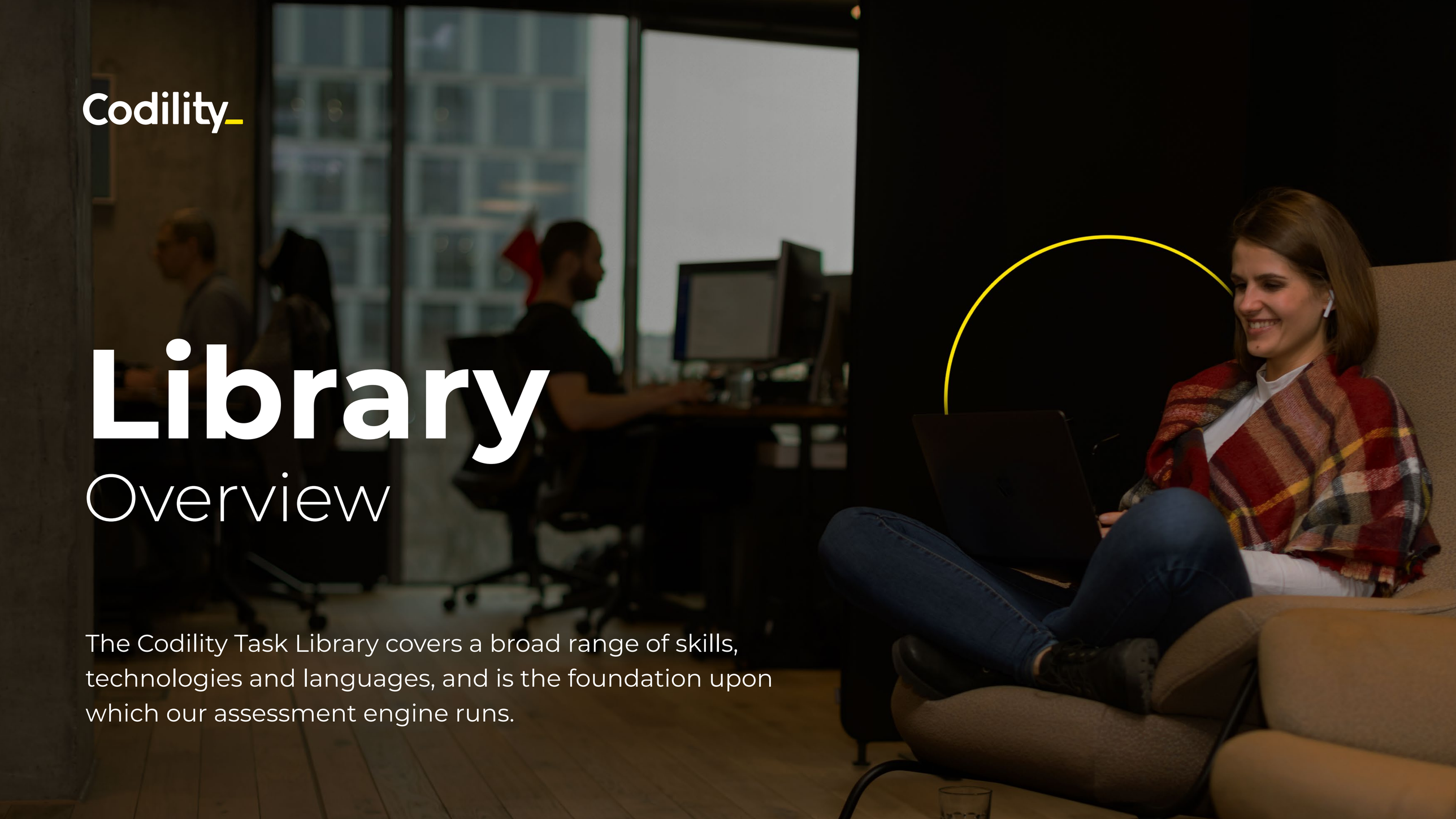
Codility_

Library
Overview

The Codility Task Library covers a broad range of skills, technologies and languages, and is the foundation upon which our assessment engine runs.



Evaluate candidates for every role and seniority level

Codility's key focus is to maintain the highest quality standards needed to ensure your team gets reliable insights into your candidates' capabilities. This is what sets us apart.

Assess Real-life skills

Created in partnership with industry experts, real-life engineering tasks must reflect actions which an engineer would actually have to do daily. These are the key evaluation criteria for the initial task scenario brainstorm - and this is why we partner with industry experts to build these tasks. The task must not be too generic, but must be open-ended, allowing multiple ways of tackling the problem.

Roles covered: Back-end Developer, Data Engineer & Scientist, DevOps Engineer, Front-end Engineer, Mainframe Developer, Mobile Developer, QA Engineer, Security Engineer and more

Challenge mid and senior candidates with Project Tasks

Project Tasks have a natural, multi-file project structure, which closely replicates things that developers do in their daily work (which means working with the complex codebase and applying changes by adding/refactoring a lot of files with every change).

Test fundamentals of programming skills

Coding The ability to write correctly compiling code to solve problems	**Algo** The ability to write scalable code scored with time complexity	**Bug Fixing** The ability to refactor existing code using minimal changes	**Regular Expression** The ability to write text strings to search for particular patterns
Variant Coding tasks with a randomized element, great for extra plagiarism protection	**5 minutes** Very short coding tasks which provide a reliable signal on a candidate	**20 minutes** Short coding tasks which still provide a well-rounded signal	**Application Security** Audit the code against any security flaws

Check Technical Knowledge

Depending on your candidate's role, adding quick timed knowledge-specific question sets helps validate their domain experience. Our multiple choice question sets cover 10 questions around a certain topic, such as:
Android, AWS, Azure, Bash, Data Science, Frontend principles, Git, Haskell, iOS, Java, Mobile, MySQL, QA, Scrum, Spring and System Administration.

Highlight candidates with the right combination of skills with Weighted Scoring

Adjust the weights of tasks within your tests for the best possible signal. This feature gives you more freedom to design tests that will reflect your needs even closer. Add more weight to tasks that are essential for the role you want to fill

Our assessments are **fueled by science and research**

Candidate Scoring

In use with candidates, their score is determined by running the code they submitted against a number of tests, checking that it produces correct results within specified time limits. We take into account both correctness and performance, and can assess code style as well.

Task Difficulty

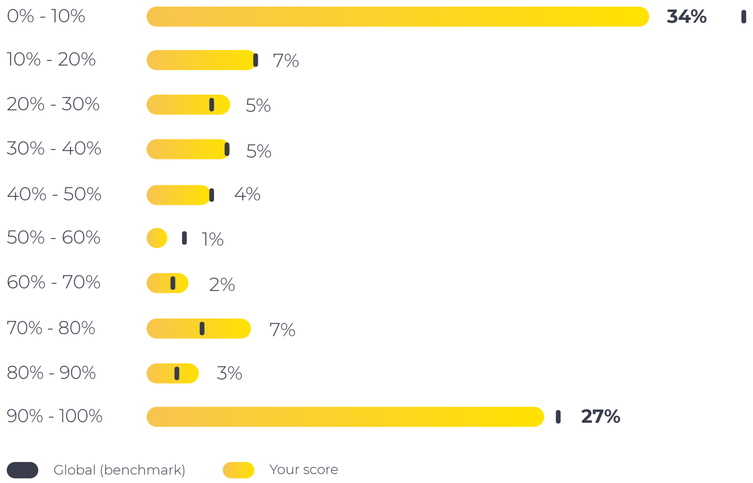
In the first release, tasks are introduced to our library with a difficulty level based on our internal standards. This involves team members reviewing and beta-testing the task, assigning a difficulty rating based on a 90% pass rate.

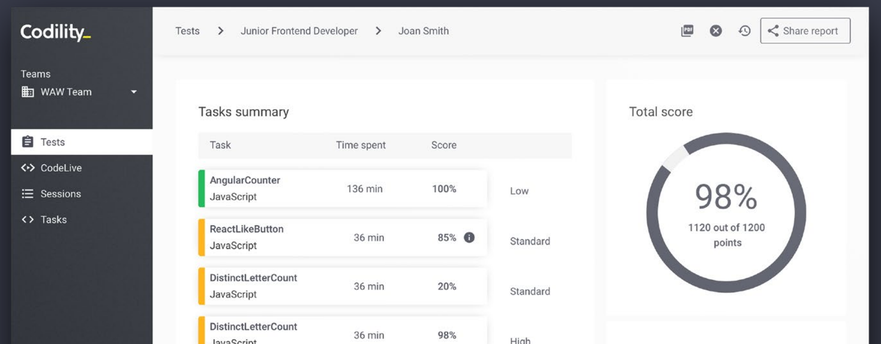
Task Monitoring

We review live tasks at key usage and time milestones for pass rates (difficulty validation) and similarity activity (leakage check which may trigger DMCA actions).

Score Histogram

Example report about your candidates' performance compared to global average score





View Example **Candidate Report**

see more

Task Creation Process Overview:

01 Sketching task ideas, descriptions, and possible solutions

02 Driving task creation with automated tests and solutions

03 Task hardening, testing cases and verifying edge cases

04 Proofreading, language checks, and alpha testing

05 Publishing the task into the relevant task library

06 Task review (cyclical, or triggered by user feedback)

Rest assured that **your hiring process is fair and secure**

While the majority of your candidates have no intention of misconduct, Codility minimizes the ability of candidates to attempt to cheat on their CodeCheck sessions. We are able to identify positive acts of suspicious behavior, and notify you when this may have impacted the scoring of a specific Candidate Report.

01 **Anonymized Candidate Reports**

Pushing our anti-bias measures even further by giving recruiters an option to anonymize candidates' reports. With this feature on, reviewers won't see personal data of candidates, only their code.

02 **Plagiarism Context**

The overall rate of plagiarism sits between 2% and 4% globally. The biggest difference we see in attempting to cheat on a CodeCheck session is by location.

03 **Copy-pasting Code**

The Codility editor allows pasting code from external editors directly into the interface. This is a design choice - giving flexibility to the candidate to use their own coding environment correlates with higher satisfaction.

Plagiarism Prevention

Web Crawling for Leaked Tasks

We automatically catch leaked tasks. Action is taken immediately to remove solutions online where possible (via DMCA requests and agreements), and when needed, either changing or replacing leaked tasks.

Web Crawling for Leaked Solutions

We also check for leaked solutions. If found, we add these to our Similarity Checker so future attempts to use leaked solutions will be detected.

Randomizers and Variant Tasks

If you are running campus recruiting, consider using a Task Randomizer or Variant Task, which sends each candidate a slightly different version of the test or task, with an even level of difficulty.

Direct Invitations

Unlike other platforms, each invite sent is unique to that candidate and may only be attempted once.

Plagiarism Detection

Similarity Check

Our flagship method for catching plagiarism. Every piece of code typed or submitted in Codility is automatically cross-checked against every other submission we've ever received. Similarity Check also flags attempts to make superficial changes to mask plagiarism activity.

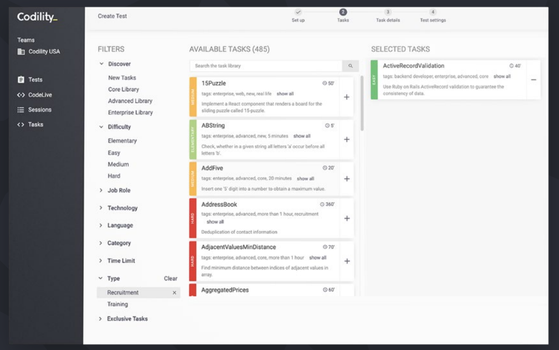
Pasted Code Flag

While pasting code is not always suspicious, we inform you every time your candidate does it so you can see what was pasted, what the candidate did with that code, and whether any similarities were then raised.

IP Address Tracking

Most candidates should use one IP address when completing their test. When they use multiple, we flag it, and show you how many and in which locations so you can easily differentiate between honest and suspicious behaviour.

Create tasks that are **designed especially for your workflows**



Exclusive Tasks

While the Codility library offers a great range of tasks and questions ready for you to use, sometimes, you need something specific, highly-tailored to your team. There are no limits on how many Exclusive Tasks you can create, and once published, they are shared amongst your teams.

There are four categories you can create directly in the Codility interface:

- **Coding Tasks**
  Automatic grading, plagiarism detection applied
- **Multiple Choice Questions**
  Automatic grading
- **Upload Tasks**
  Manual grading
- **Free-Form Questions**
  Manual grading

For when you need to have something unique in your task library but don't have a team to develop it or you prefer to rely on Codility - after all, that's our speciality - you can reach out to us and we will build Exclusive Tasks for you.

To find out more about Exclusive Tasks, please contact your Customer Success Manager or support@codility.com.

List of supported technologies

Fundamental Tasks:

C99 (gcc 6.2.0)
C++14 (g++ 6.2.0)
C# 6.0 with .NET 4.5 (Mono)
Free Pascal 3.0
Go 1.4
HTML/CSS through upload tasks only
Java SE 8
Java SE 11
JavaScript ES2017 (Node 8.9.4)
Kotlin 1.3.11
Lua 5.3
Objective-C 2.0
Perl 5.18
PHP 7.0
PostgreSQL 9.4
Python 3.6
Ruby 2.2
Scala 2.12
SQLite 3.11.0
Swift 4.2.1 (Linux)
VB.NET 4.0 (Mono)

Real-life tasks:

.NET core 2.1-3.0
Angular 4.3.6 (TypeScript 2.4.0)
Android 27
Ansible 2.8
Bash 4.3 - 5
Chef 4.7.73
COBOL OpenCOBOL 1.1
Cucumber 6.0.5
Docker (docker-compose) 3.7
Docker (Dockerfile) 19.03
Elasticsearch 7.9.1
GitLab CI 12.8.6
Go 1.13.8-1.14.3
Hibernate 4
Helm 3.0.2
Java SE 8 U171
jQuery 2.1
jUnit 4.12.0
Kotlin 1.3.21
Kubernetes 1.16.0
Laravel 5.6.21
Mocha 6.2.2
MongoDB 4.2
MySQL 8.0
Node.js 11.14.0 - 13.5.0 (most tasks use 12.6.0)
PHP 7.2.7 - 8.0.0
PostgreSQL 10.4
PowerShell 7.0.0
PySpark 2.4.5
Python 3.6.0 - 3.8.1 (most tasks use 3.8.1)
React 16.8.6 - 16.9.0
Redux 4.0.5
Robot Framework 3.0.4
Ruby 2.5.1
Rails 5.1.6
RSpec 3.8.0
Selenium 3.13.0
Serverless Framework 1.67.3
Solidity 0.4.23 (Node.js version 9.11.1)
Spark 2.4.5
SQLite 3.11.0
Swift 5.1.0
Terraform 0.12.20
TypeScript 4.0.3 (non-Angular tasks)
Vue.js 2.6.10
xUnit 2.3.1
Spring Framework 5.1.5 - 5.1.8
Spring Boot 2.0.5
Spring Web MVC 5.0.7

Additional Frameworks / Libraries (available in selected tasks):

aiohttp 3.4.4
async-timeout 3.0.1
automapper 9.0.0
Django 2.0.5
flask 1.0.2 - 1.1.1
kafka 2.12.0
lodash 4.17.14
ML.NET 1.3.1
guice 4.2.0
serverless 1.43.0
dynamodb-local 11.11
lombok 1.18.4
dropwizard-core 1.3
chai 4.2.0
sinon 7.5.0
nock 11.7.0
protobuf 3.13.0
puppeteer 5.2.0

Data Science Tasks:

Python 3.8.0
R 3.6.1
NumPy 1.17.4
Pandas 0.25.3
scikit-learn 0.21.3
scipy 1.3.3
imbalanced-learn 0.4.3
gensim 3.8.1
nltk 3.4.5
caret 6.0-86
tidyverse 1.3.0

CodeLive Templates:

C99
C++14 (with Catch2)
C# (with xUnit) core 2.1
Golang (with testing) 1.12.4
Java (with JUnit 5) SE 8 U171
Kotlin (with JUnit 5) 1.3.21
Node.js (with Jest or Mocha) 11.13.0
Objective-C 2.0.0
PHP (with PHPUnit) 7.2.7
PostgreSQL 10.4.0
Python (with PyTest) 3.7.0
Python (Data Science) Python 3.8.0, NumPy 1.17.4, Pandas 0.25.3, scikit-learn 0.21.3
Ruby (with RSpec) 2.6.2
Scala (with Scalatest) 2.12.3
Swift (with XCTest) 5

Library breakdown

Job Role / Library	Full 700+ tasks giving you full access and covering niche technologies and skills	Advanced 580+ tasks covering a wider pool of skills and technologies for all your open roles	Core 320+ tasks assessing fundamental and real life engineering skills covering the basics for your team
Fundamental Skills	Access to **all language-agnostic tasks** covering the fundamental skills of engineering like bug fixing, writing algorithms, and unit testing. All difficulty levels and time durations covered.	Access to **75% of language-agnostic tasks** covering the fundamental skills of engineering like bug fixing, writing algorithms, and unit testing. All difficulty levels and time durations covered	Access to **50% of language-agnostic tasks** covering the fundamental skills of engineering like bug fixing, writing algorithms, and unit testing. All difficulty levels and time durations covered.
Backend Engineer	Access to **all tasks** with more variety evaluating real-life skills in: Java, Hibernate, Spring, jUnit, .NET, xUnit, Python, Django, Node.js, Mocha, Solidity, Go, Ruby, Rails, RSpec, PHP, Laravel, MySQL, Kotlin, Swift, ASP.Net Core, Azure, Entity Framework, Flask, Swift, MongoDB, MySQL, Ruby on Rails, Spring, GraphQL and more	Access to a **broader selection of tasks** evaluating real-life skills in: Java, Hibernate, Spring, jUnit, .NET, xUnit, Python, Django, Node.js, Mocha, Solidity, Go, Ruby, Rails, RSpec, PHP, Laravel, MySQL, Kotlin, Swift, ASP.Net Core, Azure, Entity Framework, Flask, Swift, MongoDB, MySQL, Ruby on Rails, Spring, GraphQL and more	Access to **basic tasks** evaluating core skills in: Java, Spring, JUnit, .NET, xUnit, Python, Django, Node.js, Solidity, Ruby, Rails, RSpec, PHP, Laravel and Kotlin, ASP.Net Core, Azure, Entity Framework, Flask, Swift, MongoDB, MySQL, Ruby on Rails, Spring, GraphQL
Frontend Engineer	Access to **all tasks** with more variety evaluating real-life skills in: HTML, CSS, JavaScript, Typescript, Angular, React, Vue.js, and more	Access to a **broader selection of tasks** evaluating real-life skills in: HTML, CSS, JavaScript, Typescript, Angular, React, Vue.js, and more	Access to **basic tasks** evaluating core skills in: HTML, CSS, JavaScript, Typescript, Angular, Redux and React
Project Tasks	Access to **all project tasks** with more variety covering more complex skills in Java, Spring, Python, Django, Node.js, GraphQL, .NET, Azure Functions, PySpark, Kubernetes and more	Access to a **selection of project tasks** covering more complex skills in Java, Spring, Python, Djan-go, Node.js, GraphQL, .NET, Azure Functions, PySpark, Kubernetes and more	Access to **basic tasks** evaluating core skills in: Java, Spring, JavaScript, Ruby on Rails, .NET, C#, React, Redux, Chef, GraphQL
DevOps Engineer	Access to **all tasks** with more variety evaluating real-life skills in: AWS, MS Azure, Google Cloud Platform, Bash, Kubernetes, Docker, Ansible, Terraform and more	Access to a **selection of tasks** evaluating real-life skills in: AWS, MS Azure, Google Cloud Platform, Bash, Kubernetes, Docker, Ansible, Terraform and more	Access to **basic tasks** evaluating core skills in: Ansible, AWS Lambda, Bash, Docker, Chef, Google Cloud Firestore, GitLab CI, Jenkins, Kubernetes, Terraform
QA Engineer	Access to **all tasks** with more variety evaluating real-life skills in:, Selenium, Robot Framework, RestAssured, Cucumber, Puppeteer and more	Access to a **selection of tasks** evaluating real-life skills in: Selenium, Robot Framework, RestAssured, Cucumber, Puppeteer and more	Access to **basic tasks** evaluating core skills in: Selenium, Robot Framework, Mocha, Cucumber, Puppeteer
Mobile Developer	Access to **all tasks** with more variety evaluating real-life skills in: Kotlin, Android, Swift, iOS and more	Access to a **selection of tasks** evaluating real-life skills in: Kotlin, Android, Swift, iOS and more	Access to **basic tasks** evaluating core skills in: Android (Kotlin, Java), iOS (Swift)
Data Scientist	Access to **all tasks** with more variety evaluating real-life skills in: Python (NumPy, Pandas, Scikit-learn), R (Tidyverse), PySpark and more	Access to a **selection of tasks** evaluating real-life skills in: Python (NumPy, Pandas, Scikit-learn), R (Tidyverse), PySpark and more	Access to **basic tasks** evaluating core skills in: Python, R, Apache Spark, PySpark
Mainframe Developer	Access to **all tasks** with more variety evaluating real-life skills in COBOL	Access to a **selection of tasks** evaluating real-life skills in COBOL	✕
Application Security	Access to **all tasks** with more variety evaluating real-life skills in ensuring security of web applications	Access to a **selection of tasks** evaluating real-life skills in ensuring security of web applications	✕

