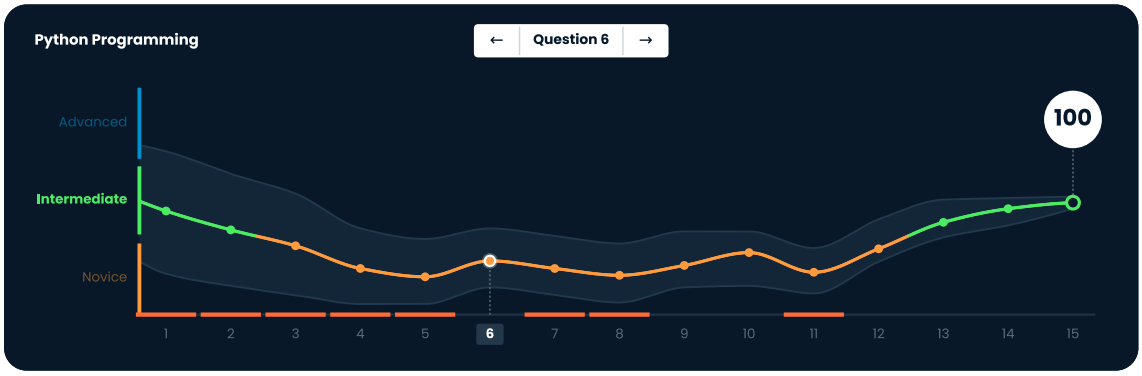


Figure 3. How a learner's estimated skill level evolves during an adaptive test. After each question the estimate is updated, and the next question is selected to match it.

3 How can we use data from many assessments to improve their overall effectiveness?

By using assessment data from thousands of DataCamp learners, Skill Assessments continuously refine their estimates of how difficult and discerning of skill-level questions are. New questions are reviewed by subject matter experts and first tried out in live assessments without counting towards anyone's score, until we know exactly how they behave. This information is also used to flag questions that may not be indicative of skill, to keep the question bank up to date as technologies evolve, and to report a learner's standing relative to other learners.

What skills does it measure?

Skill Assessments focus on the data and AI skills that matter most, to take the guesswork out of what your teams need to know. More than 40 assessments are available, covering for example:

AI literacy

AI Fundamentals, AI Leadership Fundamentals, ChatGPT Fundamentals, OpenAI Fundamentals

Data literacy

Analytic Fundamentals, Data Storytelling, Data Visualization, Data Governance Fundamentals

Data and AI technologies

Python, R, SQL, Machine Learning

Business intelligence and cloud

Power BI, Excel, Databricks, AWS, Azure

How do we know the scores can be trusted?

1 Scores are consistent

The consistency of an assessment is often evaluated using a measure called test-retest reliability: the correlation between learners' scores when they take an assessment twice. When learners retake one of our assessments within a week, they receive a different set of questions, yet their scores line up closely. Across our assessments, median test-retest reliability is around 0.75 (0.78 for AI Fundamentals). The closer this value is to 1, the more consistent scores are, with a value above 0.7 often cited as an acceptable standard[1].

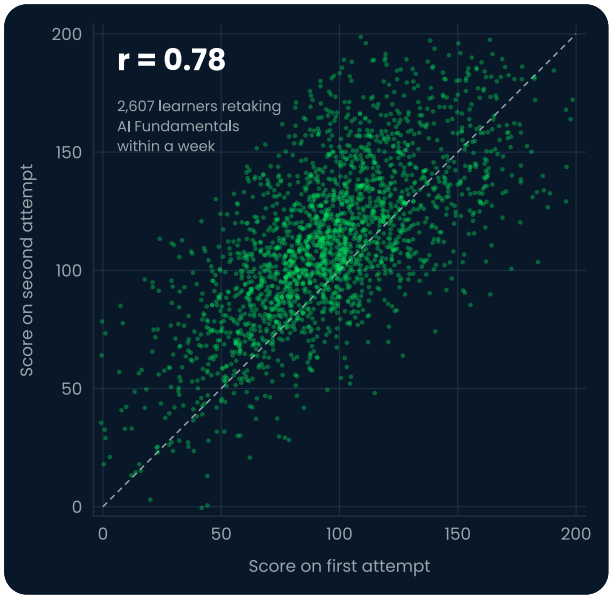


Figure 4. First- and second-attempt scores of learners who retook the AI Fundamentals assessment within a week in 2026. Each dot is a learner and the dashed line marks identical scores.

2 Learners recognize themselves in their score

93%

agreed with their score in 2026

After each assessment, learners are asked whether they agree with their score. In 2026, 93% of learners agreed with the score they received.

[1] See for example: Nunnally Jr, J. C. (1970). *Introduction to psychological measurement*. McGraw-Hill.

3 Scores predict performance on certification exams

Many learners go on to take a DataCamp certification exam, a separate, high-stakes exam. The higher the proficiency level on the skill assessment, the more likely a learner is to pass the related certification exam on their first attempt:

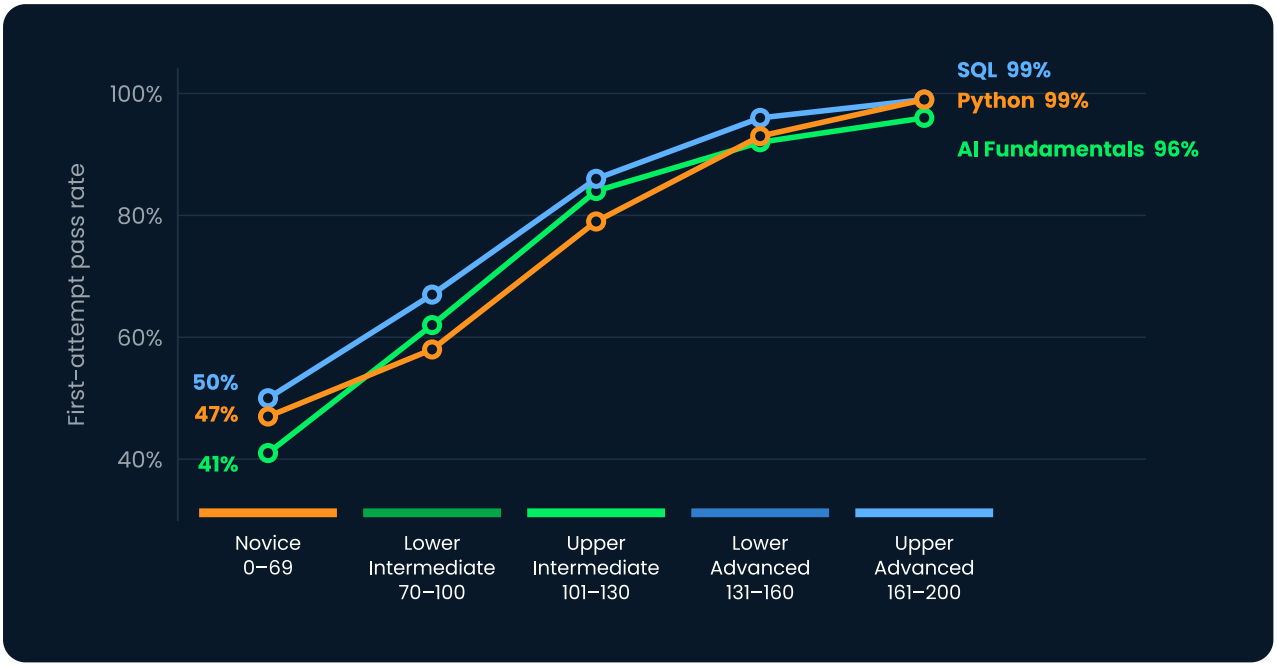


Figure 5. First-attempt pass rate on the related certification exam, by proficiency level on the skill assessment taken beforehand (more than 23,000 learners).

4 Scores capture skills growth

We looked at learners who took the AI Fundamentals assessment before starting the AI Fundamentals track, and again after completing it. Learners who started at the Novice level increased their score by more than 60 points on average (from 58 to 119), moving from Novice to Upper Intermediate, and 94% of them moved up at least one proficiency level. Across all learners, the average score increased by about 35 points, and two out of three learners moved up at least one proficiency level.

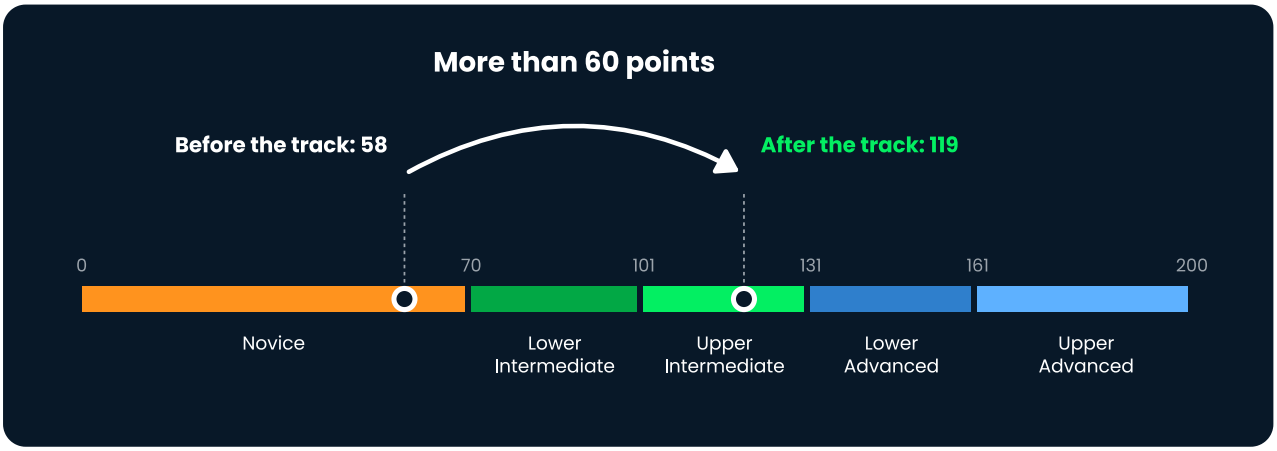


Figure 6. Average AI Fundamentals assessment score of learners who started at the Novice level, before starting and after completing the AI Fundamentals track, shown against the five proficiency levels.