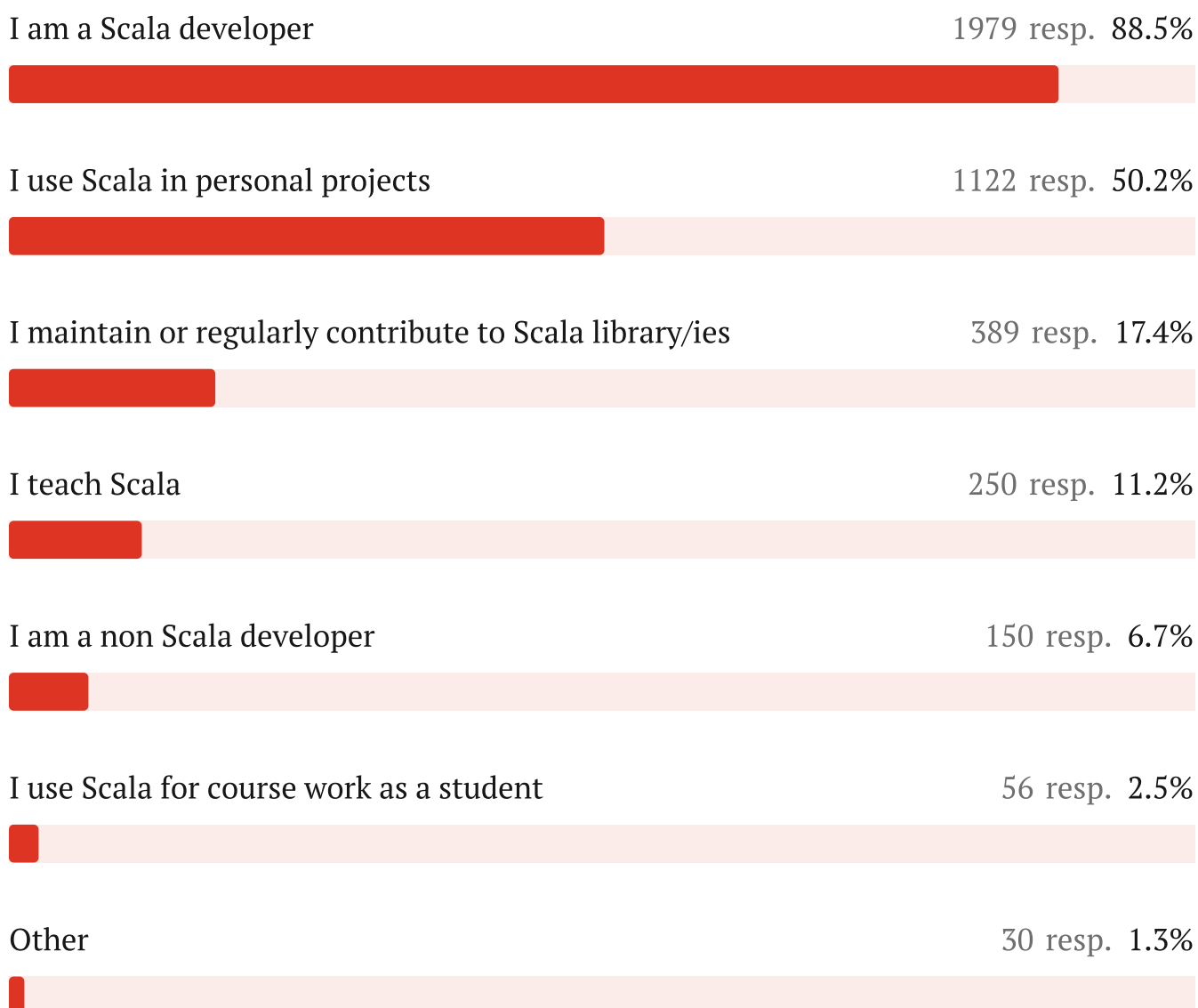# State of Scala 2022

2,236 responses
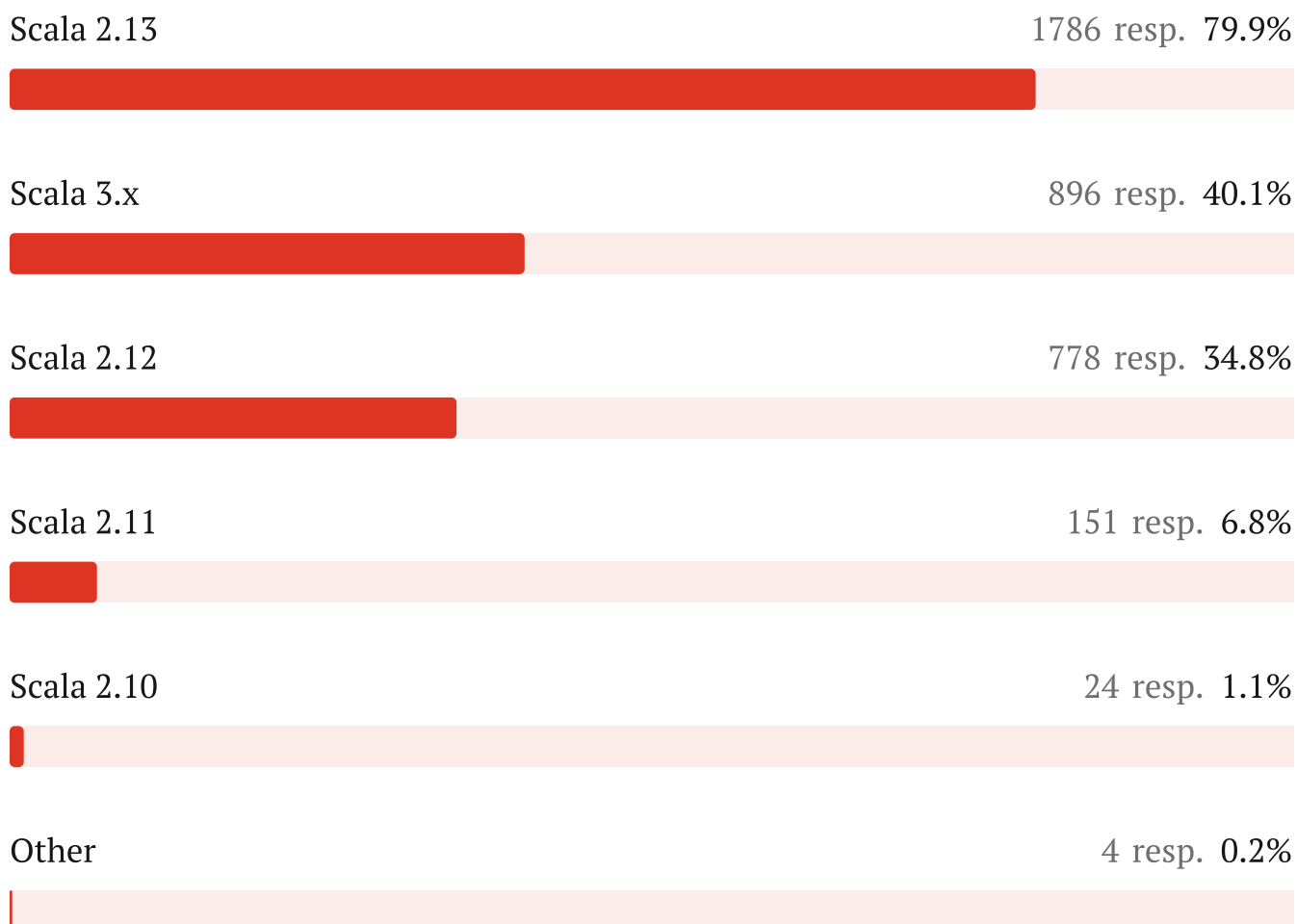
1. Which of the following statements describe you?

2236 out of 2236 answered

I am a Scala developer 1979 resp. 88.5%

I use Scala in personal projects 1122 resp. 50.2%

I maintain or regularly contribute to Scala library/ies 389 resp. 17.4%

I teach Scala 250 resp. 11.2%

I am a non Scala developer 150 resp. 6.7%

I use Scala for course work as a student 56 resp. 2.5%

Other 30 resp. 1.3%

Scala

scalacenter VIRTUSLAB

2. What major versions of Scala are you using?

Scala 2.13 — 1786 resp. 79.9%

Scala 3.x — 896 resp. 40.1%

Scala 2.12 — 778 resp. 34.8%

Scala 2.11 — 151 resp. 6.8%

Scala 2.10 — 24 resp. 1.1%

Other — 4 resp. 0.2%

3. What platforms do you target?

2234 out of 2236 answered

Scala/JVM   2227 resp. 99.7%

Scala.js   394 resp. 17.6%

Scala Native   154 resp. 6.9%

Other   13 resp. 0.6%

Scala   scalacenter   VIRTUSLAB

4. Which JDKs do you use?

OpenJDK   1879 resp. 84.7%

OracleJDK   419 resp. 18.9%

GraalVM   393 resp. 17.7%

Azul Zulu   354 resp. 16%

I don't know   74 resp. 3.3%

Other   166 resp. 7.5%
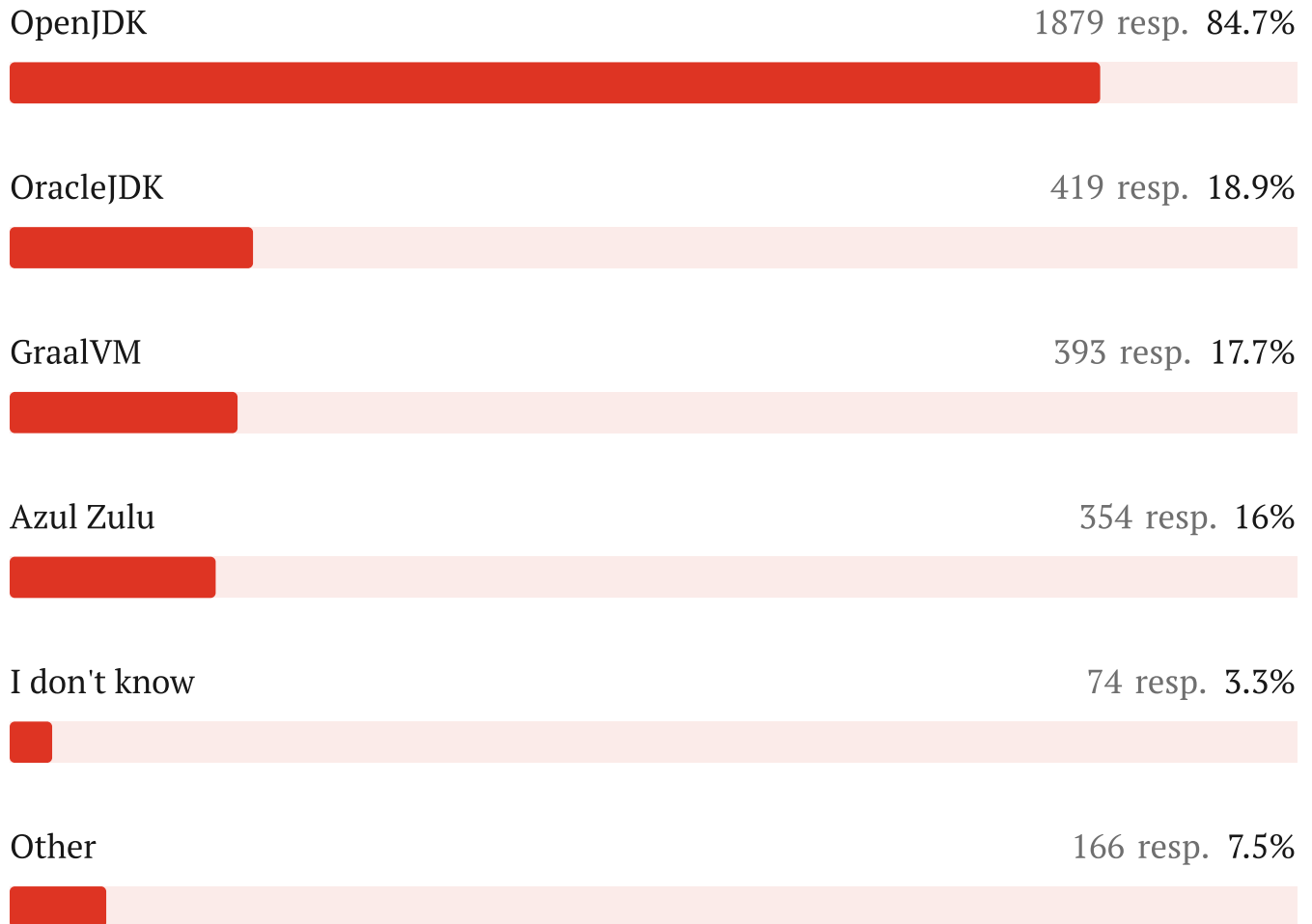
5. What versions of the JDK do you target, if any?

JDK 9-11   1273 resp. 57.2%

JDK 17-18   1112 resp. 50%

JDK 8   836 resp. 37.6%

JDK 12-16   224 resp. 10.1%

I don't know   90 resp. 4%

Other   26 resp. 1.2%

Scala   scalacenter VIRTUSLAB
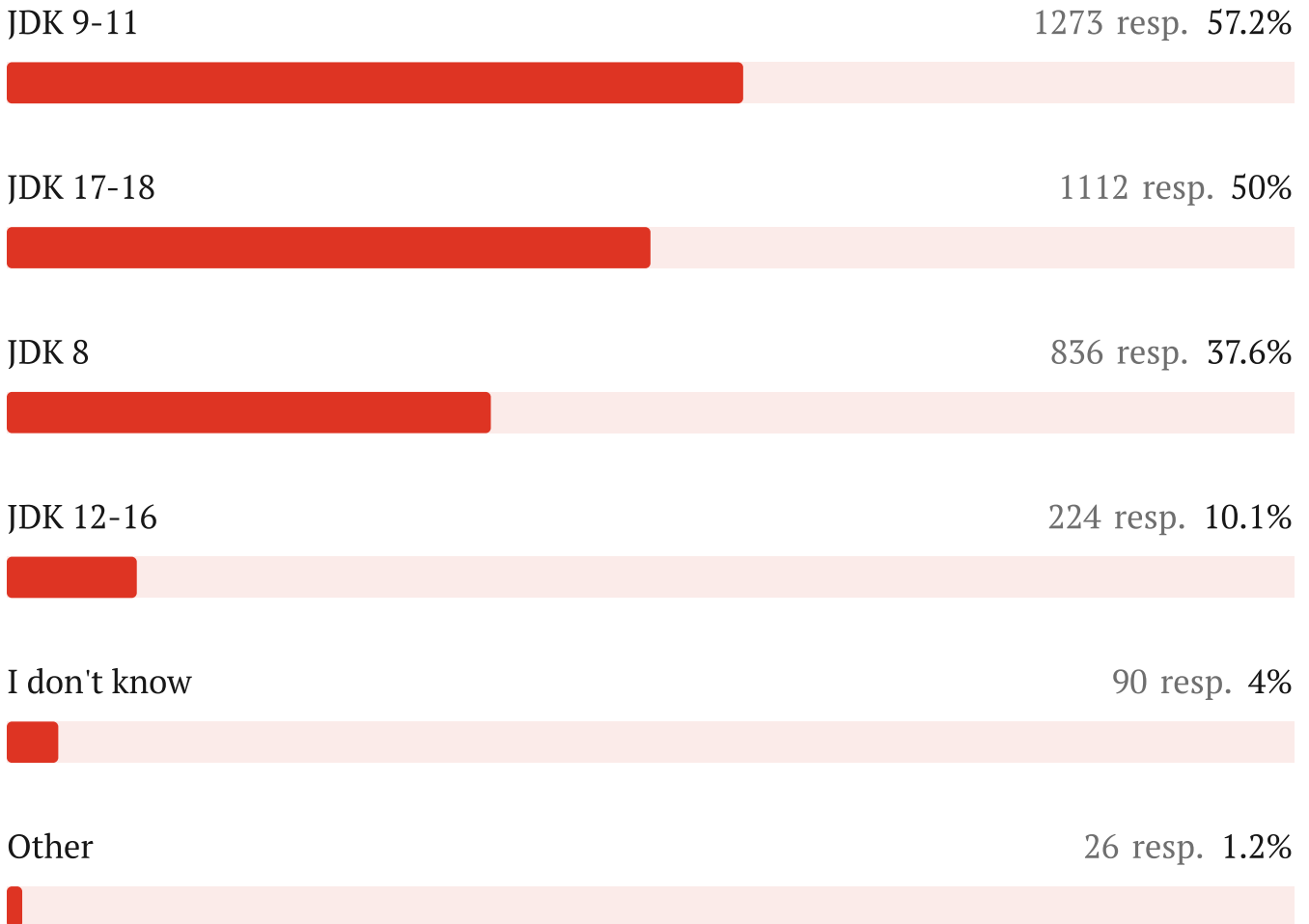
6. What versions of ECMAScript/JavaScript do you target, if any?

386 out of 2236 answered

I don't know   202 resp. 52.3%

ECMAScript 2015 (ES6)   119 resp. 30.8%

ECMAScript 2021+   65 resp. 16.8%

ECMAScript 2016-2020   60 resp. 15.5%

ECMAScript 5.1   18 resp. 4.7%

Other   0 resp. 0%
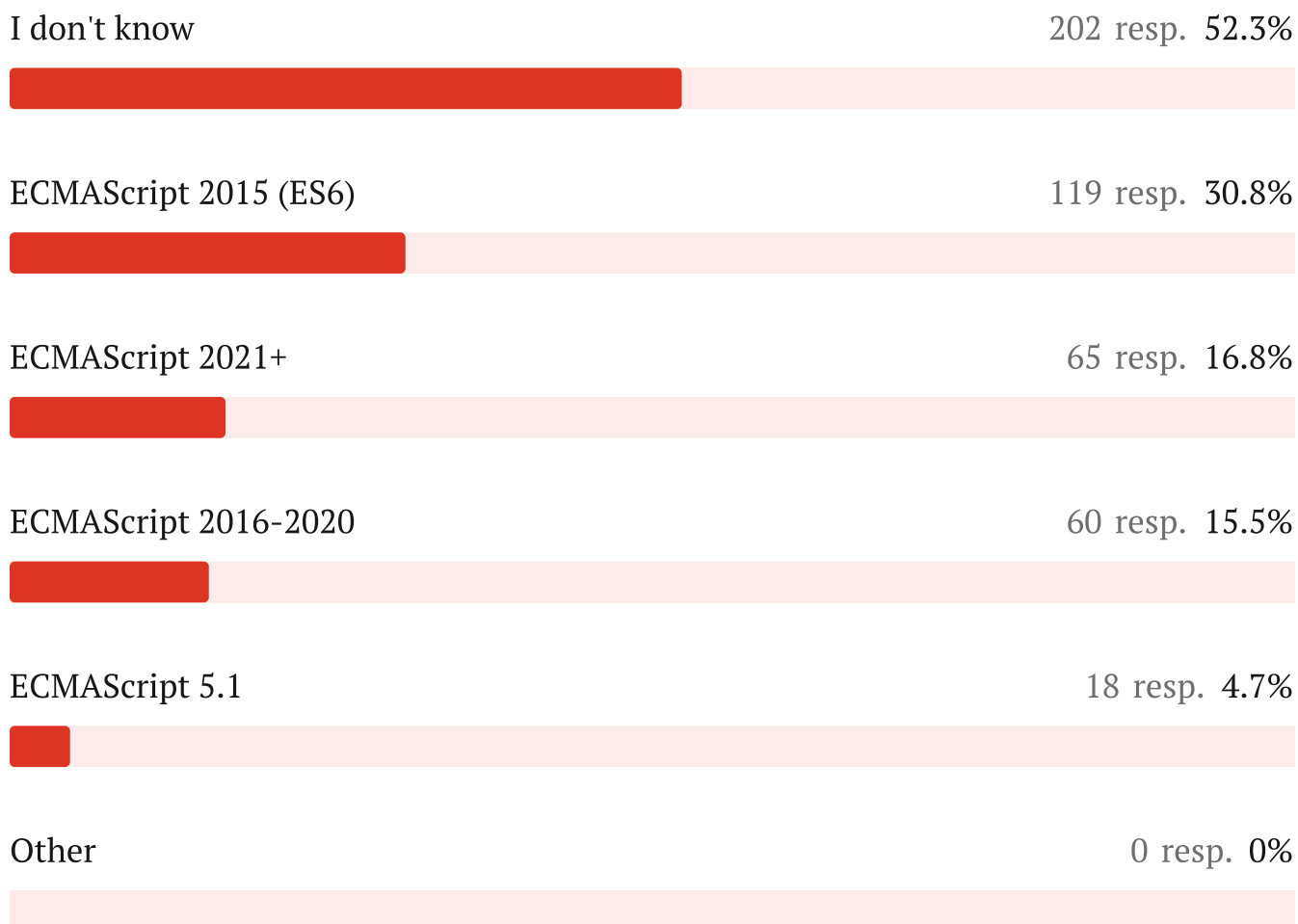
7. Which platforms do you develop Scala on?

2232 out of 2236 answered

MacOS   1529 resp. 68.5%

Linux   1220 resp. 54.7%

Windows   428 resp. 19.2%

BSD   9 resp.   0.4%

Other   5 resp.   0.2%
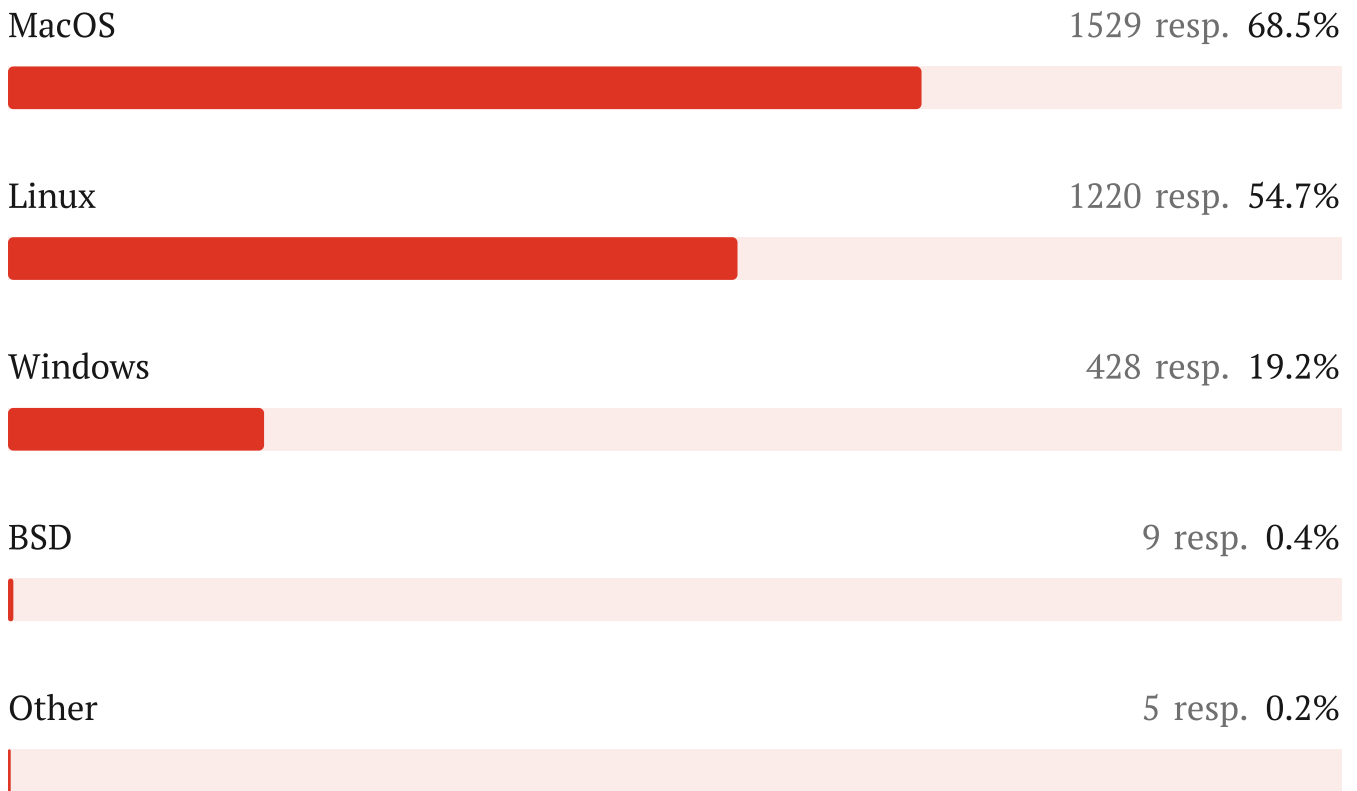
8. What paradigms of Scala do you use?

2222 out of 2236 answered

	👼	1	2	3	4	5
Mutable vars, collections and data structures	3.6%	33.5%	48.8%	7.4%	3.9%	2.7%
Immutable vals, collections and data structures	0.3%	0.4%	0.7%	2.8%	25.2%	70.7%
Object-oriented programming	1.8%	9.9%	22.7%	27.6%	27%	10.9%
Purely functional with dedicated libraries	2.7%	7.7%	9.8%	20.9%	30.3%	28.6%
Purely functional by hand	5.7%	15.1%	19.7%	26.4%	22.3%	10.8%

👼 Don't know it　·　1 Never　·　2 Very rarely　·　3 Sometimes　·　4 Regularly　·　5 Very often

Scala

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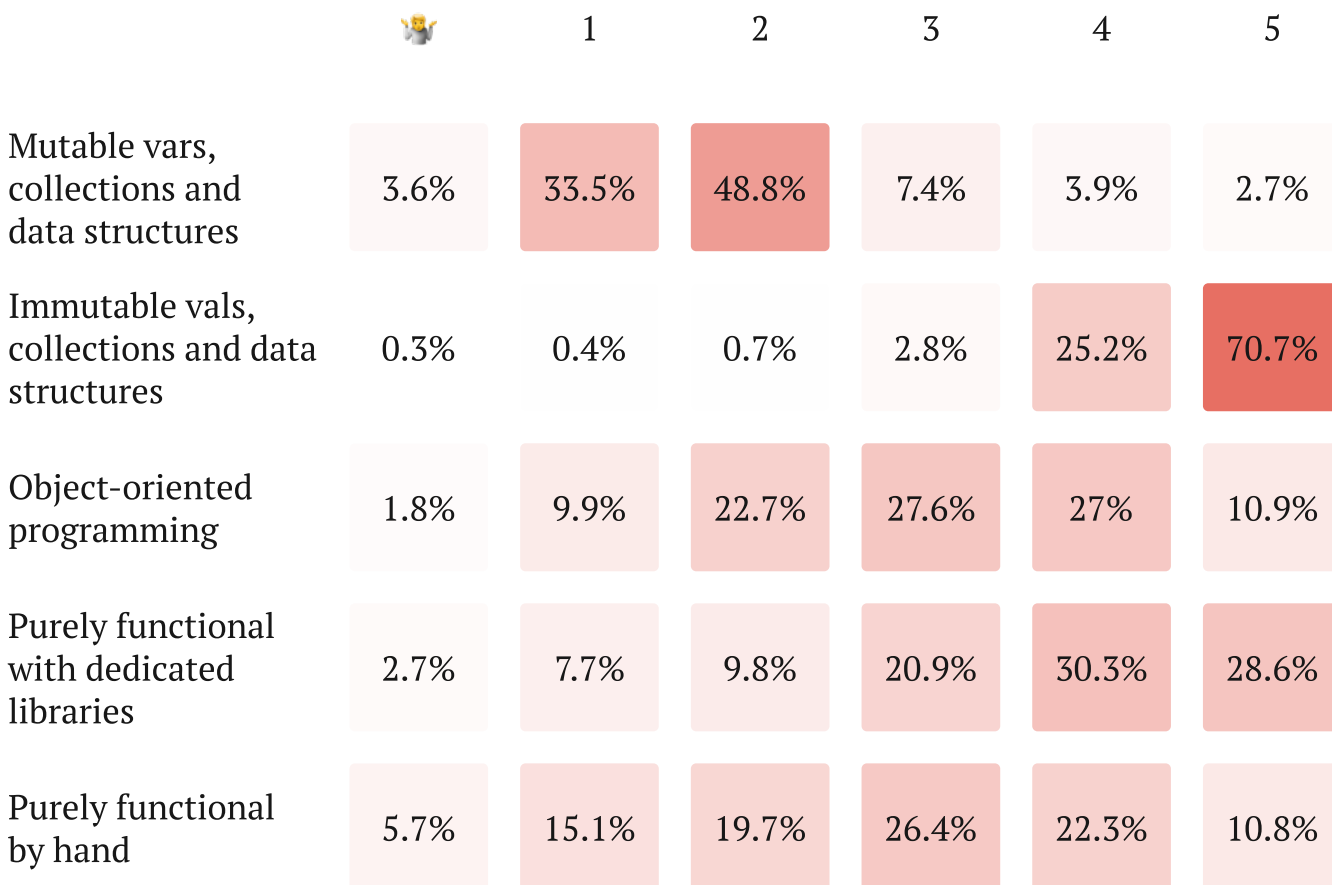
9. How often do you use the following language features?

2227 out of 2236 answered

	👷	1	2	3	4	5
Case classes	0.3%	0.1%	0.4%	2.7%	19.2%	77.3%
Pattern matching	0.3%	0%	0.7%	3.7%	22.4%	72.9%
For comprehensions with 'yield'	0.8%	2.1%	4.3%	10.7%	25.2%	57%
throw and try/catch	3.1%	26.5%	39.1%	17.3%	8.5%	5.6%
Implicit parameters / typeclasses / given / using	1.4%	3.5%	12.7%	23.1%	34%	25.3%
Direct interoperability with Java / JavaScript / C	8%	25.5%	28.5%	18.5%	13.1%	6.4%
extends AnyVal	7.5%	24.9%	22.9%	22.6%	16%	6.2%
Implicit conversions	4.3%	18.7%	35.2%	24.6%	12.6%	4.6%
Macros and other metaprogramming	11%	36.6%	27.6%	17%	5.7%	2.2%

👷 Don't know it · 1 Never · 2 Very rarely · 3 Sometimes · 4 Regularly · 5 Very often

Scala

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10. If applicable, how often do you use the following Scala 3 features?

896 out of 2236 answered

	👺	1	2	3	4	5
enum	6.7%	4.8%	3.6%	18.8%	28.8%	37.4%
Opaque type aliases	15.2%	10.4%	11.4%	26.7%	18.6%	17.7%
Extension methods	8.1%	4.2%	7%	21.1%	31.5%	28%
Top-level definitions	14.3%	9.8%	9.7%	22.3%	23.1%	20.8%
export	25.9%	22.8%	16.1%	20.6%	9.9%	4.7%
Union types	12.1%	11.4%	16.2%	26.8%	22%	11.6%

👺 Don't know it · 1 Never · 2 Very rarely · 3 Sometimes · 4 Regularly · 5 Very often

11. com.lihaoyi ecosystem

2195 out of 2236 answered

	🙅	🚫	✅	👎	👍
PPrint	57.4%	13.6%	13.6%	0.5%	14.9%
Fastparse	46.6%	16.1%%	21.1%	2.2%	14.1%
OS-Lib	57.6%	13.5%	14.5%	0.8%	13.6%
Requests	54.6%	18.5%	14.3%	1.1%	11.5%
uPickle	38.9%	23.7%	18.7%	3.7%	14.9%
ScalaTags	51.1%	17.1%	17%	1.6%	13.1%
Cask	59.4%	19.9%	15.7%	1%	4%

🙅 Don't know it · 🚫 Don't want to use it · ✅ Want to check it out

👎 Used it, but won't use it again · 👍 Still using it and planning on using it more

12. Typelevel ecosystem

2191 out of 2236 answered

	🤷	🚫	✅	👎	👍
Cats-core	6.3%	9.2%	21.5%	4.2%	58.7%
Cats-effect	6%%	10.8%	26.2%	5.9%	51%
FS2	16.3%	11.2%	30.2%	3.6%	38.7%
Cats MTL	40.8%	17.2%	27.2%	5.6%	9.3%
Cats Collections	34%	12.7%	32.8%	2.5%	18%
Mouse	64.9%	11.6%	16%	1.4%	6%
Alleycats	62.8%	12.8%	17.1%	1.2%	6.1%
Shapeless	12.6%	16%	31.9%	11.2%	28.3%
Spire	57.1%	11.4%	22%	1.2%	8.2%
doobie	19.4%	10.1%	27.4%	5.8%	37.2%
Monix	23.2%	24.4%	30.1%	7.1%	15.2%
Monocle	26.1%	12.5%	29.4%	3.5%	28.4%
Scodec	54.3%	10.3%	21.9%	1%	12.5%
http4s	10.2%	8.5%	26.2%	7.7%	47.4%
droste	76.1%	8%	12.2%	1.1%	2.6%

🤷 Don't know it · 🚫 Don't want to use it · ✅ Want to check it out

👎 Used it, but won't use it again · 👍 Still using it and planning on using it more

13. ZIO ecosystem

2185 out of 2236 answered

	🤷	🚫	✅	👎	👍
ZIO	7.5%	19.2%	35.9%	2.3%	35.1%
ZIO-streams	15.7%	19.5%	40%	1.8%	23%
ZIO-quill	28.6%	22.4%	33.5%	2.2%	13.3%
ZIO-prelude	35.9%	19.7%	32.5%	1.5%	10.4%
ZIO-json	26.1%	20.9%	36.6%	1.3%	15.1%
ZIO-actors	30%	30.6%	35.5%	1.7%	2.2%
ZIO-config	32.3%	20.2%	30.5%	1.8%	15.2%
ZIO-sql	35.1%	22.5%	37.9%	1.2%	3.4%
ZIO-schema	40.7%	20.1%	34%	0.9%	4.3%
ZIO-optics	40.2%	20.8%	35%	1%	3%
ZIO-http	22.3%	20.1%	38.4%	2%	17.3%

🤷 Don't know it · 🚫 Don't want to use it · ✅ Want to check it out

👎 Used it, but won't use it again · 👍 Still using it and planning on using it more

14. Akka ecosystem

2203 out of 2236 answered

	🤷	🚫	✅	👎	👍
Akka Actors	2.5%	14.8%	10.3%	35.3%	36.9%
Akka Streams	4.2%	16.9%	13.1%	29%	36.8%
Akka HTTP	4.1%	16.4%	10.6%	32%	37%
Akka Cluster	11.9%	26.8%	21.8%	20.9%	18.7%
Akka Persistence	13.7%	26.8%	21.5%	20%	17.9%

🤷 Don't know it · 🚫 Don't want to use it · ✅ Want to check it out
👎 Used it, but won't use it again · 👍 Still using it and planning on using it more

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15. Other ecosystems

2205 out of 2236 answered

	🤷	🚫	✅	👎	👍
Play!	4.6%	25.1%	10.3%	32%	28.1%
Spark	2.7%	19.4%	27.9%	9.2%	40.7%
Kafka	2.6%	6.1%	24.5%	1.5%	65.3%
scalaz	12.8%	40.3%	19.3%	19.8%	7.8%

🤷 Don't know it · 🚫 Don't want to use it · ✅ Want to check it out

👎 Used it, but won't use it again · 👍 Still using it and planning on using it more

16. Front-end development

2151 out of 2236 answered

	🤷	🚫	✅	👎	👍
Laminar	59.2%	7.9%	23.4%	0.4%	9.1%
scalajs-react	46.6%	20.5%	22.9%	3.4%	6.7%
Slinky	72.8%	10.9%	12.2%	1%	3.1%
Udash	79.1%	11.5%	7.6%	1.2%	0.7%
youi	87.3%	8.1%	4.3%	0.3%	0.1%
Indigo	76.5%	7.4%	13.9%	0.2%	2%
Outwatch	82.2%	8.8%	7.4%	0.7%	1%

🤷 Don't know it · 🚫 Don't want to use it · ✅ Want to check it out

👎 Used it, but won't use it again · 👍 Still using it and planning on using it more

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17. Testing frameworks

2196 out of 2236 answered

	🙆	🚫	✅	👎	👍
JUnit	6.3%	21.7%	6.9%	27.9%	37.2%
ScalaTest	1.5%	1.7%	5.2%	12.5%	79.1%
uTest	48.4%	16.2%	20%	4.3%	11.2%
ScalaCheck	17.7%	6.1%	14.2%	4.5%	57.5%
specs2	31.2%	17.1%	14.1%	16.5%	21.2%
MiniTest	68.8%	14.8%	11.5%	2.6%	2.4%
ZIO Test	35%	17.9%	23.3%	2.7%	21.1%
munit	44.1%	10%	18.5%	1.8%	25.6%

🙆 Don't know it · 🚫 Don't want to use it · ✅ Want to check it out

👎 Used it, but won't use it again · 👍 Still using it and planning on using it more

18. Various libraries

2191 out of 2236 answered

	🤷	🚫	✅	👎	👍
sttp	32.9%	7.7%	19.3%	2.4%	37.6%
macwire	48%	18.3%	12.1%	9%	12.7%
tapir	28.6%	6.1%	29.7%	3.2%	32.4%
quicklens	61.9%	7.7%	18.2%	1.4%	10.8%
magnolia	44.2%	10.7%	24.6%	2.3%	18.3%
woof	85.8%	5.4%	7.9%	0.2%	0.8%
pureconfig	35.7%	5.1%	12.9%	4.5%	41.8%
spray	35.5%	21%	11.2%	21.7%	10.7%
finagle	40.7%	23.9%	18%	10%	7.3%
gatling	37.4%	6.9%	19.3%	3.9%	32.5%
slick	19.4%	13.4%	15.2%	27.4%	24.7%

🤷 Don't know it · 🚫 Don't want to use it · ✅ Want to check it out

👎 Used it, but won't use it again · 👍 Still using it and planning on using it more

19. IDEs

2204 out of 2236 answered

	🤷	🚫	✅	👎	👍
VS Code / Metals	2.3%	13.5%	23.9%	13.1%	47.2%
IntelliJ IDEA	0.3%	3.8%	1.6%	8.4%	85.9%
Other Metals-based editor	41%	25.1%	15.8%	4.2%	14%
Plain-text editor	15.9%	45.7%	2.5%	22.4%	13.5%

🤷 Don't know it · 🚫 Don't want to use it · ✅ Want to check it out

👎 Used it, but won't use it again · 👍 Still using it and planning on using it more

Scala

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20. Build tools

2204 out of 2236 answered

	🧙	🚫	✅	👎	👍
sbt	0.2%	1%	2.2%	9.8%	86.8%
Mill	26.3%	18.8%	39.4%	4.5%	10.9%
scala-cli	32.6%	11.7%	33.3%	2.3%	20.1%
Maven	3.1%	27.2%	5.9%	42.3%	21.6%
Gradle	4.3%	31.3%	12.8%	31.9%	19.6%
Ant	11%	40.4%	4.9%	41.2%	2.4%
Bazel	34.8%	27.2%	27.5%	5.6%	5%
Pants	55.9%	26.5%	13.1%	3.8%	0.8%

🧙 Don't know it · 🚫 Don't want to use it · ✅ Want to check it out

👎 Used it, but won't use it again · 👍 Still using it and planning on using it more

21. Linting/code quality

2177 out of 2236 answered

	🤷	🚫	✅	👎	👍
-Werror / -Xfatal-warnings compiler	22.2%	2.6%	8.6%	2.9%	63.8%
scalafmt	5%	1.5%	7.8%	2.8%	82.9%
Scalafix	20.2%	2.8%	23.8%	2.7%	50.4%
WartRemover	43.2%	7.9%	19.7%	7.8%	21.4%
Codacy	72.1%	8%	11.7%	4.1%	4%
Scapegoat	70%	7%	12.1%	3%	7.9%
Scoverage	36.8%	5.8%	15.4%	5.6%	36.4%
Acyclic	82.6%	5.5%	8.9%	0.7%	2.3%

🤷 Don't know it · 🚫 Don't want to use it · ✅ Want to check it out

👎 Used it, but won't use it again · 👍 Still using it and planning on using it more

Scala

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22. Let's say that you are given the power to choose which parts of the Scala ecosystem are being improved. Please select up to 3 of the following aspects of working with Scala, you would like to see improved.

2189 out of 2236 answered
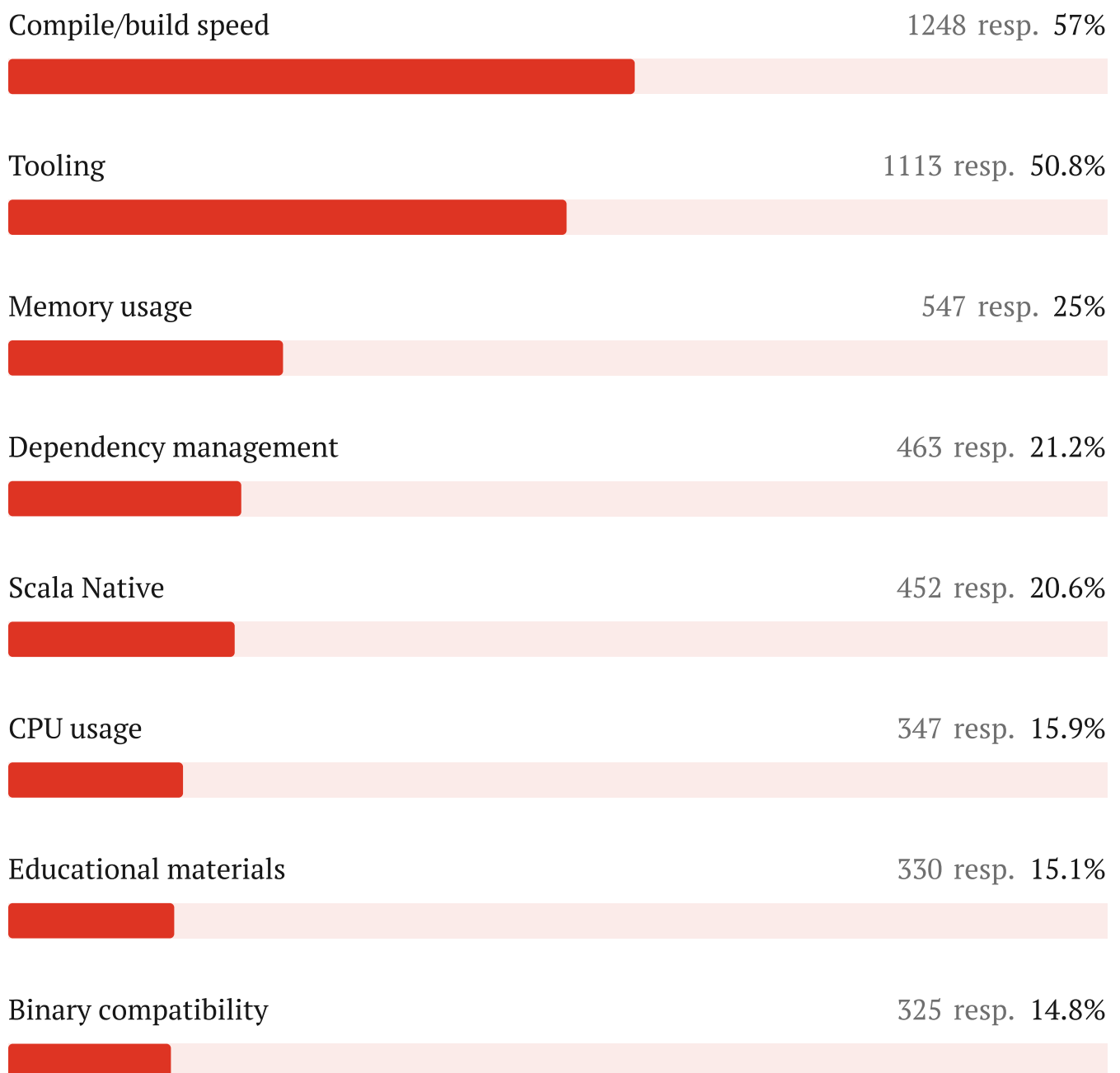
Compile/build speed   1248 resp. 57%

Tooling   1113 resp. 50.8%

Memory usage   547 resp. 25%

Dependency management   463 resp. 21.2%

Scala Native   452 resp. 20.6%

CPU usage   347 resp. 15.9%

Educational materials   330 resp. 15.1%

Binary compatibility   325 resp. 14.8%

22. Let's say that you are given the power to choose which parts of the Scala ecosystem are being improved. Please select up to 3 of the following aspects of working with Scala, you would like to see improved.

More out of the box utilities   288 resp. **13.2%**

Metaprogramming   267 resp. **12.2%**

Using cloud services   206 resp. **9.4%**

Scala.JS   202 resp. **9.2%**

Linters   197 resp. **9%**

Reliability   127 resp. **5.8%**

Java interoperability   124 resp. **5.7%**

Security   75 resp. **3.4%**
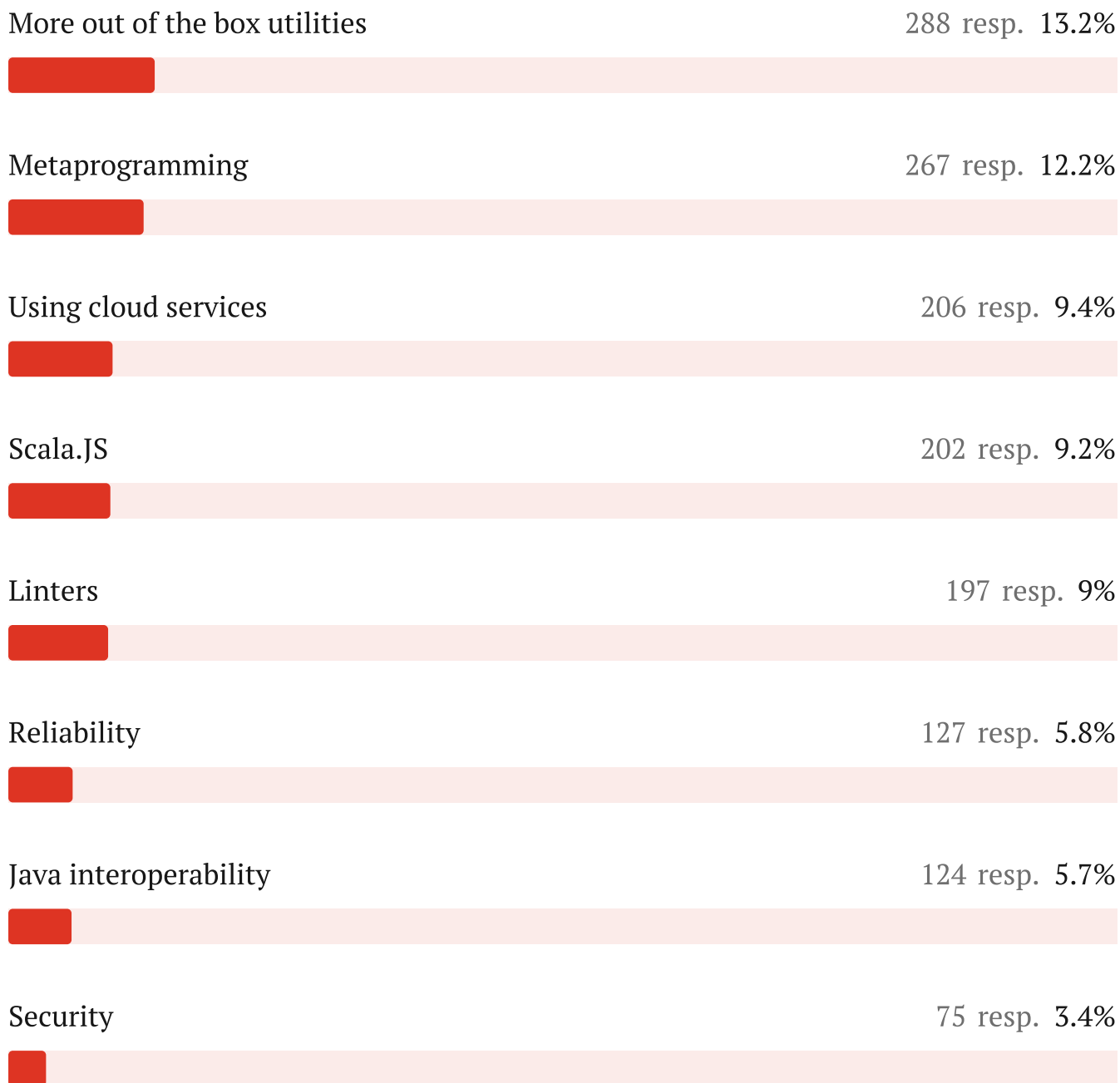
23. Which other languages are you proficient in?

2162 out of 2236 answered

Java
1776 resp. **82.1%**

Python
967 resp. **44.7%**

JavaScript
895 resp. **41.4%**

TypeScript
729 resp. **33.7%**

C / C++
565 resp. **26.1%**

Kotlin
393 resp. **18.2%**

C#
343 resp. **15.9%**

Haskell
337 resp. **15.6%**

Clojure
142 resp. **6.6%**

Scala

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23. Which other languages are you proficient in?

F#   86 resp. 4%

OCaml   82 resp. 3.8%

Other JVM language   69 resp. 3.2%

Swift   55 resp. 2.5%

Other compile-to-JavaScript language   47 resp. 2.2%

PureScript   44 resp. 2%

Objective C   40 resp. 1.9%

Other   452 resp. 20.9%
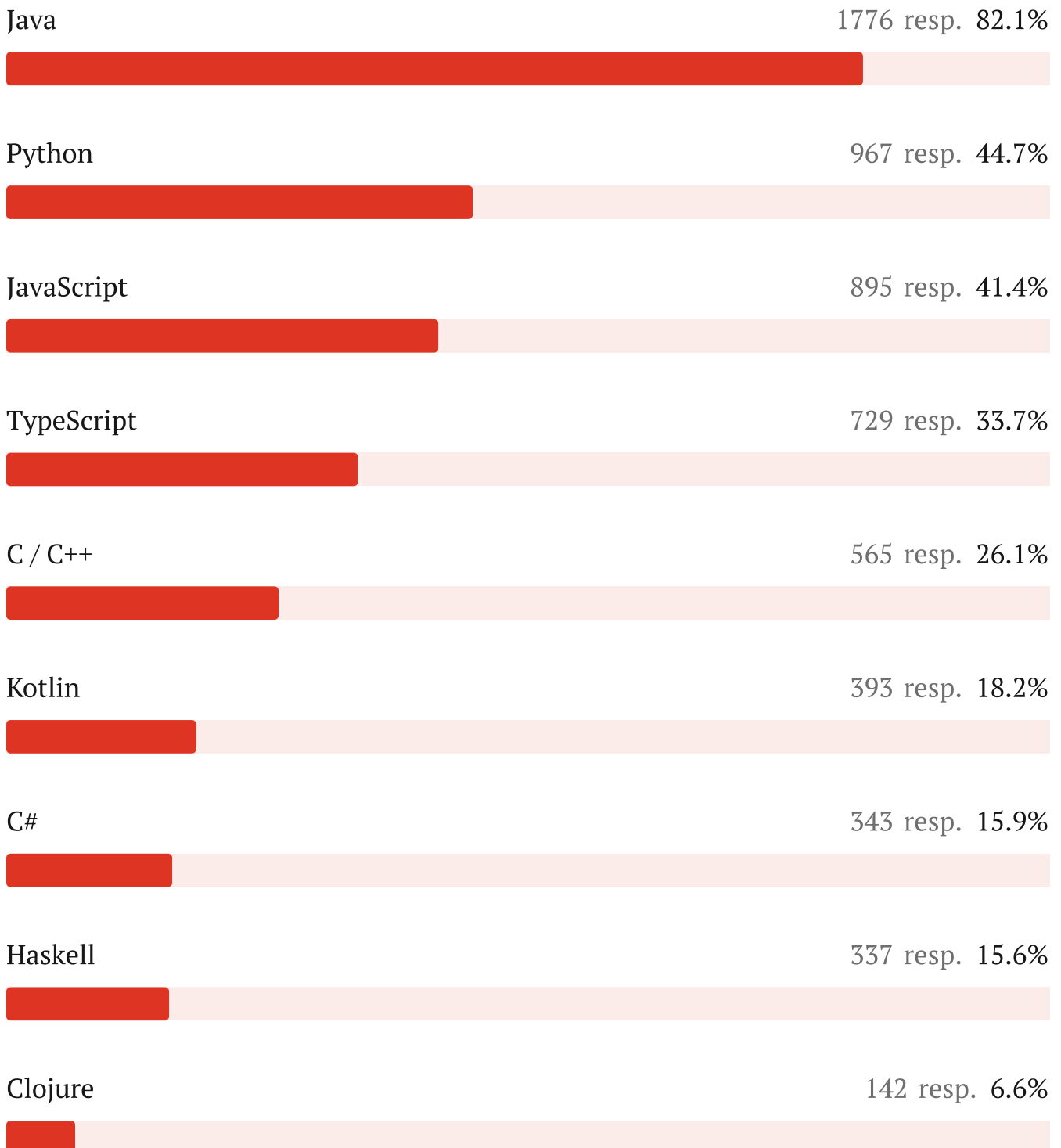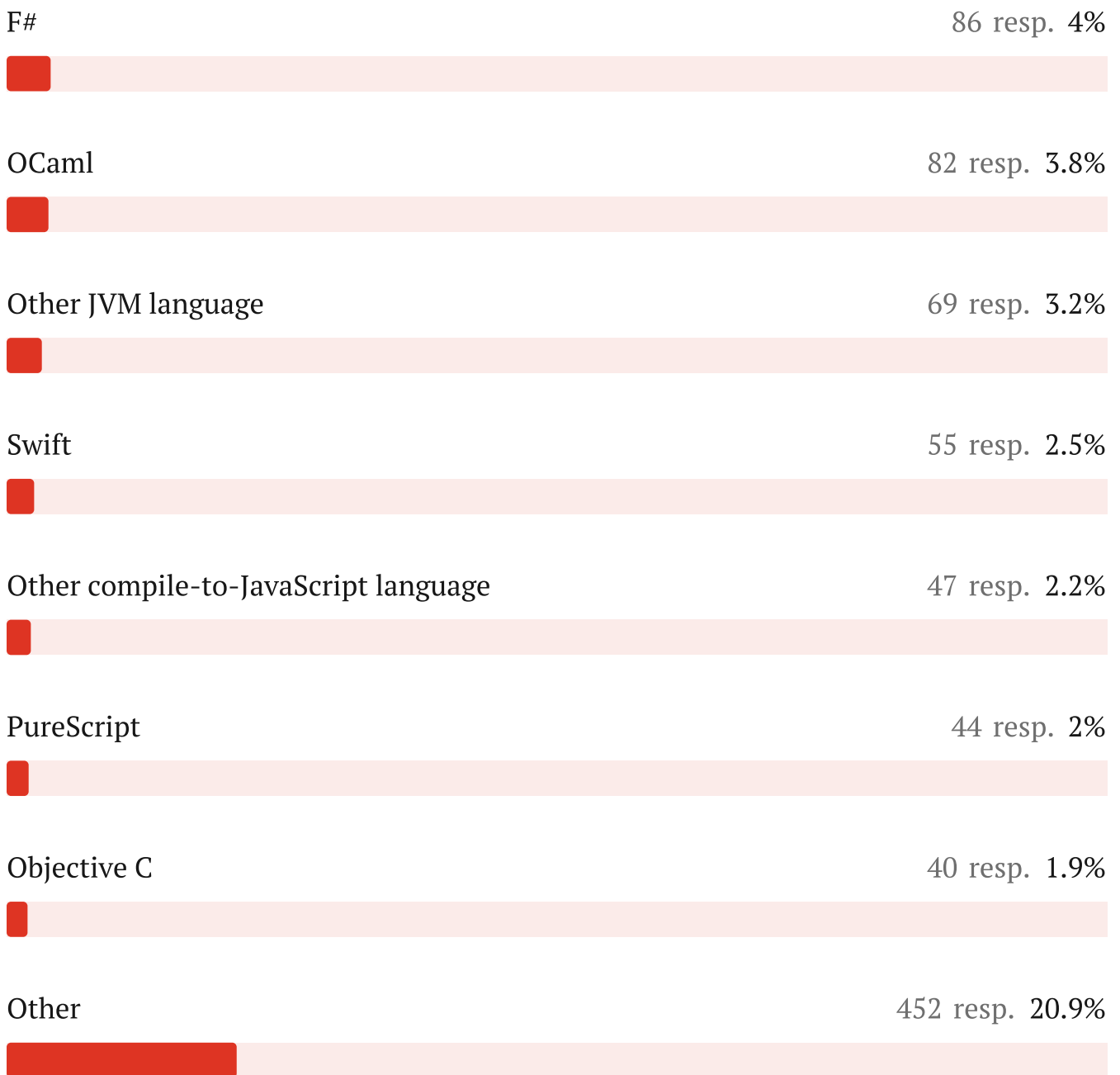
24. Which types of resources did you use to learn Scala?

2206 out of 2236 answered

Books   1721 resp. 78%

Official docs   1709 resp. 77.5%

Online courses   1571 resp. 71.2%

University courses   186 resp. 8.4%

Bootcamps   82 resp. 3.7%

Other   369 resp. 16.7%

Scala   scalacenter VIRTUSLAB
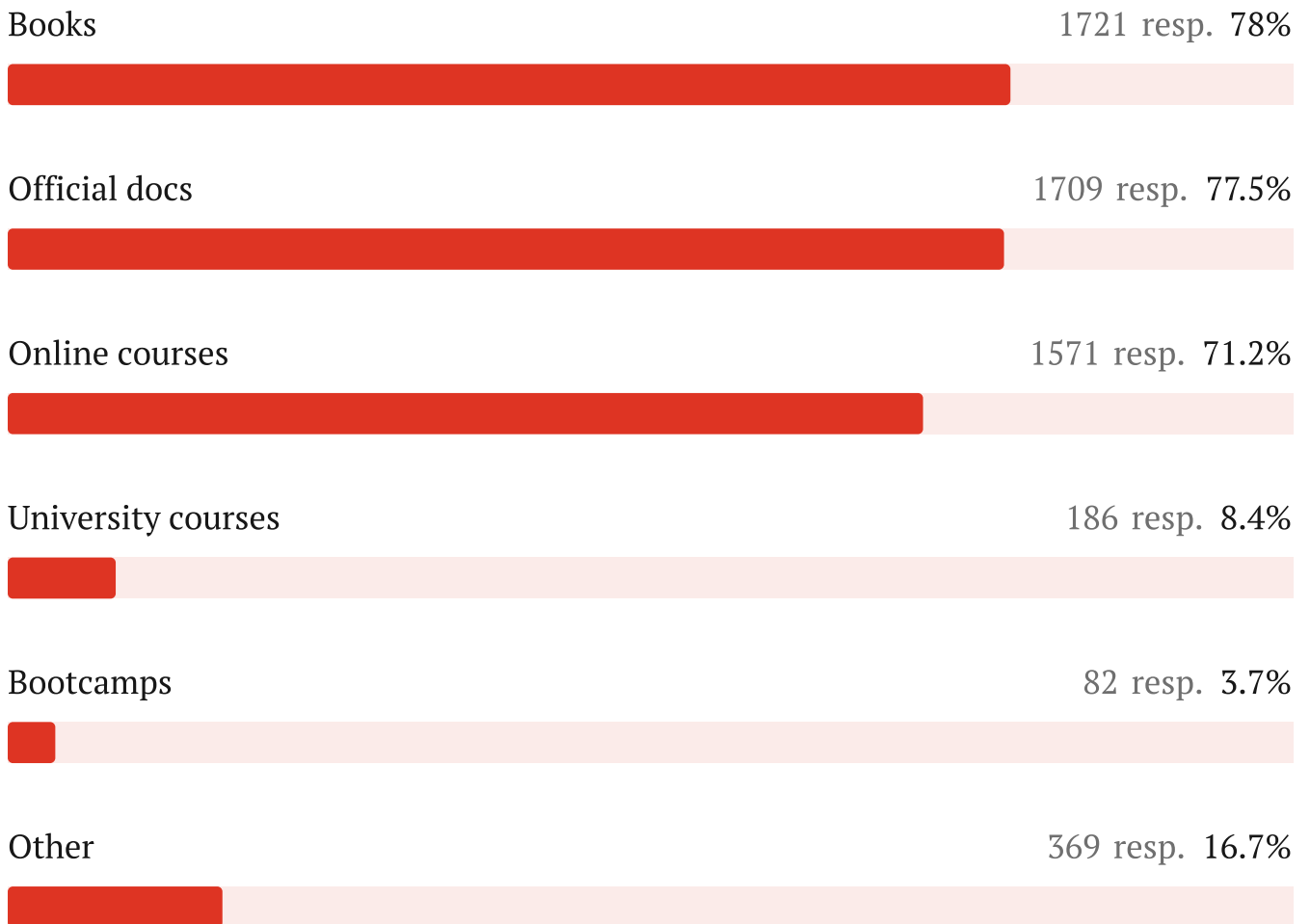
25. What types of programs do you use Scala most often for?

2208 out of 2236 answered

Web / API / RPC services   1944 resp. 88%

Data processing   1308 resp. 59.2%

Libraries or frameworks   1106 resp. 50.1%

Runnable interactive programs   414 resp. 18.8%

Automation/General purpose scripts   402 resp. 18.2%

Web frontend   296 resp. 13.4%

ML/AI   222 resp. 10.1%

Agents and daemons   198 resp. 9%

DevOps   147 resp. 6.7%

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25. What types of programs do you use Scala most often for?

Desktop or GUI applications   122 resp.   5.5%

Games   84 resp.   3.8%

Embedded devices or IOT   47 resp.   2.1%

Mobile applications   29 resp.   1.3%

Other   41 resp.   1.9%

26. What is the most common size of projects you contribute to?

2206 out of 2236 answered

10,000 - 99,999 lines of code — 900 resp. 40.8%

1,000 - 9,999 lines of code — 693 resp. 31.4%

> 100,000 lines of code — 461 resp. 20.9%

< 1,000 lines of code — 152 resp. 6.9%

Scala

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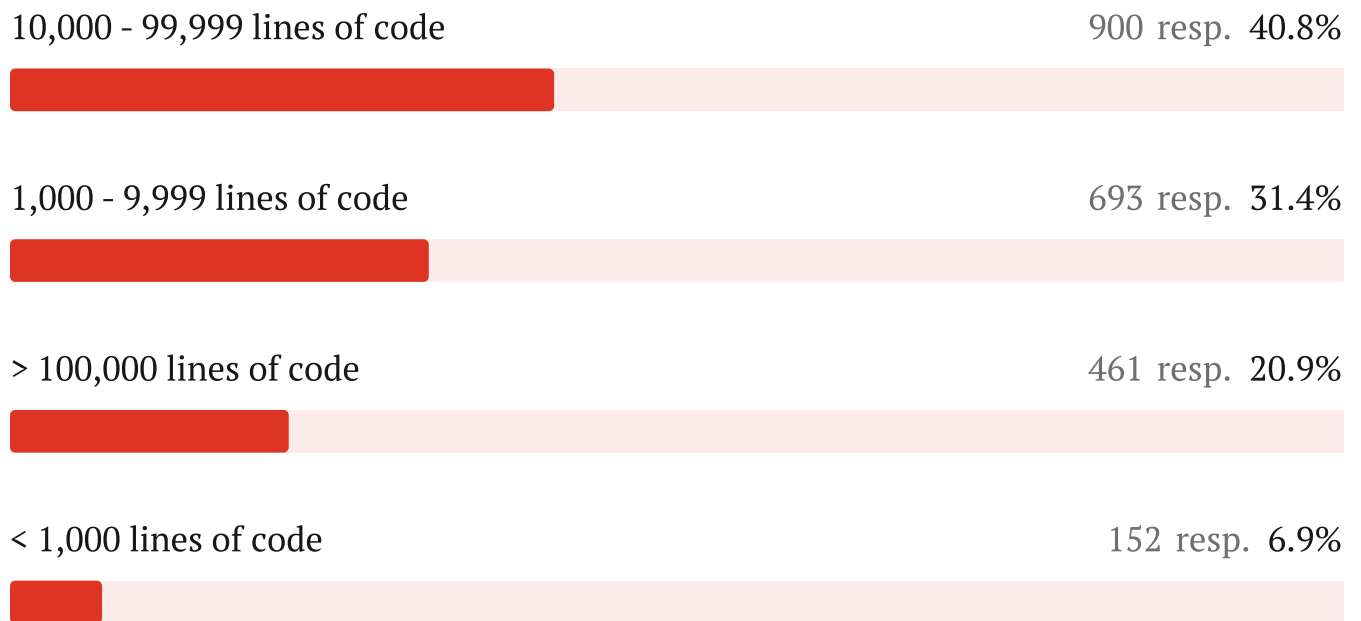
27. What industry sector do you work in?

1930 out of 2236 answered

Programming & technical tools
727 resp. 37.7%

Finance
505 resp. 26.2%

Consulting & services
486 resp. 25.2%

E-commerce & retail
364 resp. 18.9%

Entertainment
209 resp. 10.8%

Healthcare
105 resp. 5.4%

News, media, blogging
86 resp. 4.5%

Government
80 resp. 4.1%

Education
72 resp. 3.7%

Scala

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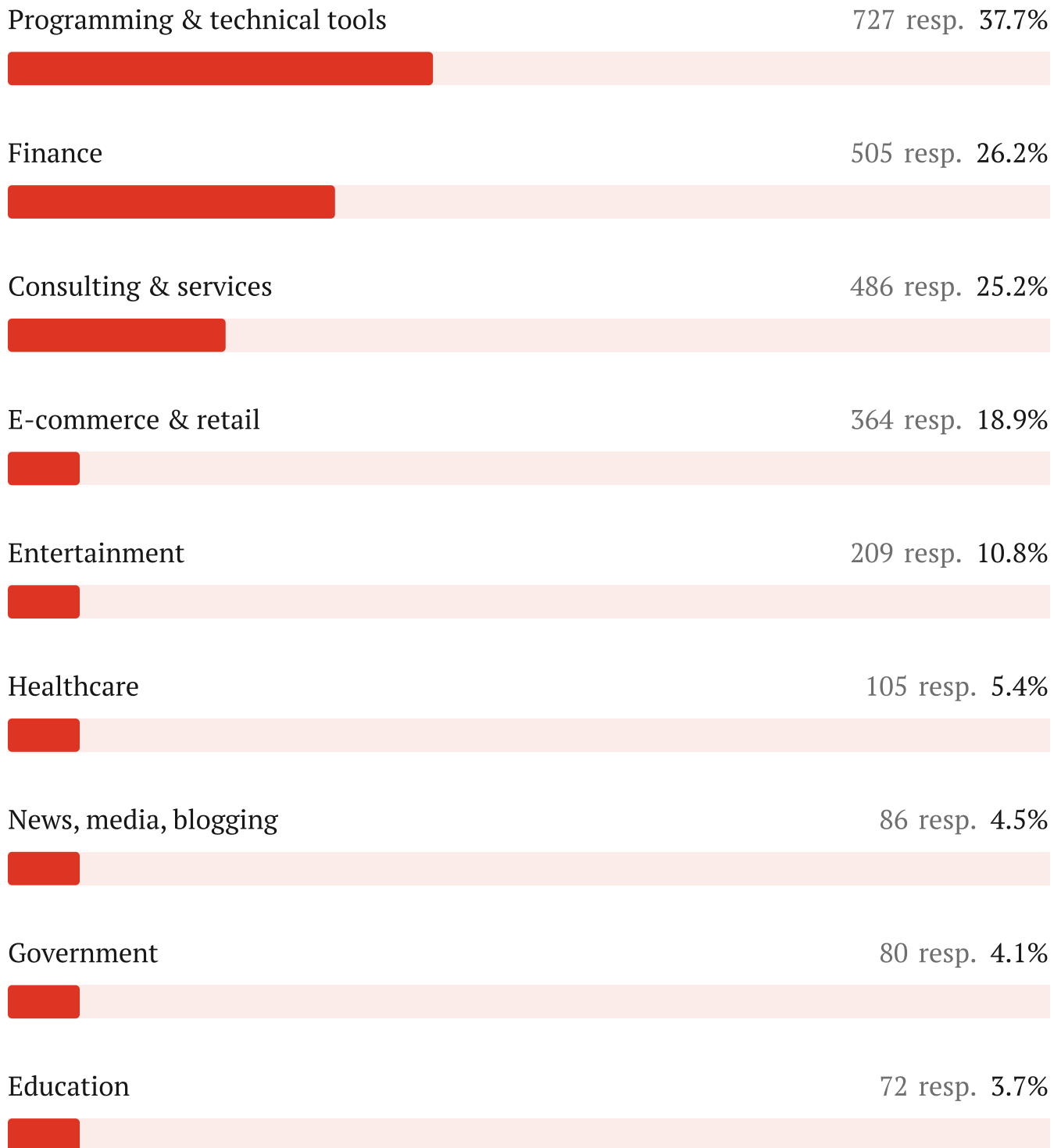
27. What industry sector do you work in?

Social media   53 resp. 2.7%
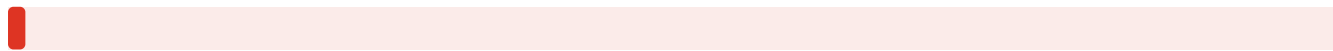
Other   273 resp. 14.1%
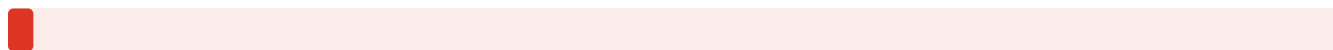
28. What is your yearly salary (in USD)?

1958 out of 2236 answered

50k-100k
646 resp. 33%

100k-200k
547 resp. 27.9%

Prefer not to say
244 resp. 12.5%

> 200k
218 resp. 11.1%

30k-50k
194 resp. 9.9%

10k-30k
74 resp. 3.8%

0-10k
31 resp. 1.6%

0
4 resp. 0.2%

Scala

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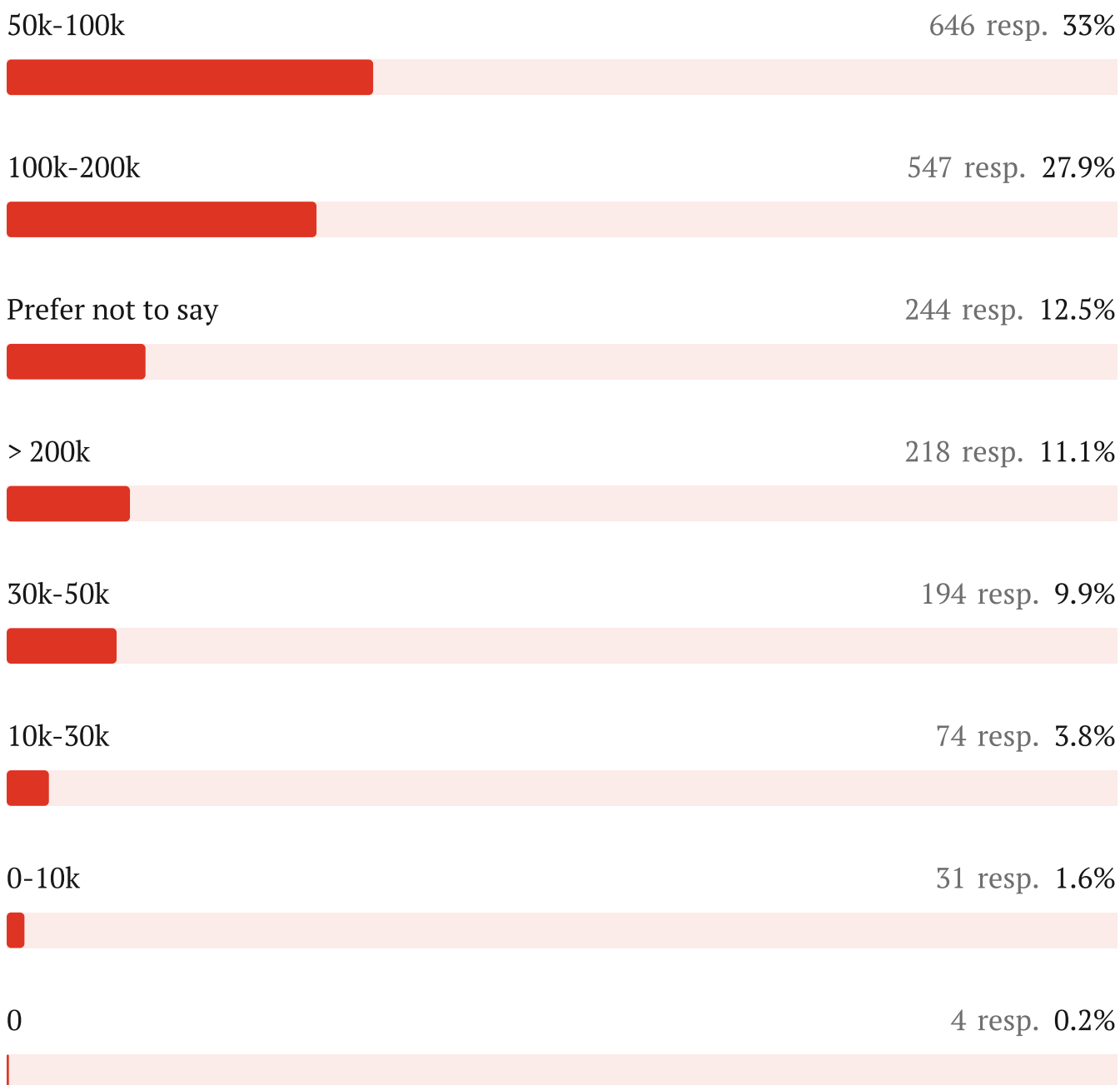
29. What is the size of the company you work for?

1956 out of 2236 answered

101-1000   649 resp. **33.2%**

> 5000   405 resp. **20.7%**

1001-5000   274 resp. **14%**

51-100   220 resp. **11.2%**

21-50   165 resp. **8.4%**

11-20   75 resp. **3.8%**

2-5   58 resp. **3%**

6-10   51 resp. **2.6%**

1   33 resp. **1.7%**

None   26 resp. **1.3%**
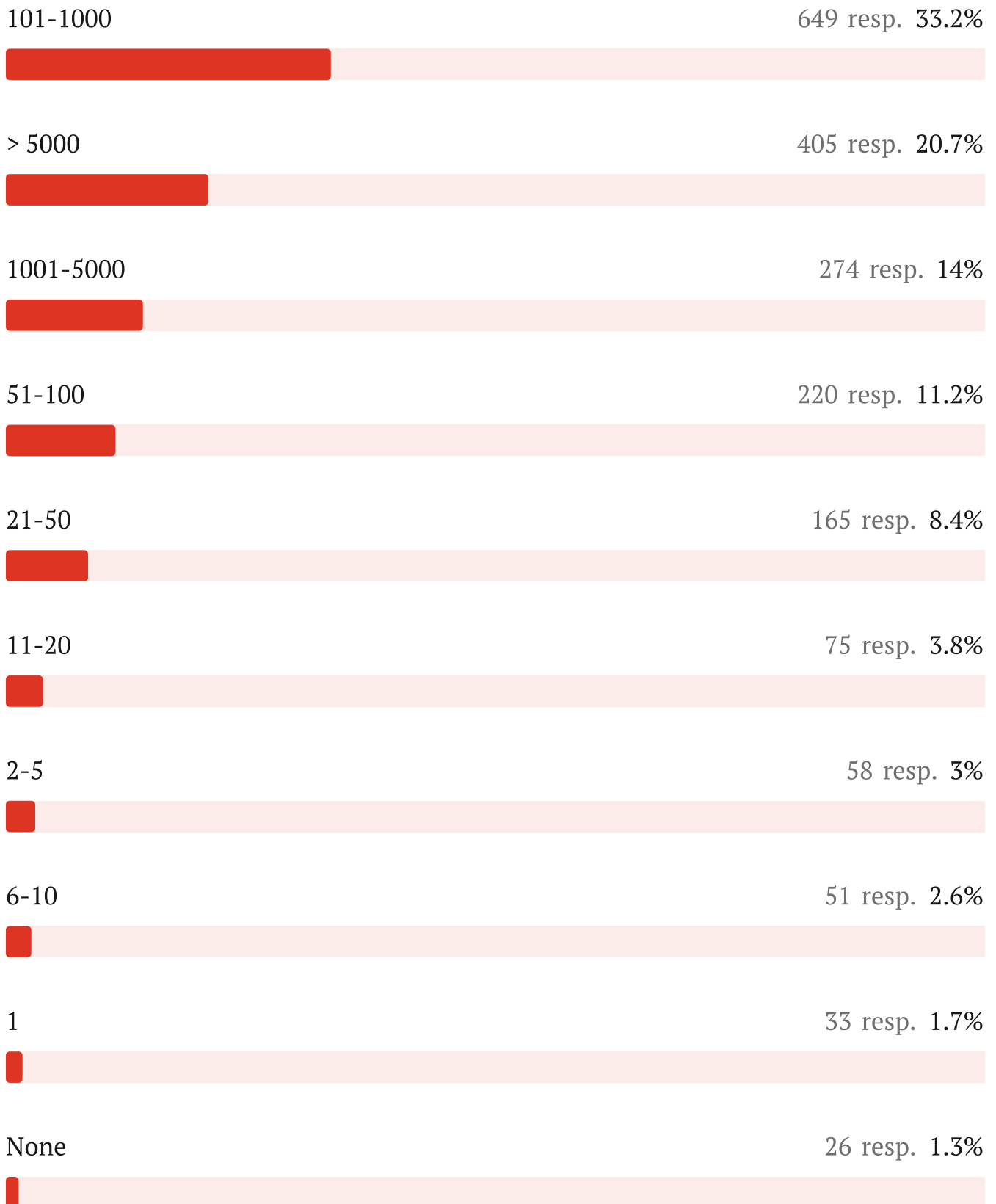
30. What's your country/region?

2171 out of 2236 answered

United States   415 resp. 19.1%

United Kingdom   193 resp. 8.9%

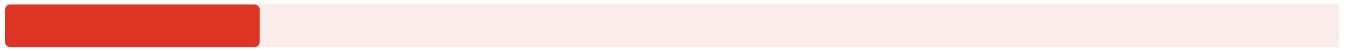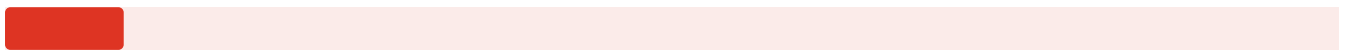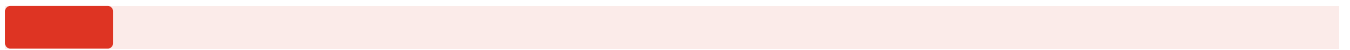Poland   176 resp. 8.1%
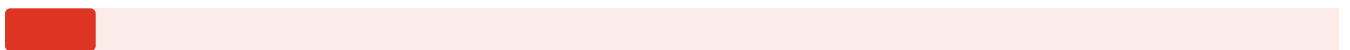
Germany   167 resp. 7.7%
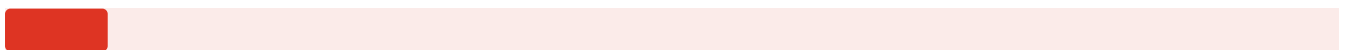
France   147 resp. 6.8%

Netherlands   90 resp. 4.1%
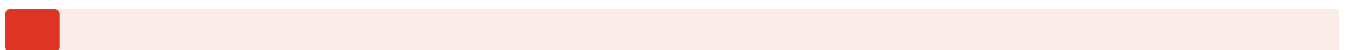
Canada   61 resp. 2.8%
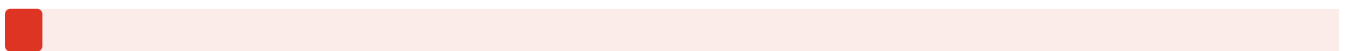
Russia   59 resp. 2.7%
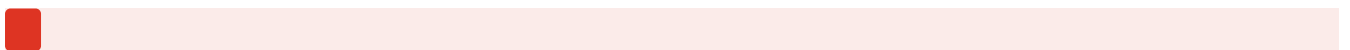
Spain   55 resp. 2.5%

30. What's your country/region?

Switzerland — 52 resp. 2.4%

Ukraine — 49 resp. 2.3%

Sweden — 42 resp. 1.9%

Italy — 41 resp. 1.9%

Australia — 30 resp. 1.4%

Hungary — 29 resp. 1.3%

Portugal — 28 resp. 1.3%

Japan — 26 resp. 1.2%

Brazil — 25 resp. 1.2%

Denmark — 23 resp. 1.1%

Scala

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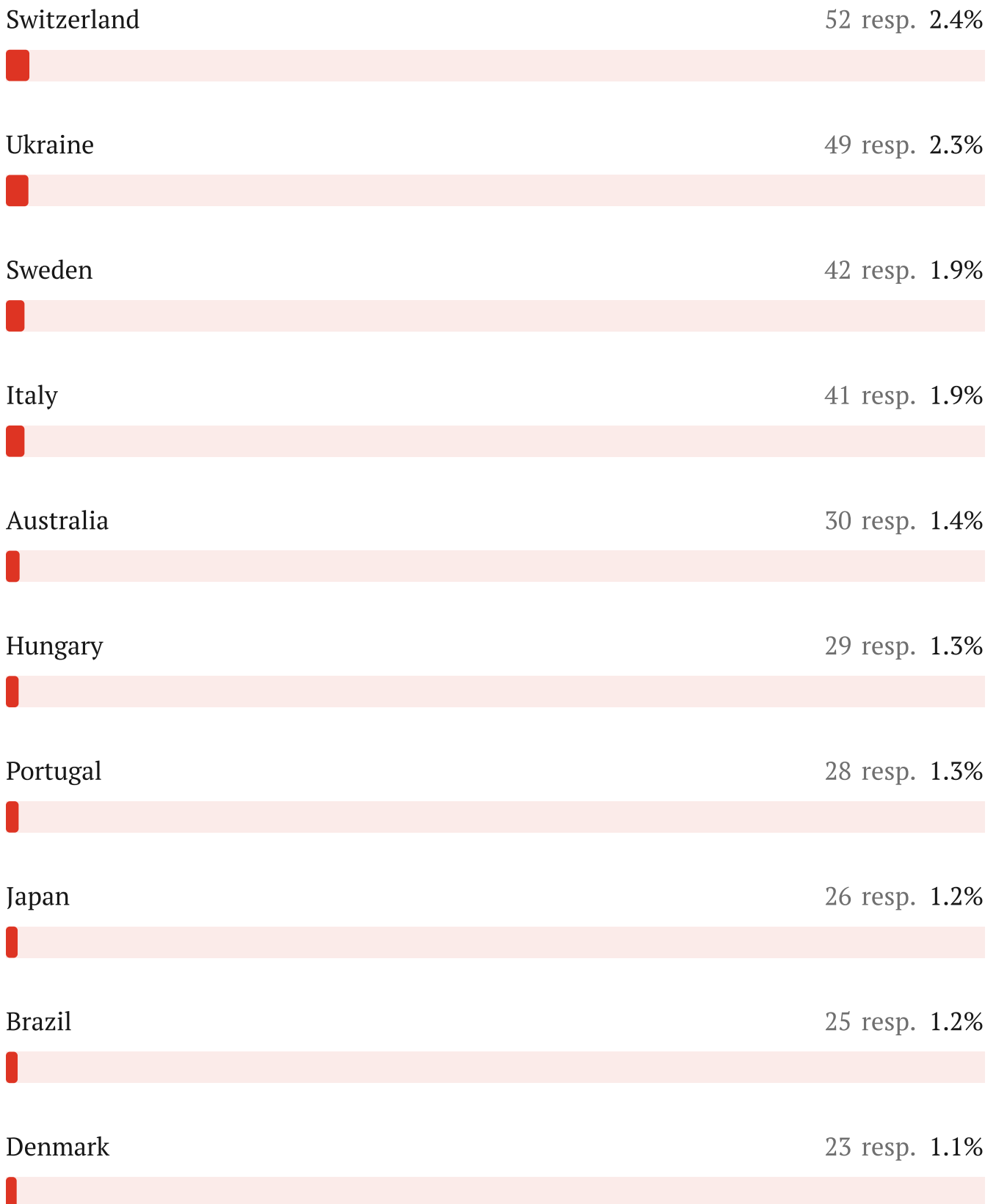
30. What's your country/region?

Israel — 23 resp. 1.1%
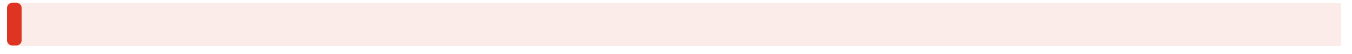
Norway — 23 resp. 1.1%
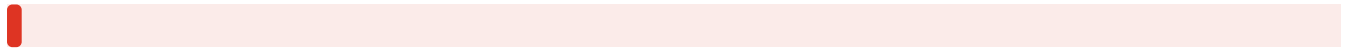
Romania — 23 resp. 1.1%

Belgium — 22 resp. 1%

1 — 415
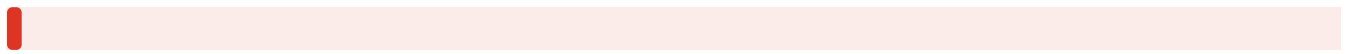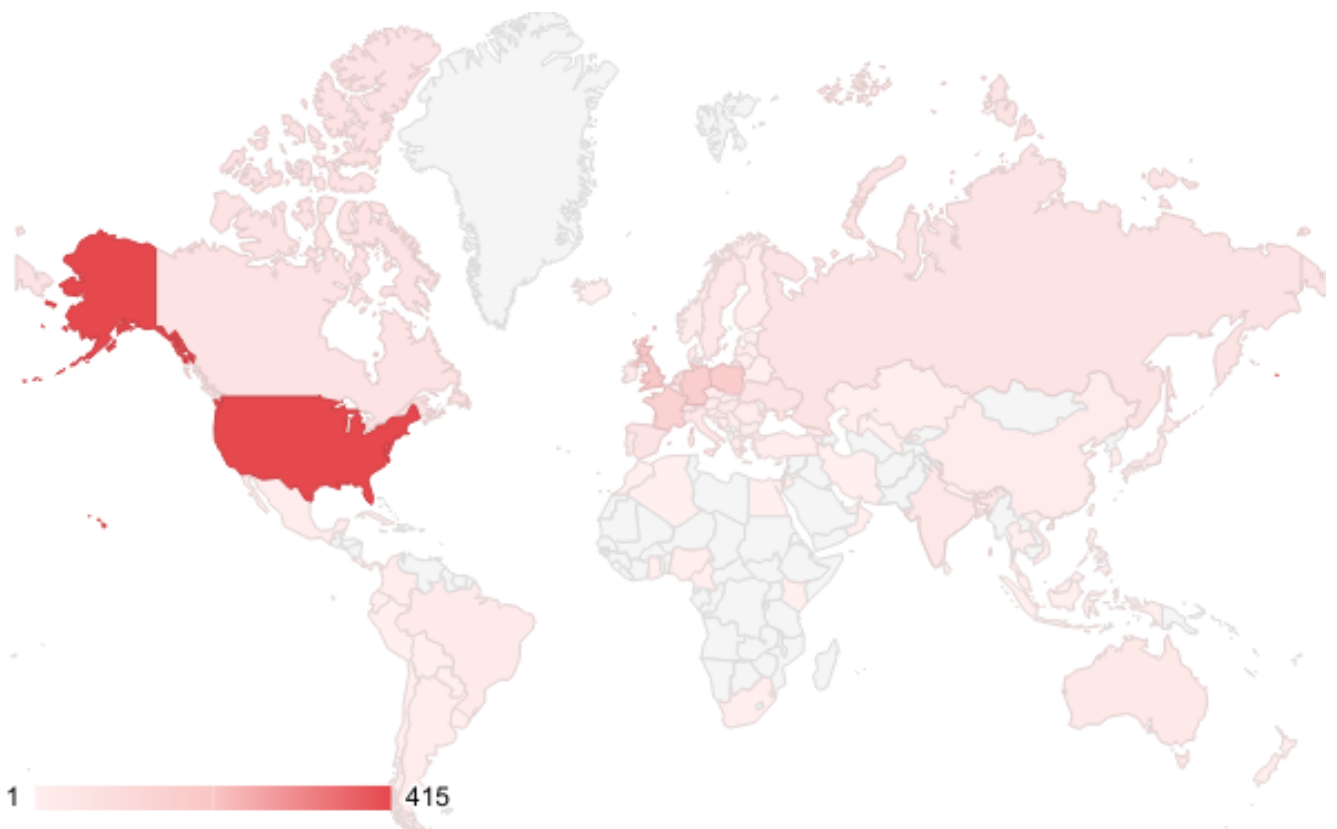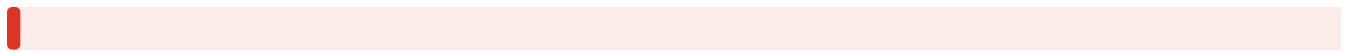
31. How many years of experience do you have writing in Scala?

2223 out of 2236 answered

5-10   900 resp. 40.5%

2-5   677 resp. 30.5%

> 10   300 resp. 13.5%

1-2   211 resp. 9.5%

< 1   135 resp. 6.1%
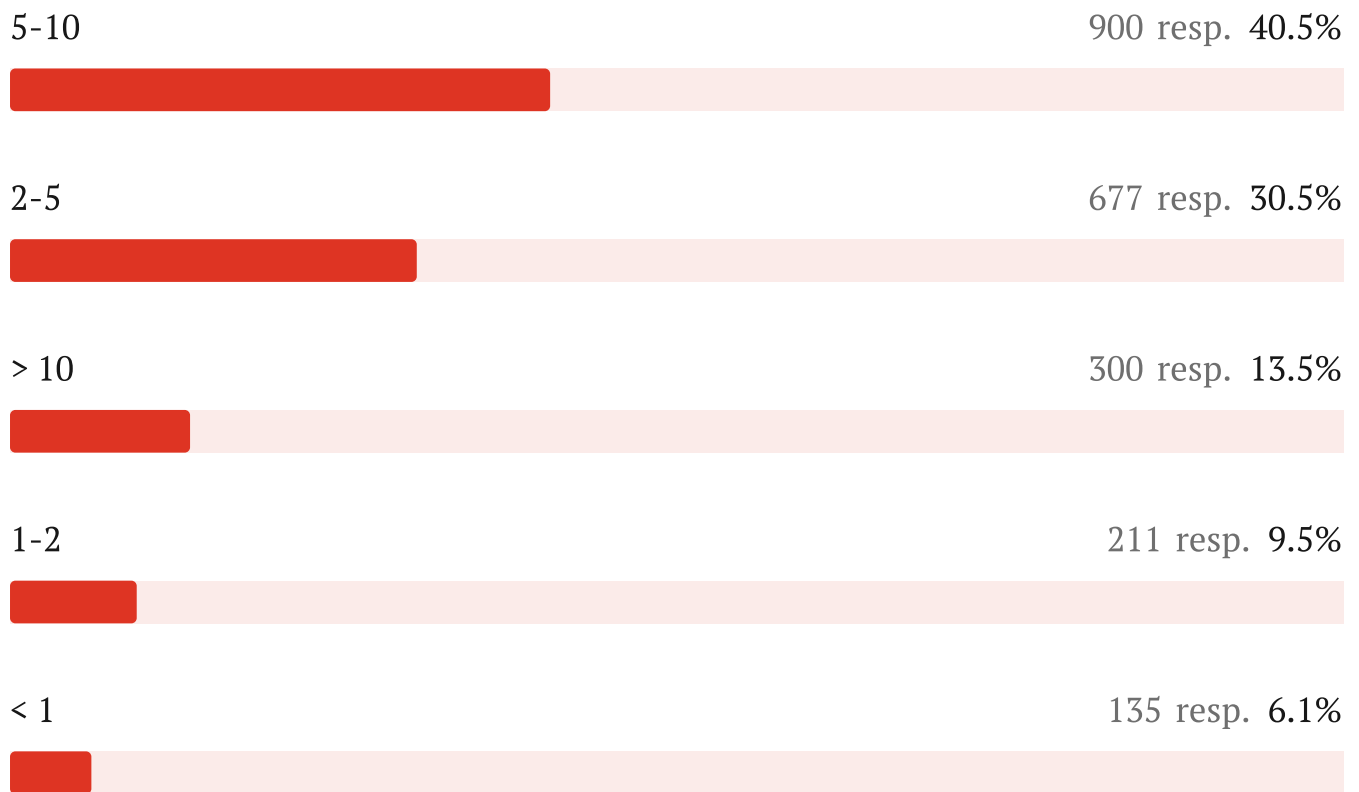
32. How would you rate your Scala proficiency?

2214 out of 2236 answered

Advanced   1088 resp. 49.1%

Intermediate   650 resp. 29.4%

Expert   335 resp. 15.1%

Beginner   136 resp. 6.1%

None   5 resp. 0.2%

Scala

scalacenter VIRTUSLAB
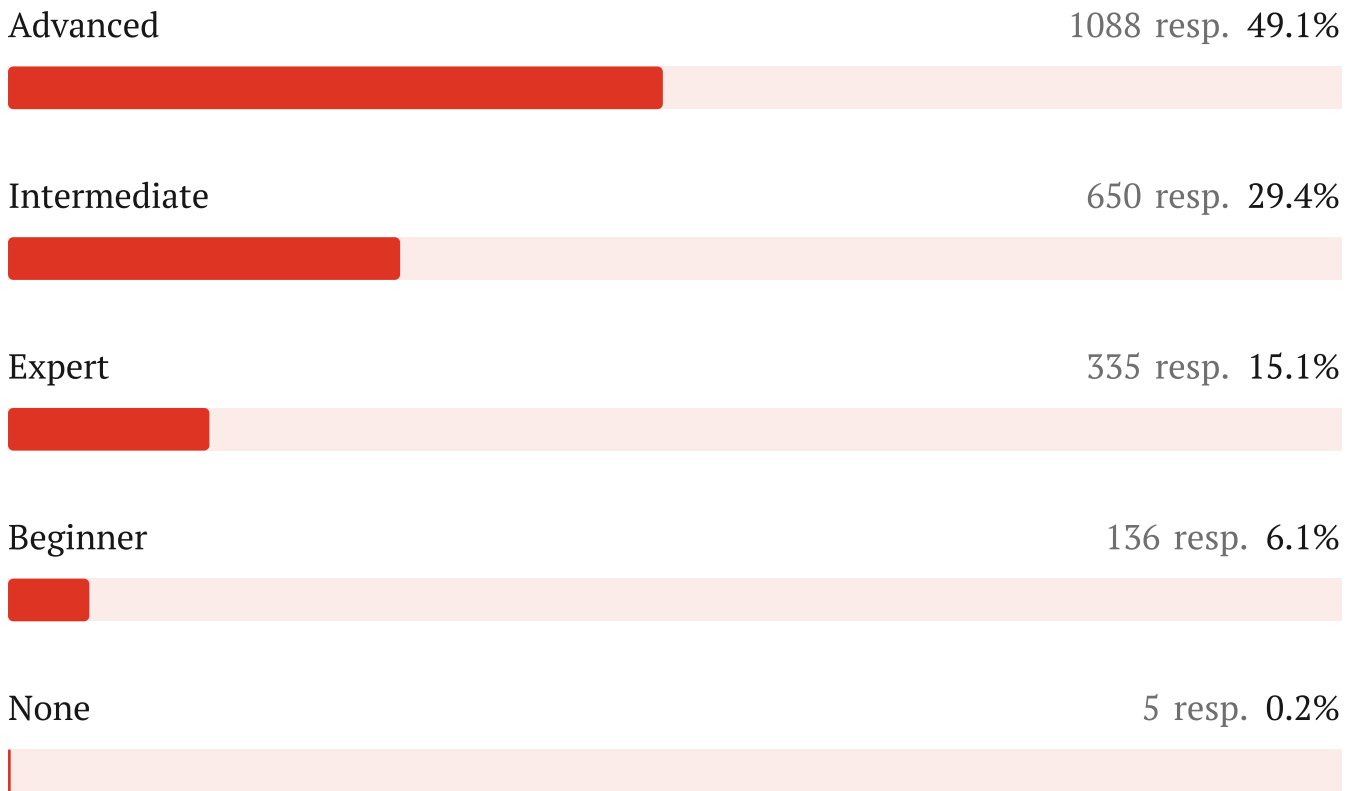
33. What is the highest level of education you have completed?

2219 out of 2236 answered

Master's degree   955 resp. **43%**

Bachelor's degree   848 resp. **38.2%**

Doctoral degree   121 resp. **5.5%**

Some college   111 resp. **5%**

High school diploma   97 resp. **4.4%**

Professional degree   54 resp. **2.4%**

Associate degree   22 resp. **1%**

Less than high school diploma   11 resp. **0.5%**

Scala   scalacenter   VIRTUSLAB
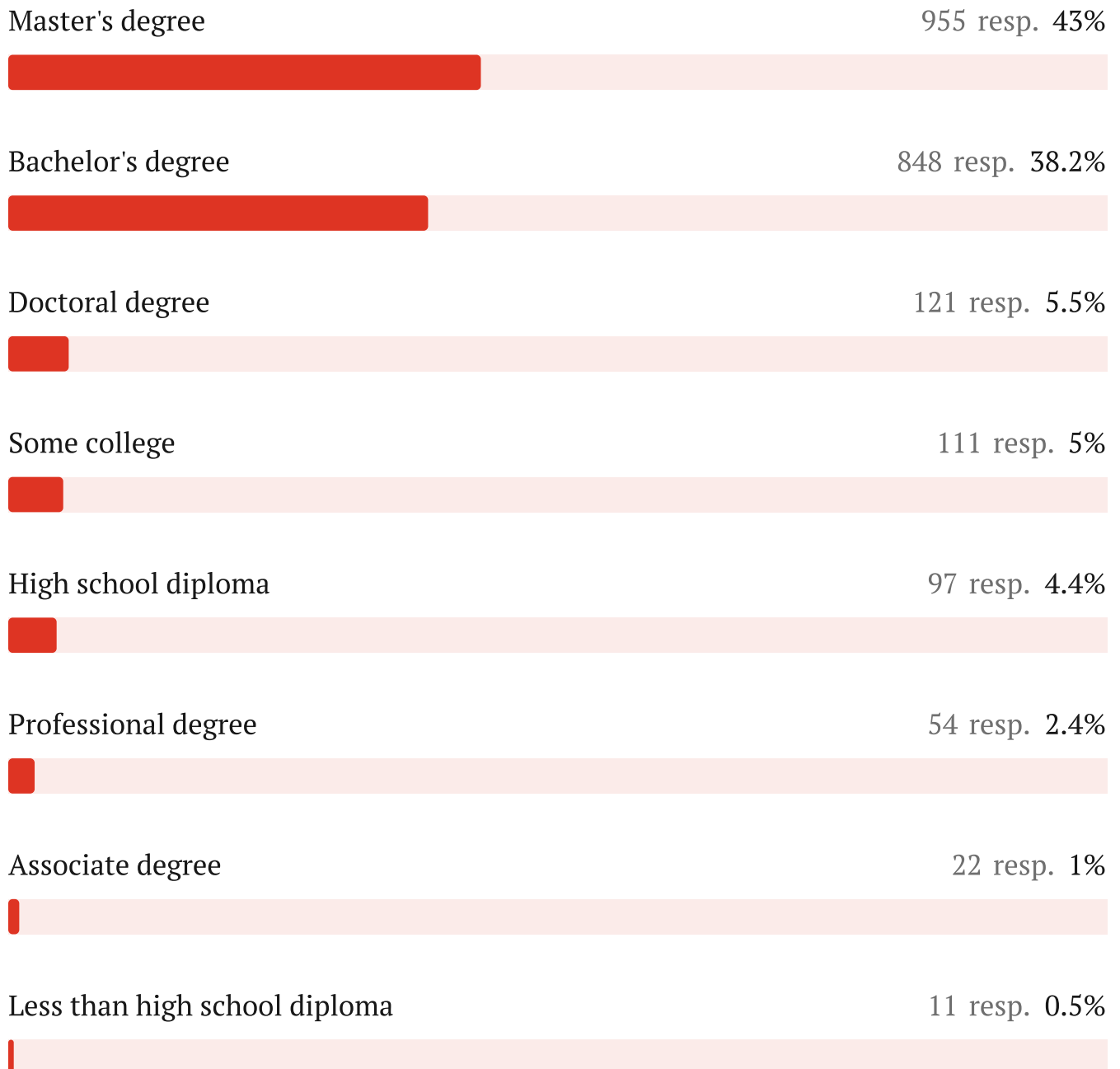
34. How did you find out about this survey?

2171 out of 2236 answered

Twitter   730 resp. **33.6%**

Work   390 resp. **18%**

Reddit   303 resp. **14%**

scala-lang.org blog   159 resp. **7.3%**

LinkedIn   117 resp. **5.4%**

ScalaCon   41 resp. **1.9%**

Search   11 resp. **0.5%**

Hacker News   7 resp. **0.3%**

Facebook   6 resp. **0.3%**

Scala

scalacenter   VIRTUSLAB
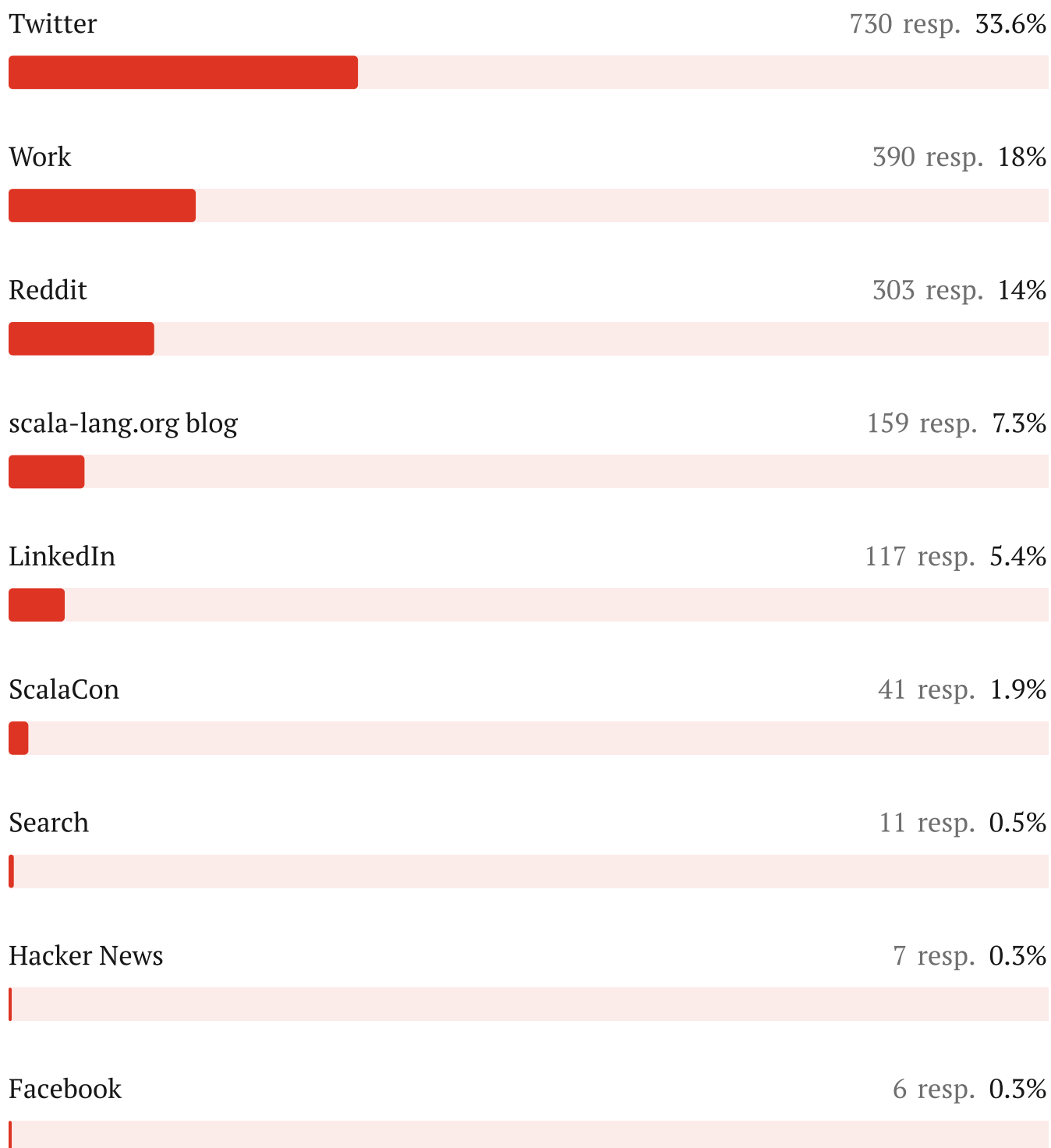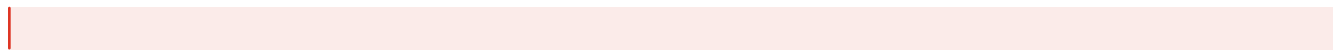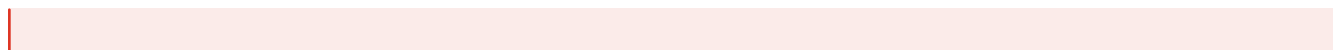
34. How did you find out about this survey?

contributors.scala-lang.org   5 resp.   0.2%

users.scala-lang.org   4 resp.   0.2%

Other   398 resp.   18.3%

Scala

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