



User & Developer Survey 2019

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Methodology

We conducted 1,834 interviews online among Julia users and developers June 12-24, 2019

Margin of error is +/- 2.3 percentage points

We recruited respondents online using Slack, Discourse, Twitter, email, JuliaLang.org and JuliaComputing.com

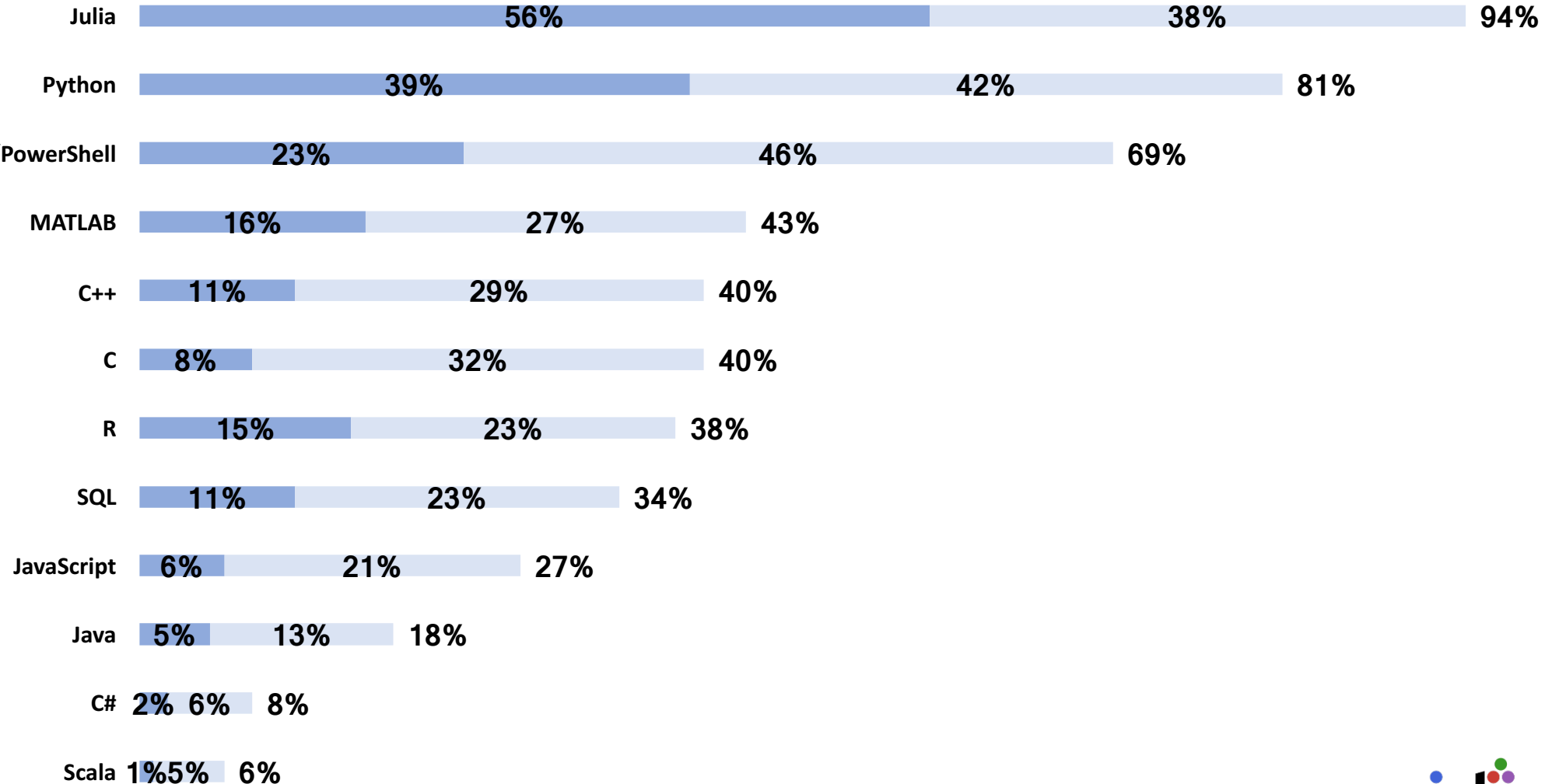
The survey was administered only in English, but more than half of respondents come from non-English speaking countries

56% of Respondents Use Julia a 'Great Deal' While 38% Use Julia 'Some'

Python and Bash/Shell/PowerShell are 2nd and 3rd among Julia Users and Developers

How frequently do you use each of the following languages?

■ Great deal ■ Some

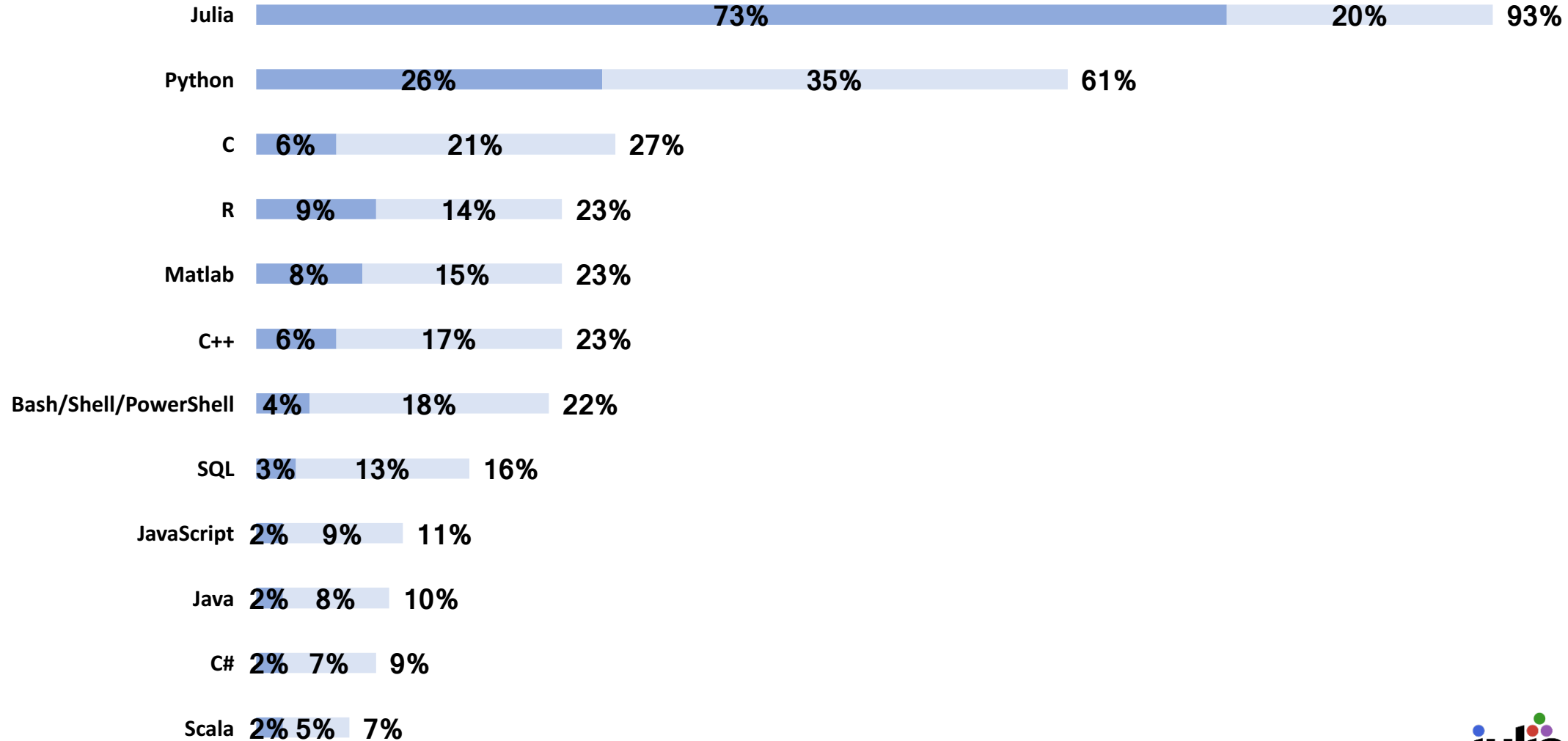


93% of Respondents Like Julia or Say Julia Is One of Their Favorite Languages

Python Comes Second Among Julia Users and Developers

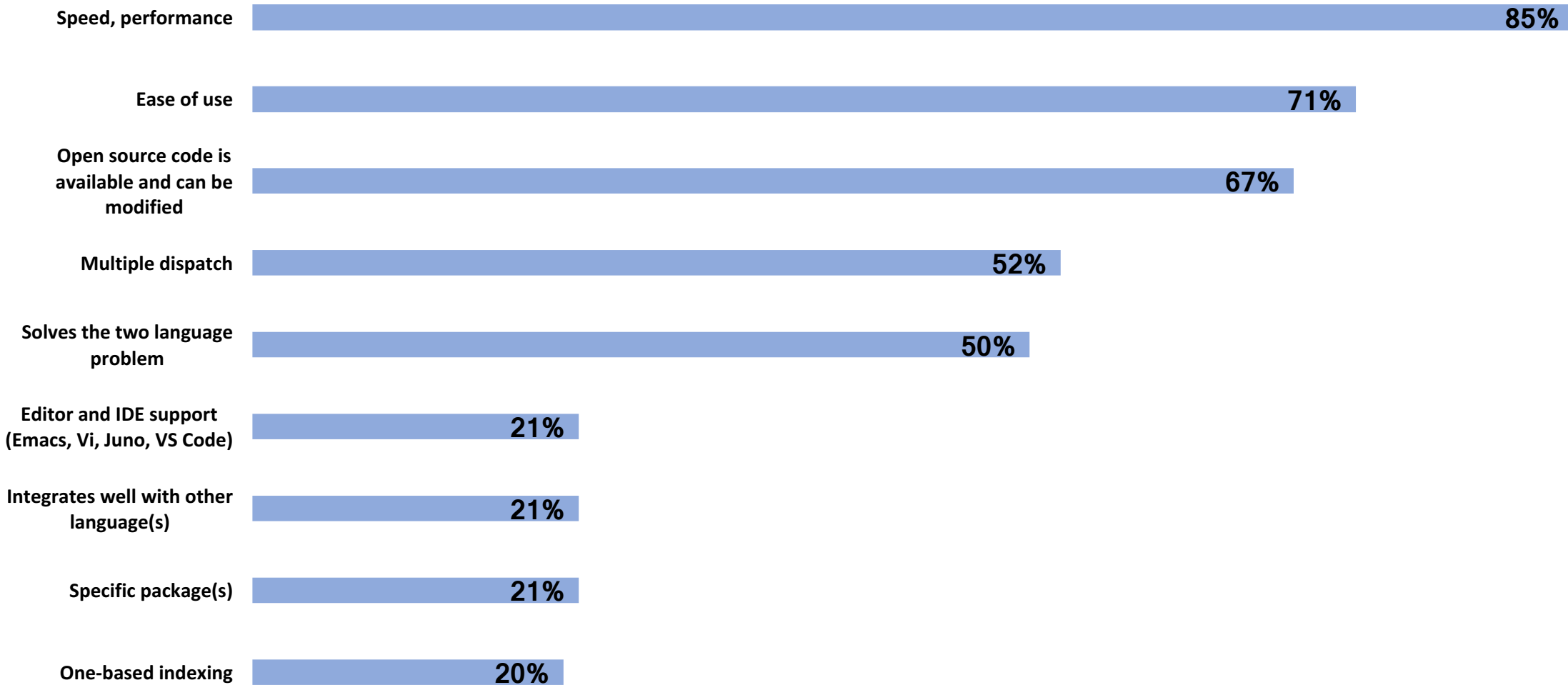
How much do you like each of the following languages?

■ One of my favorite languages ■ Like



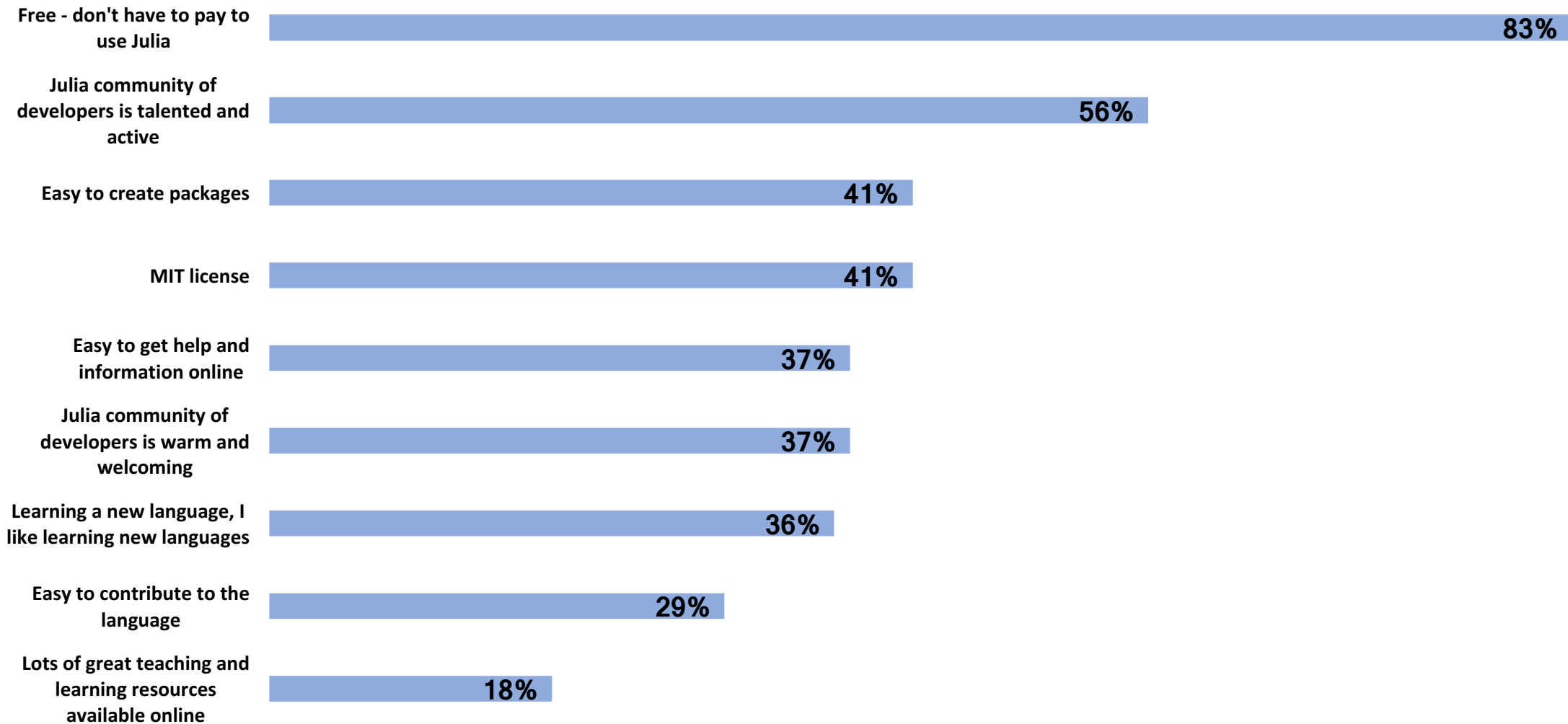
The MOST Popular TECHNICAL Features of Julia Are Speed/Performance, Ease of Use, Open Source, Multiple Dispatch and Solving the Two Language Problem

Thinking only about the TECHNICAL aspects or features of Julia, what are the TECHNICAL aspects or features you like MOST about Julia?



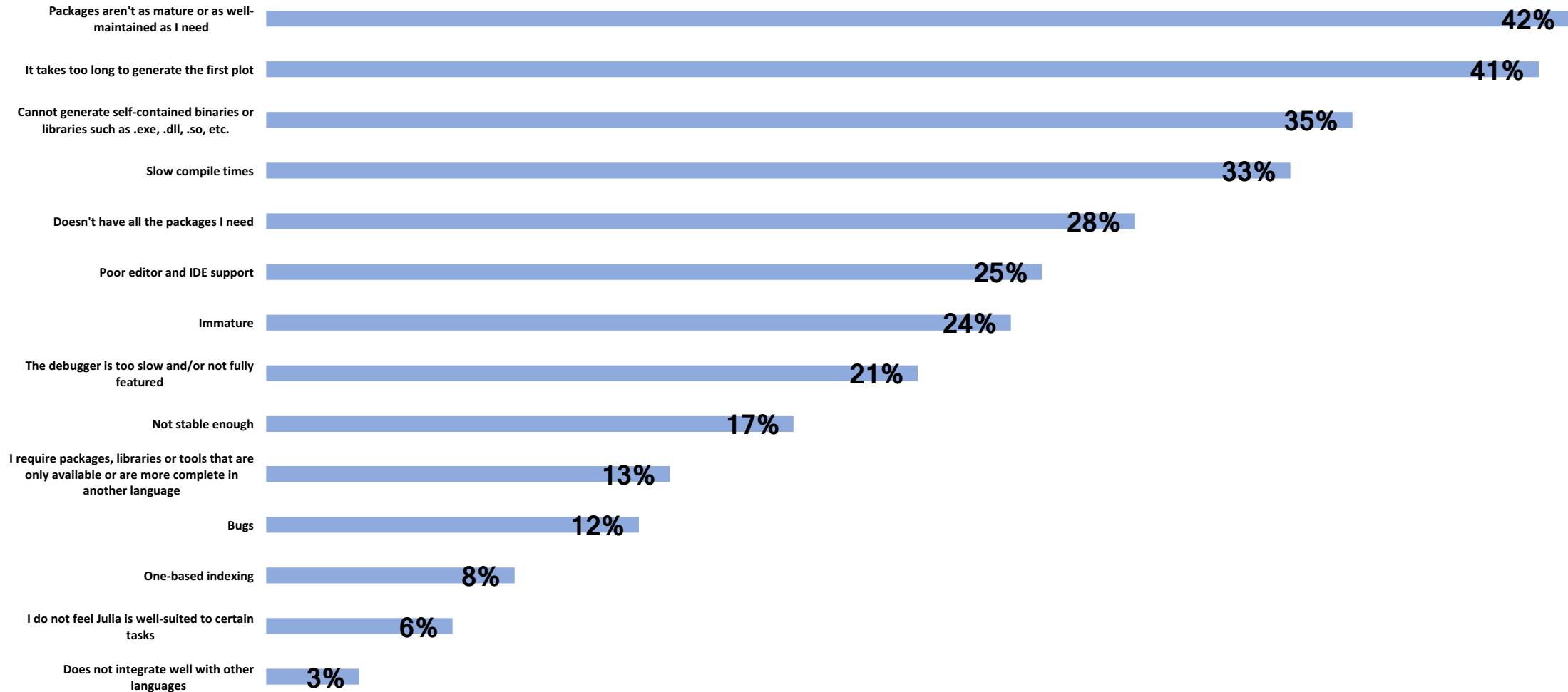
The MOST Popular NON-TECHNICAL Features of Julia Are Free (Don't Have to Pay) and Active and Talented Community of Julia Developers

Thinking only about the NON-TECHNICAL aspects or features of Julia, what are the NON-TECHNICAL aspects or features you like MOST about Julia?



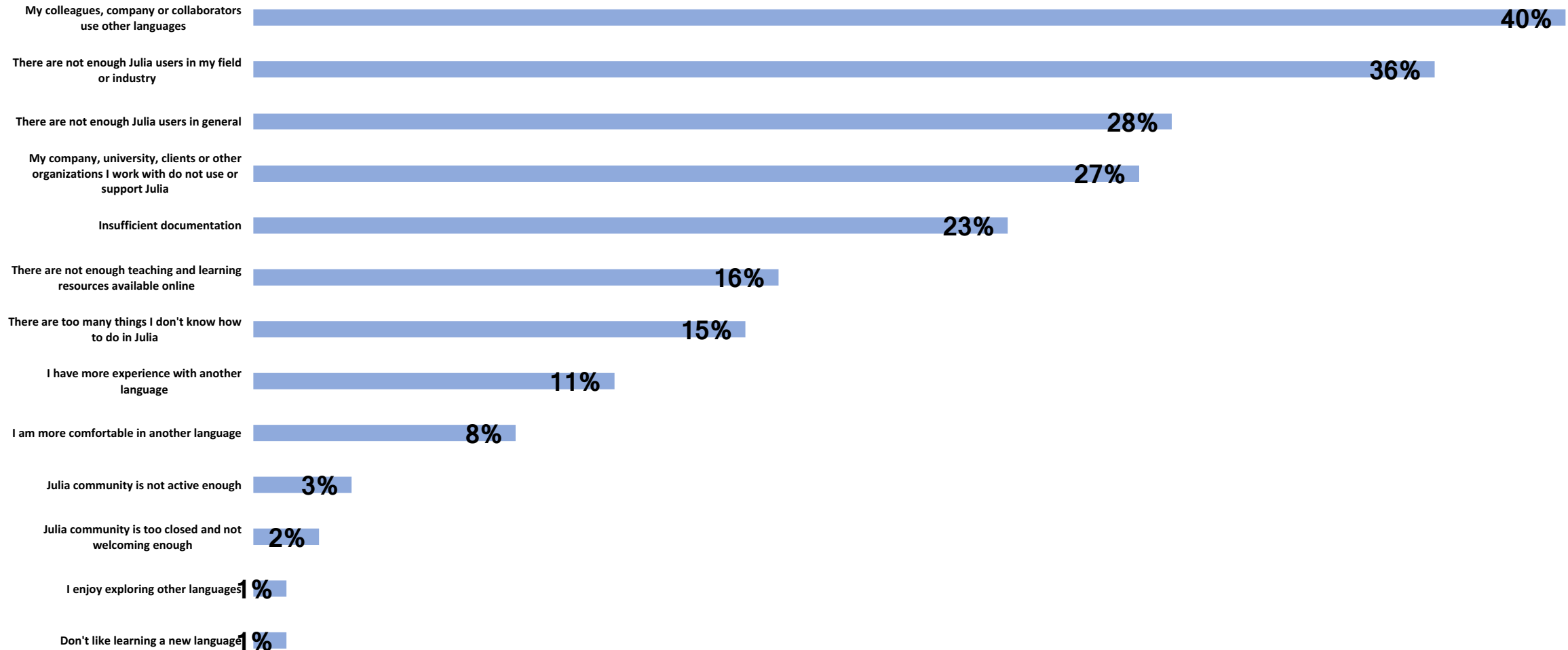
The Biggest TECHNICAL PROBLEMS with Julia Are that Packages Aren't As Mature or Well-Maintained as Needed and It Takes Too Long to Generate the First Plot

Thinking only about the TECHNICAL aspects or features of Julia, what are the TECHNICAL aspects or features you like LEAST about Julia?



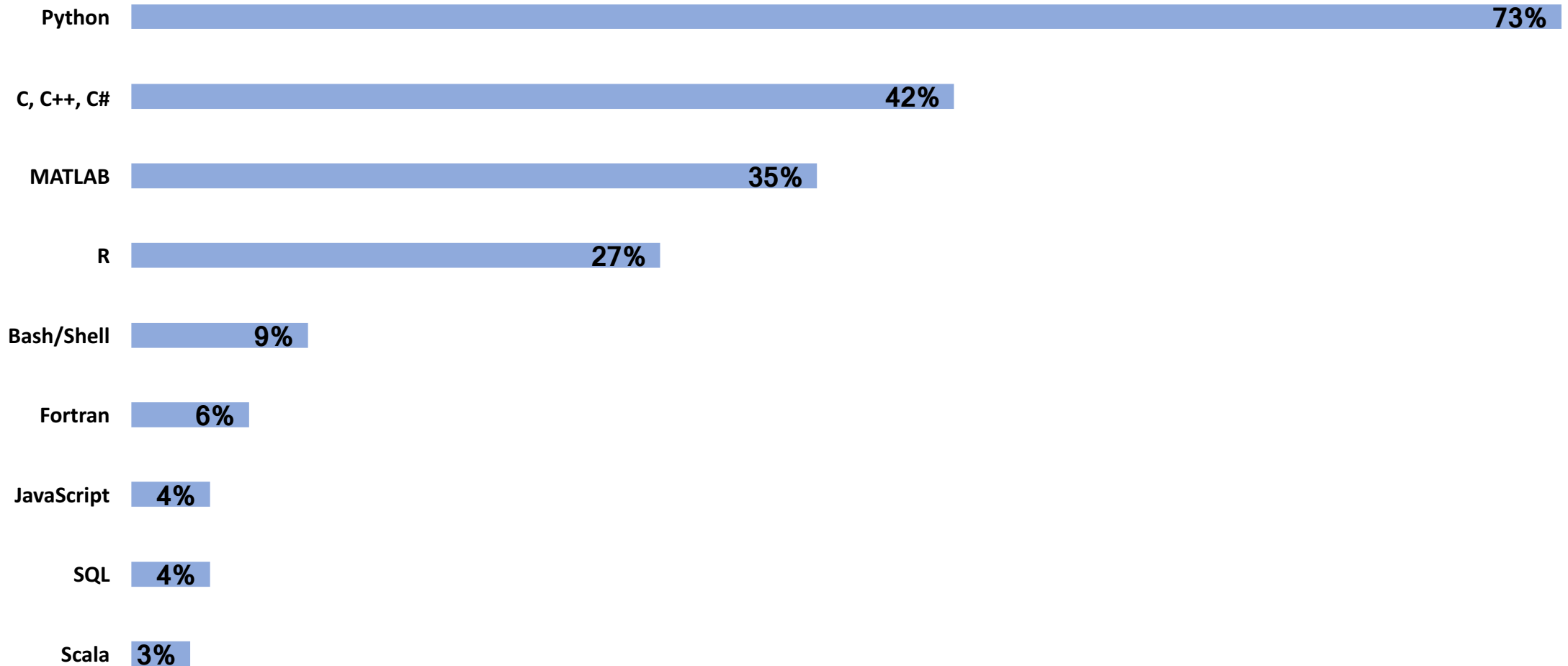
The Biggest NON-TECHNICAL PROBLEMS with Julia Are Related to Adoption: Too Many Colleagues, Collaborators and Others Don't Use Julia

Thinking only about the NON-TECHNICAL aspects or features of Julia, what are the NON-TECHNICAL aspects or features you like LEAST about Julia?



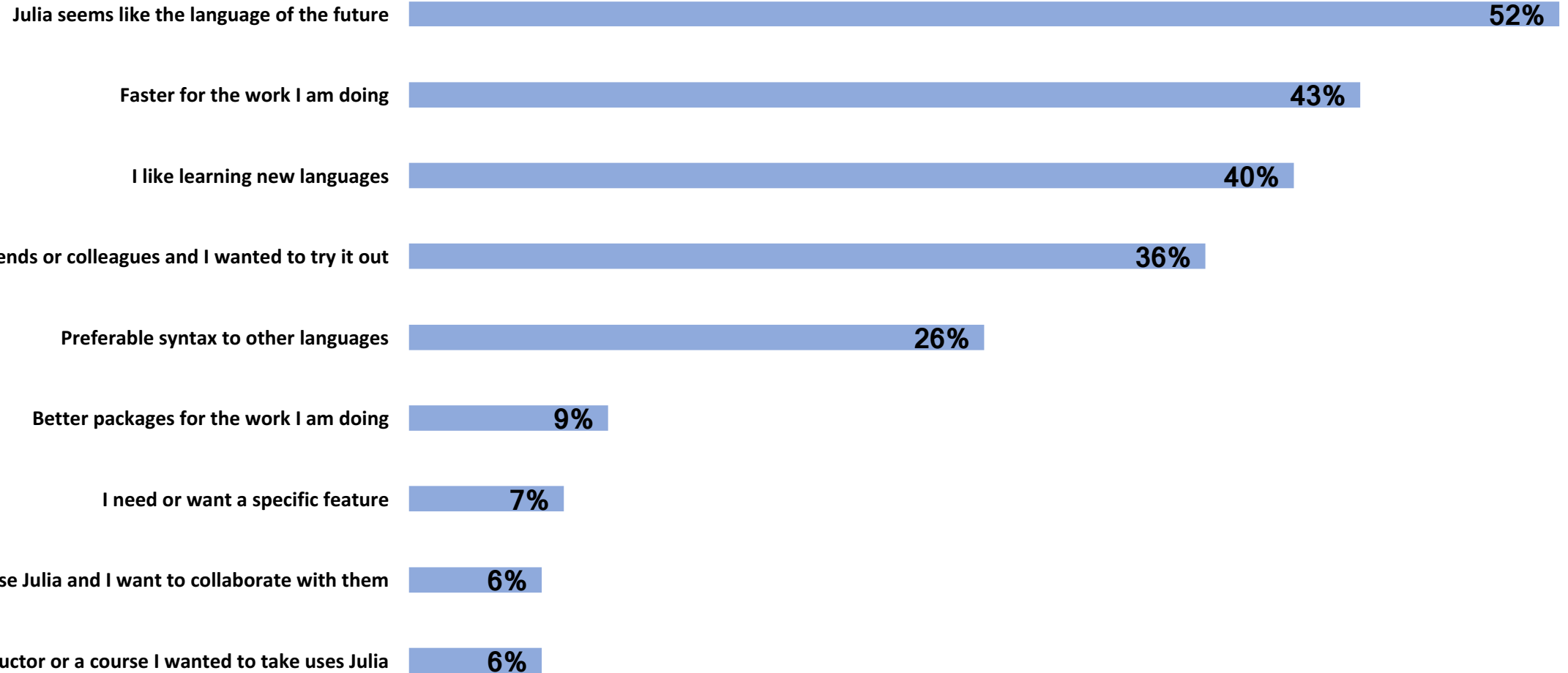
If Not for Julia, Most Would Be Using Python, Followed by C/C++/C#, MATLAB and R

Thinking about the tasks for which you use Julia, if you weren't using Julia for these tasks, what programming language would you be using?



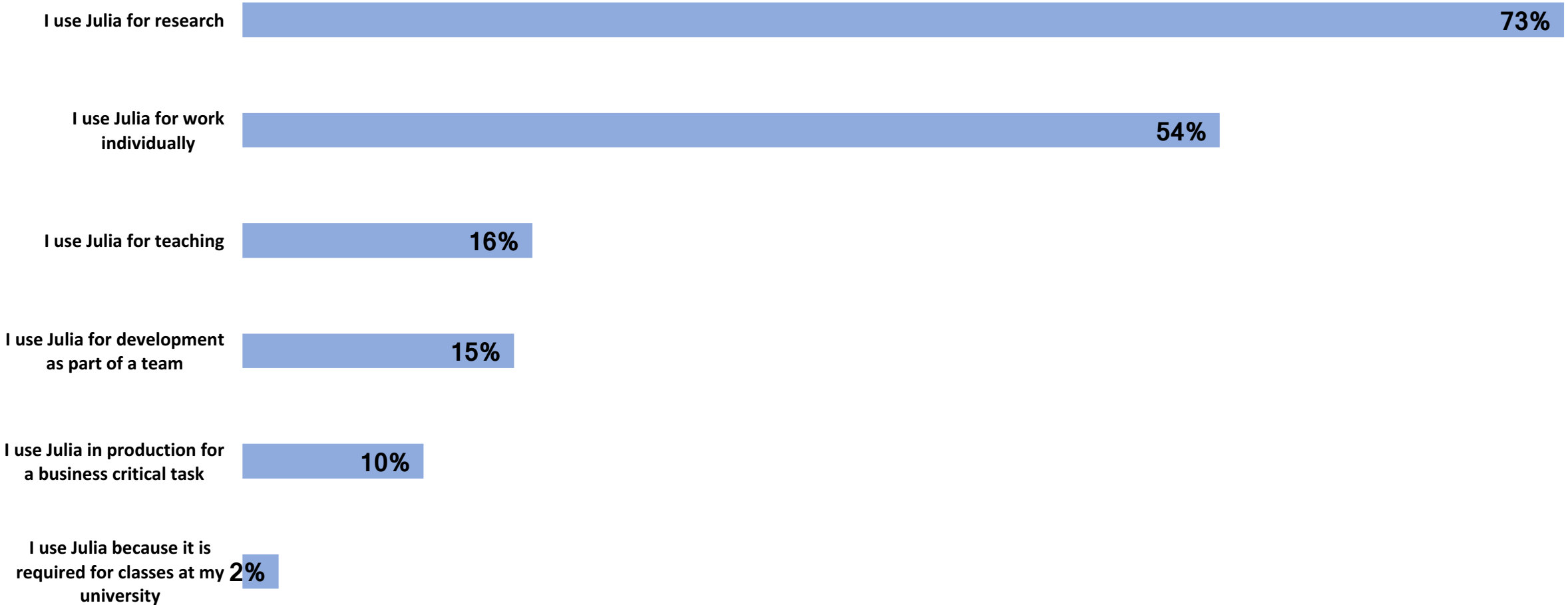
Respondents Started Using Julia Because of Speed and Because Julia Seems Like the Language of the Future

Why did you start using Julia?



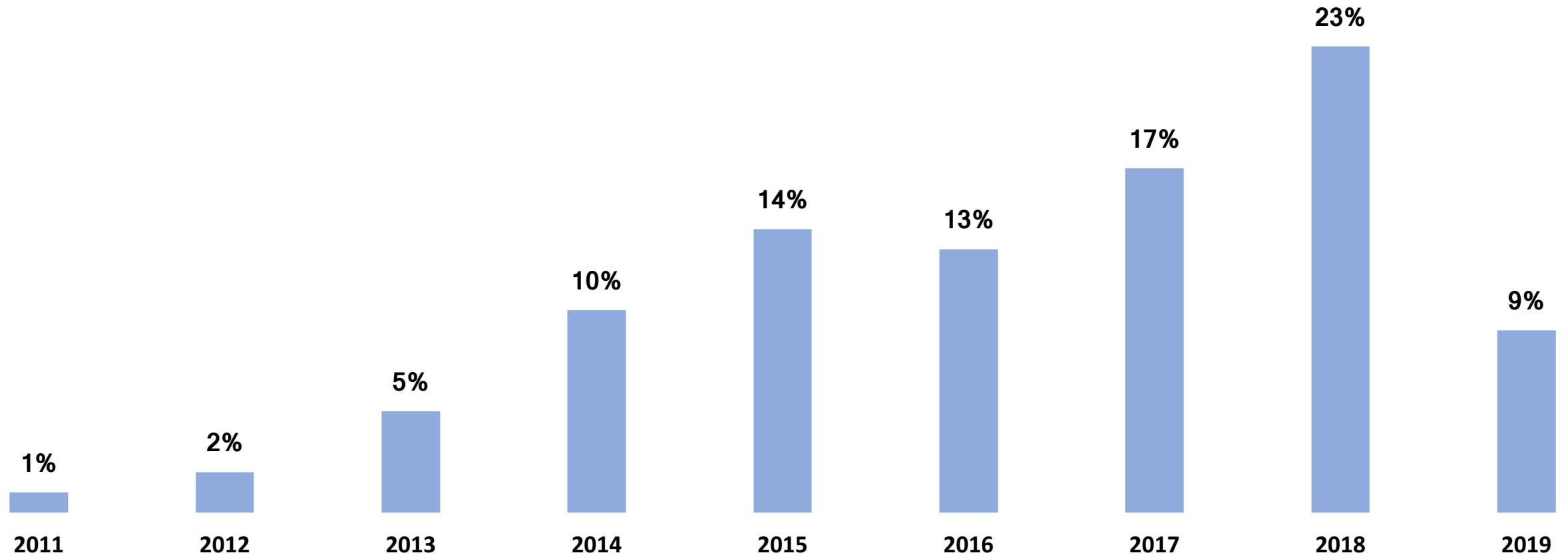
Most Use Julia for Research and Individual Work

Which of the following best describe your use of Julia?



Most Started Using Julia in the Last 1-5 Years

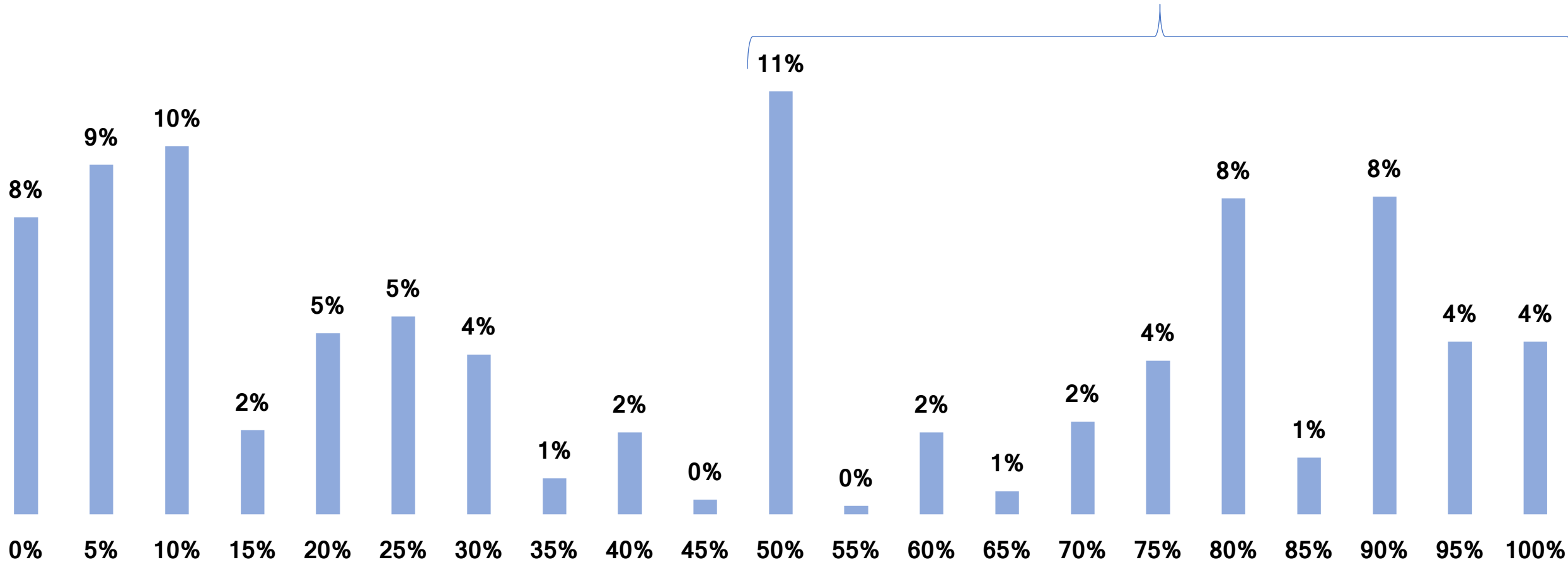
When did you first start using Julia?



Nearly Half Do At Least Half Their Programming in Julia

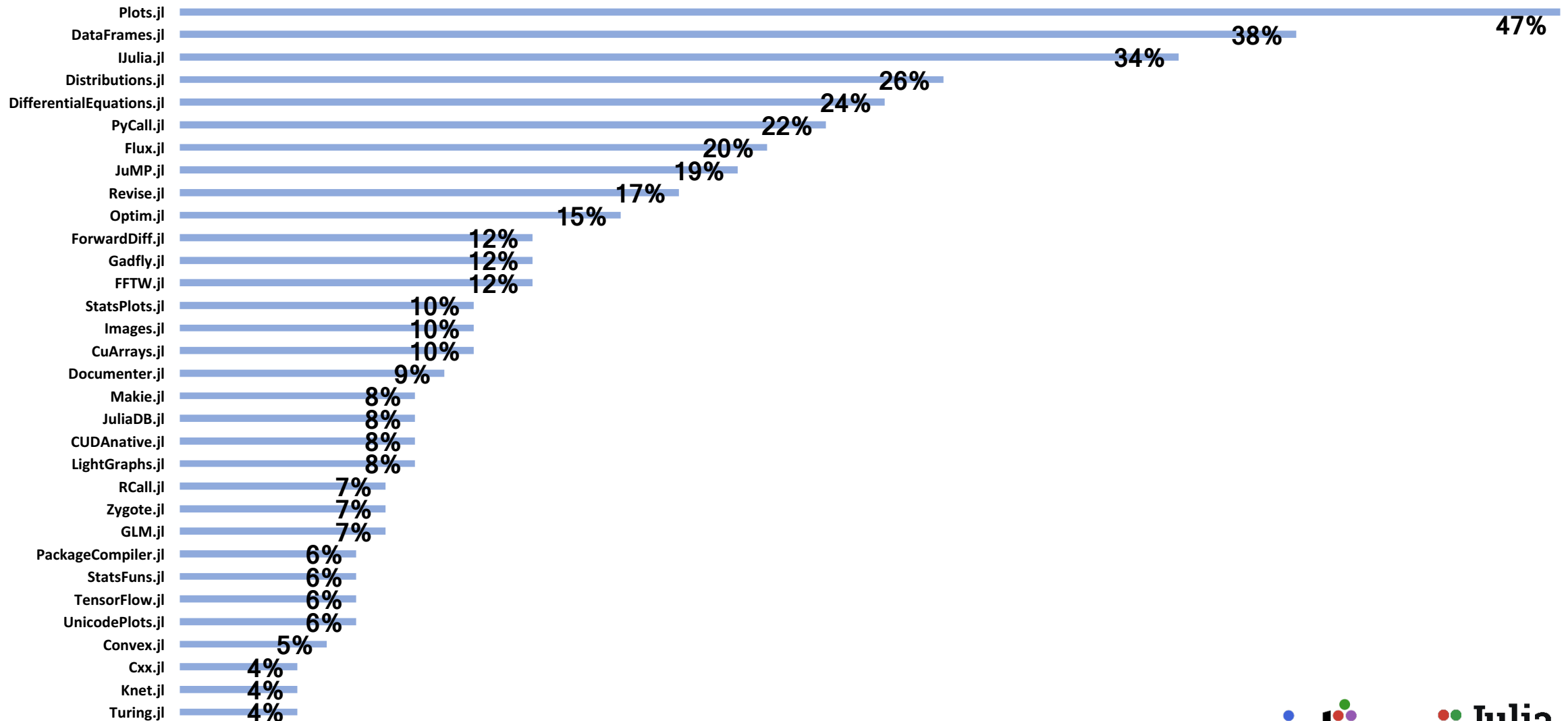
*What percentage of the programming work you do is in Julia?
ROUNDED TO NEAREST 5%*

45% Use Julia For At Least Half Their Work



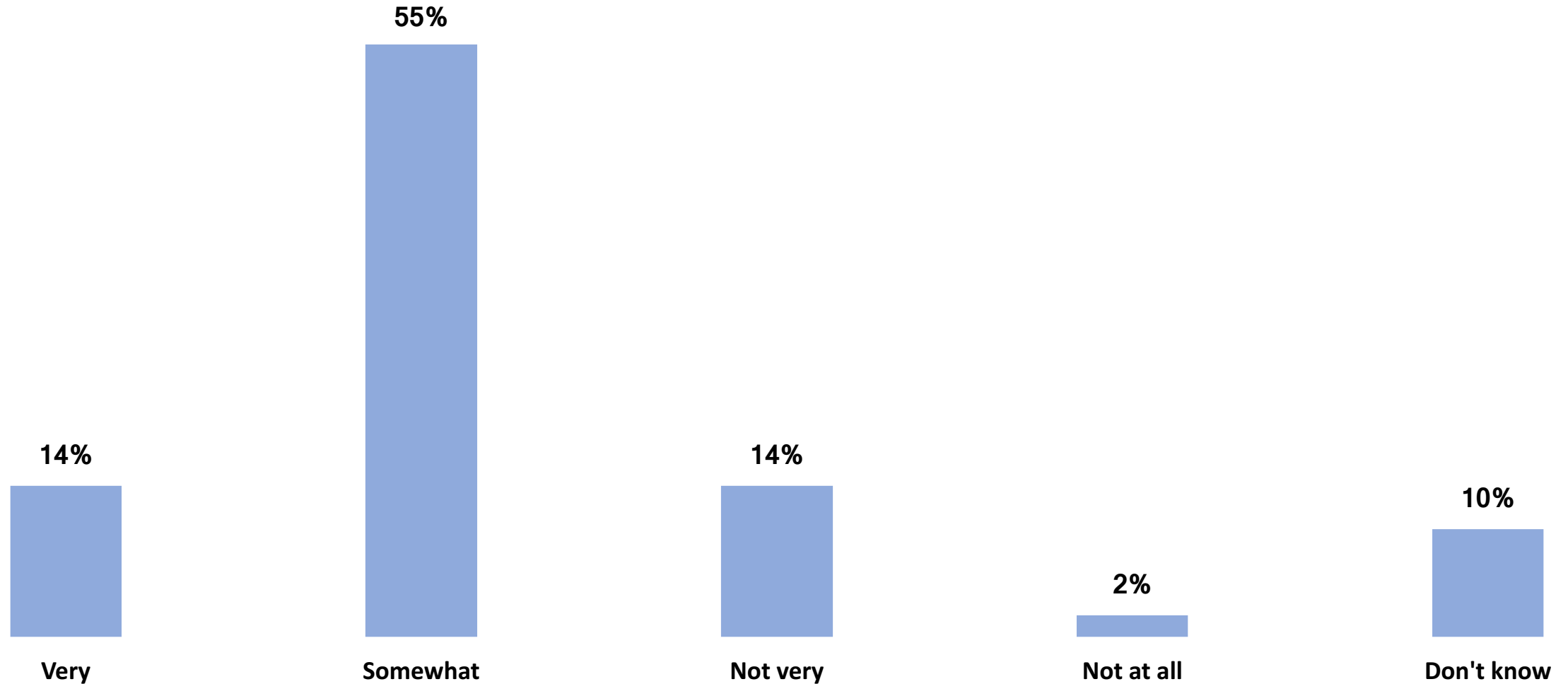
The Most Popular Julia Packages Are Plots.jl, DataFrames.jl and IJulia.jl

What are some of your favorite Julia packages?



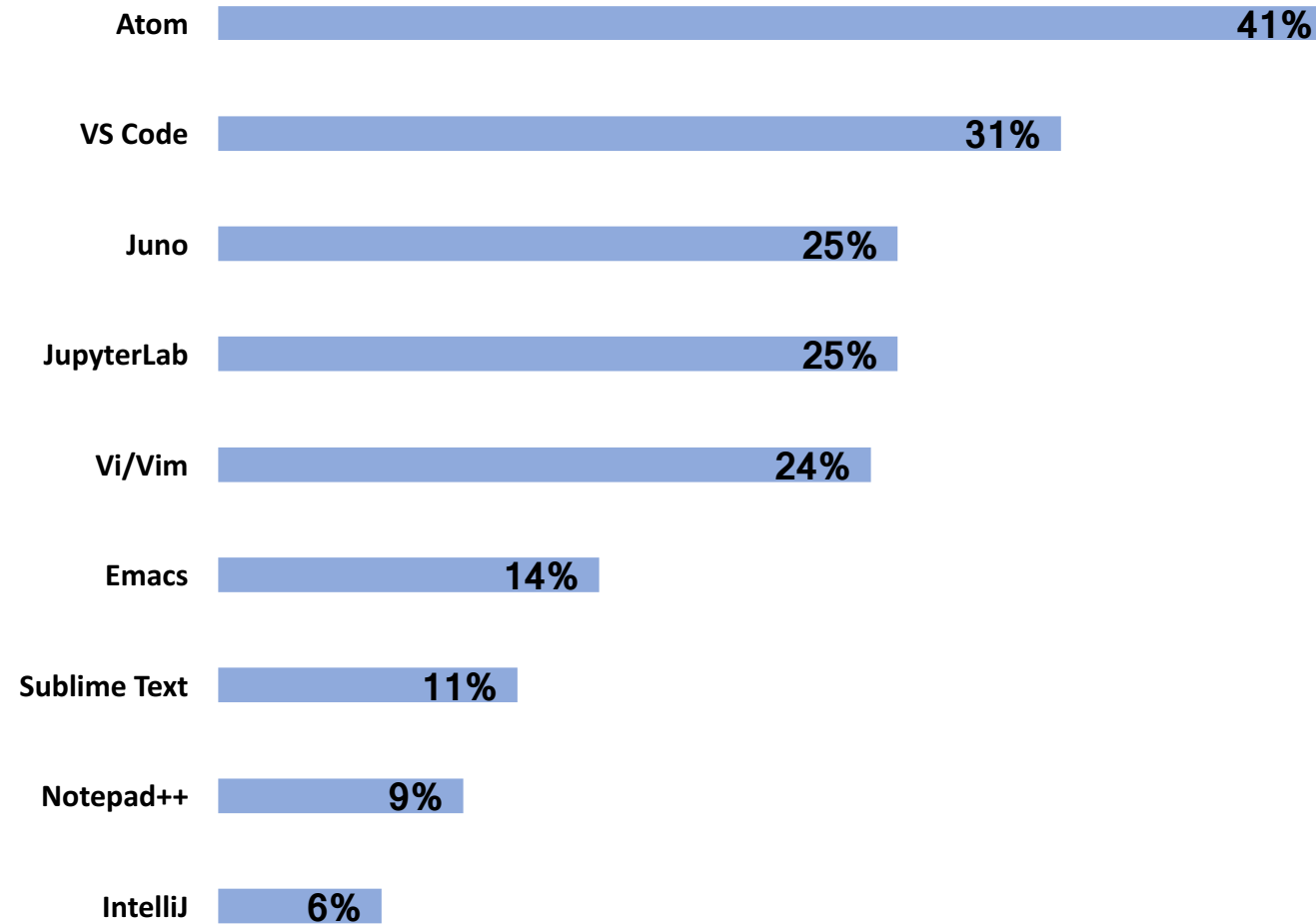
Most Say the Current Julia Package Environment Is 'Somewhat' Robust

How robust is the current Julia package environment?



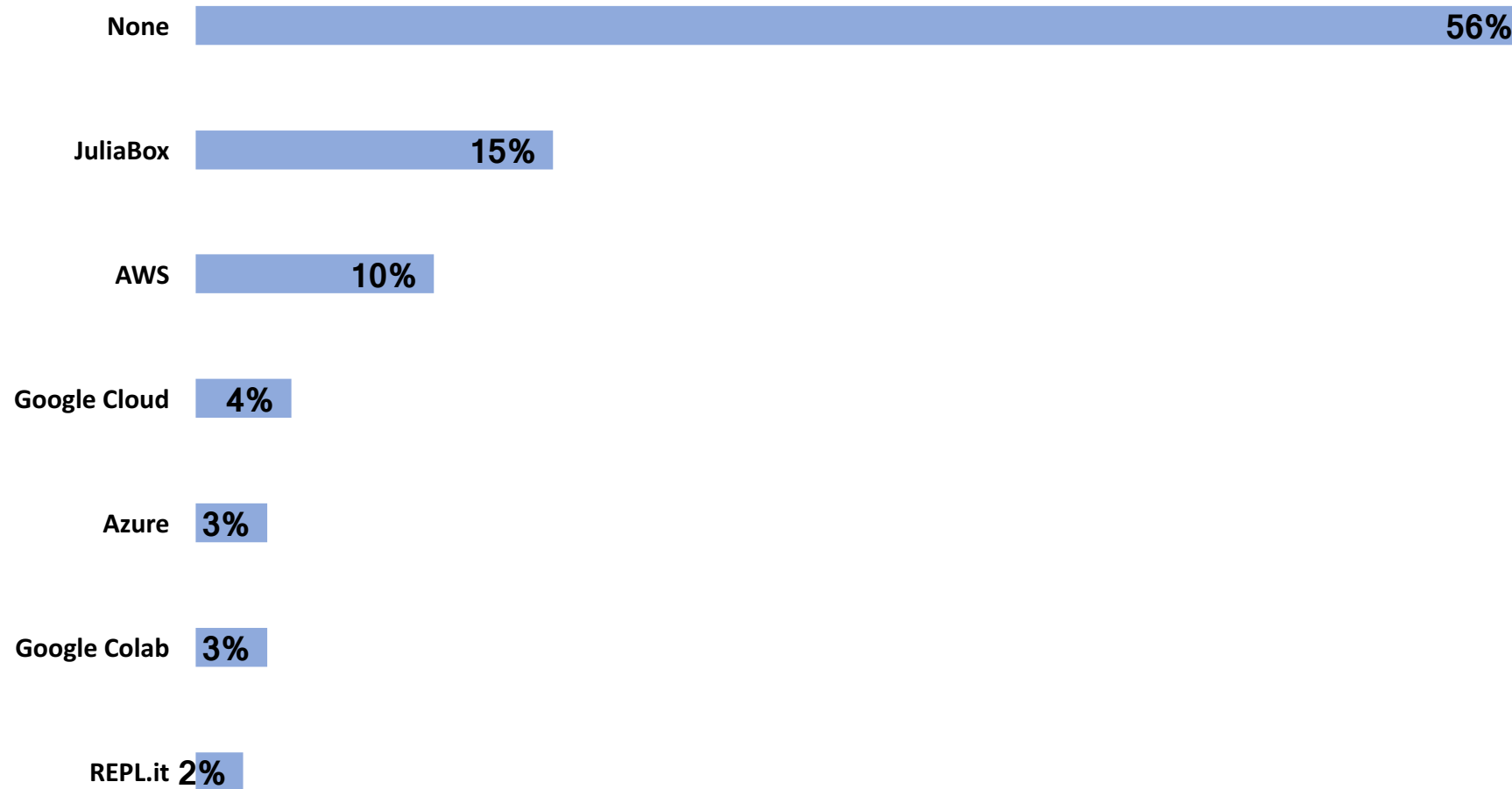
Atom and VS Code Are the Most Popular Editors or IDEs

Which editors or IDEs do you use frequently?



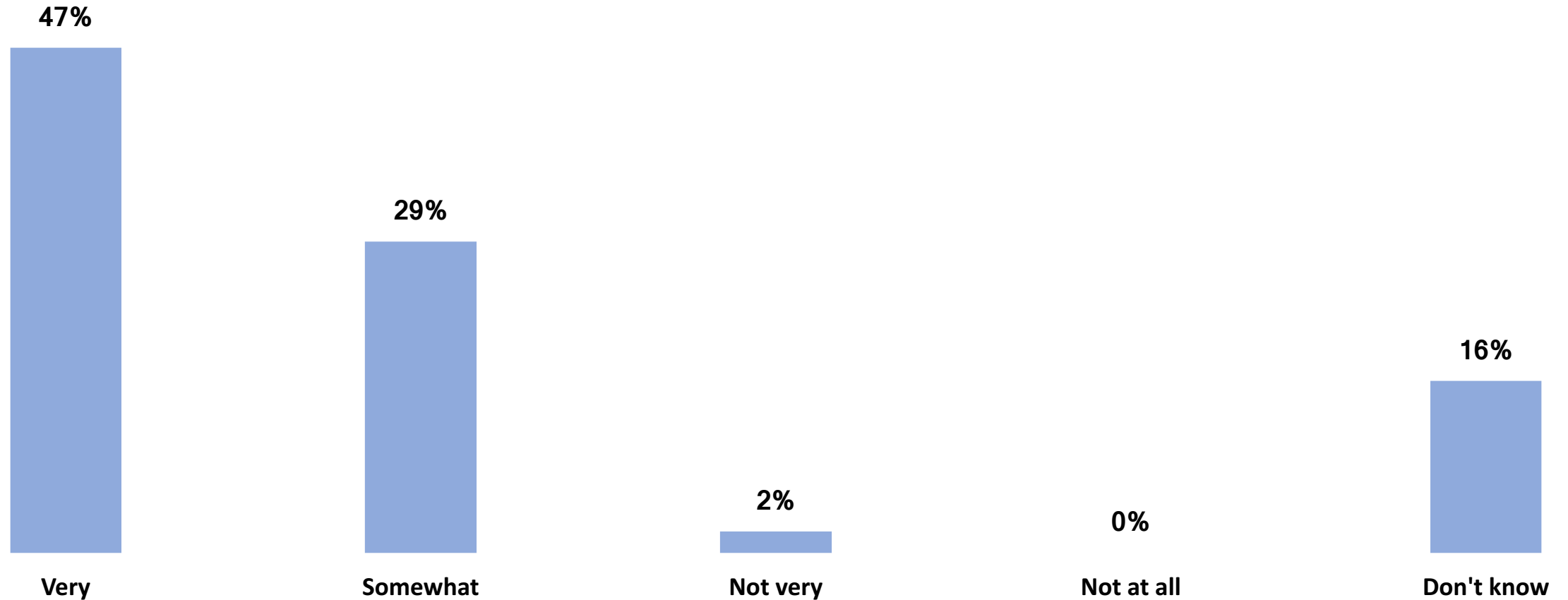
Most Do Not Use Julia with Cloud Solutions - Those Who Do Use JuliaBox or AWS

Which cloud solutions, if any, do you use together with Julia?



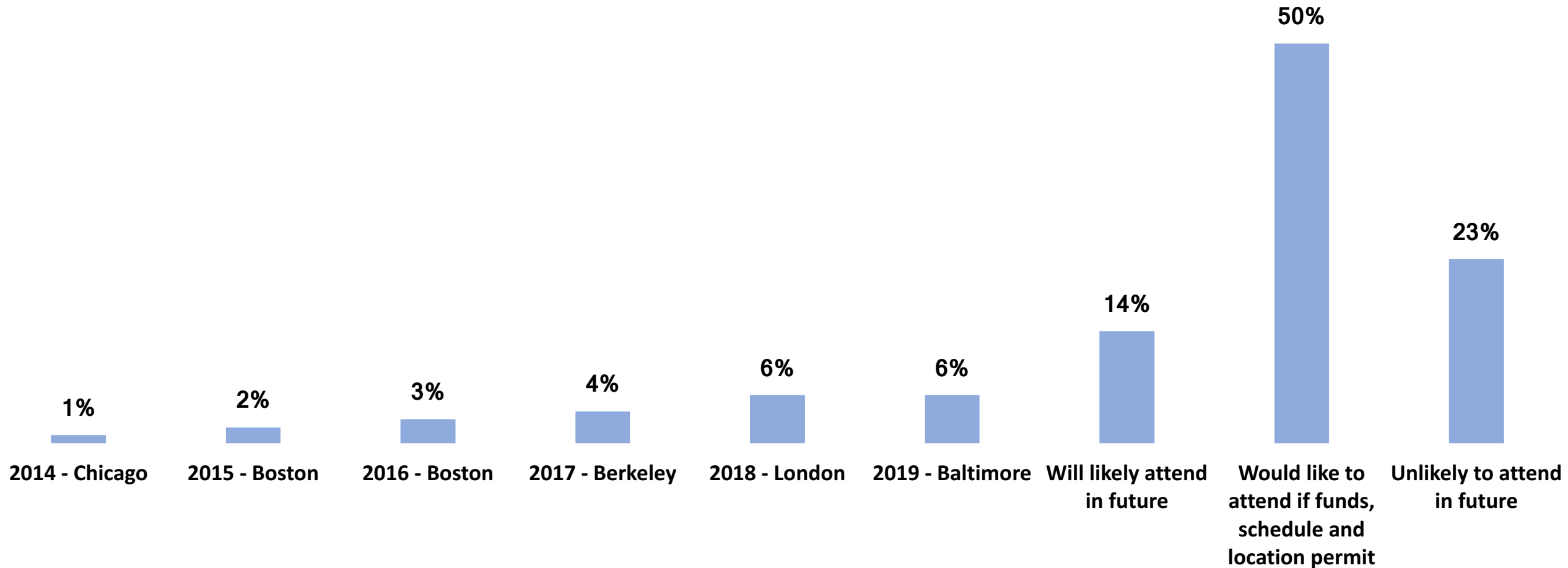
Most Say the Julia Community Is 'Very' or 'Somewhat' Helpful and Collaborative

How helpful and collaborative is the Julia community?



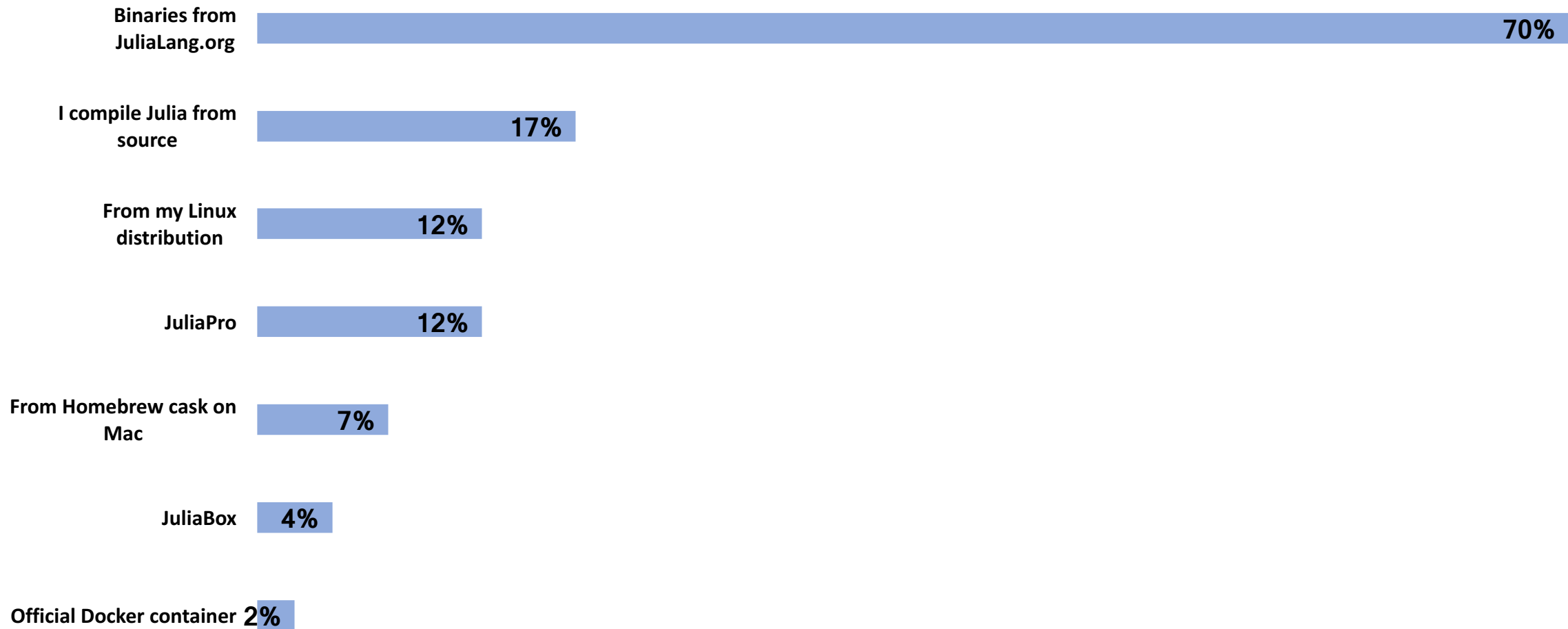
Most Have Attended JuliaCon, Will Likely Attend or Would Like to Attend

Have you attended or do you plan to attend JuliaCon?



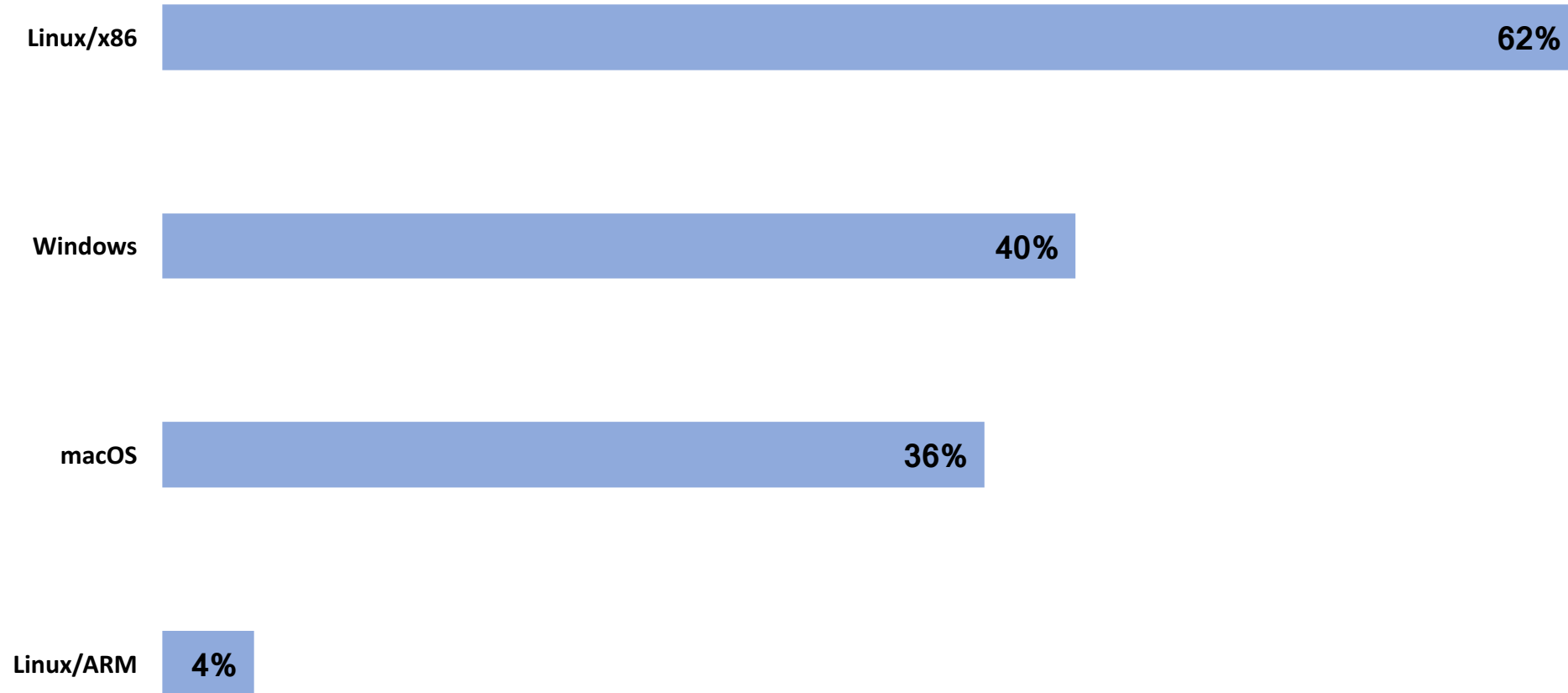
Most Downloaded or Installed Binaries from JuliaLang.org

How did you download or install the Julia version you use most frequently?



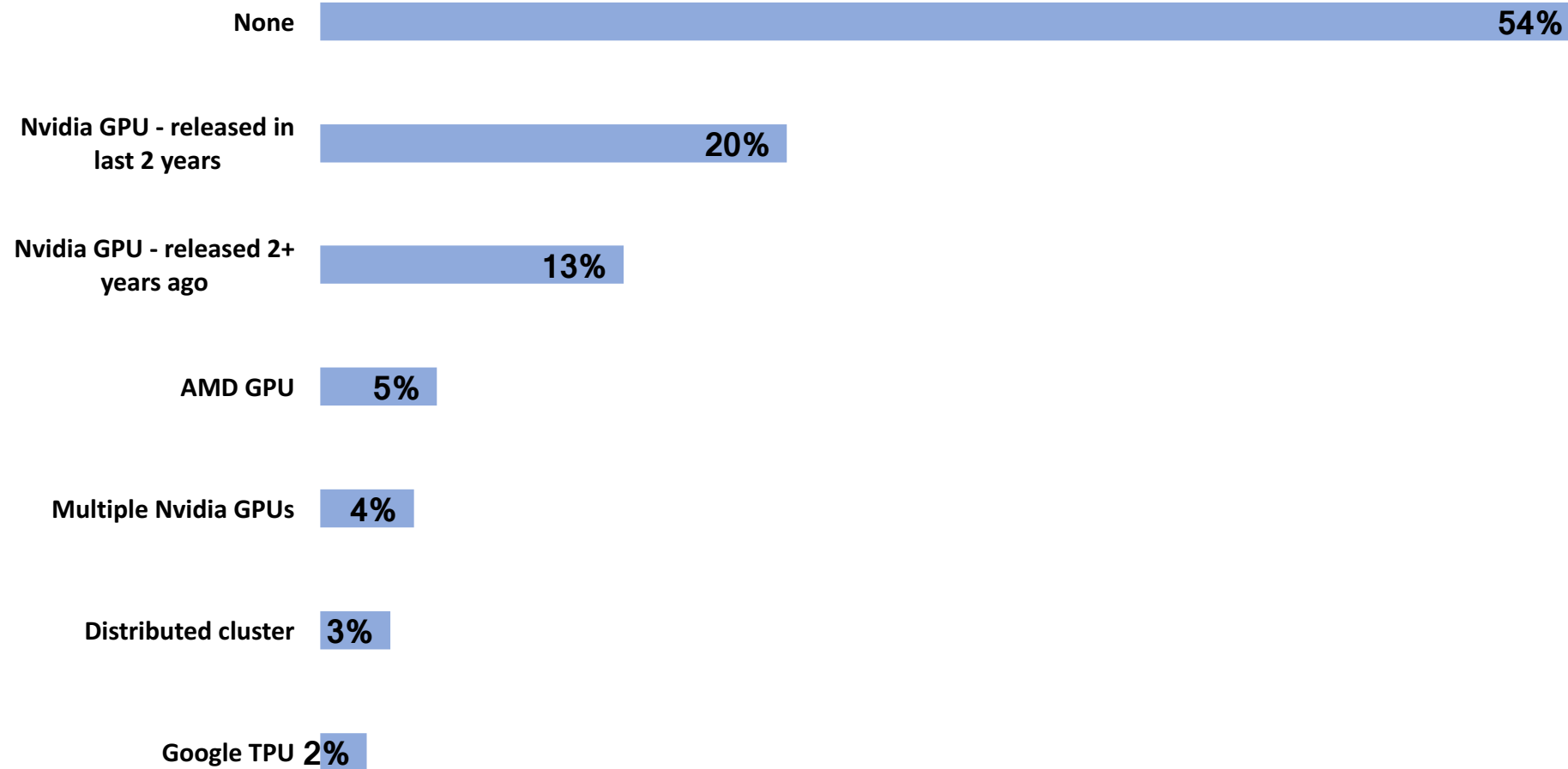
Most Use Julia with Linux/x86

With which operating system(s) do you use Julia?



Most Do Not Use Julia with Hardware Accelerators – Those Who Do Use Nvidia GPUs

Which hardware accelerators, if any, do you use together with Julia?



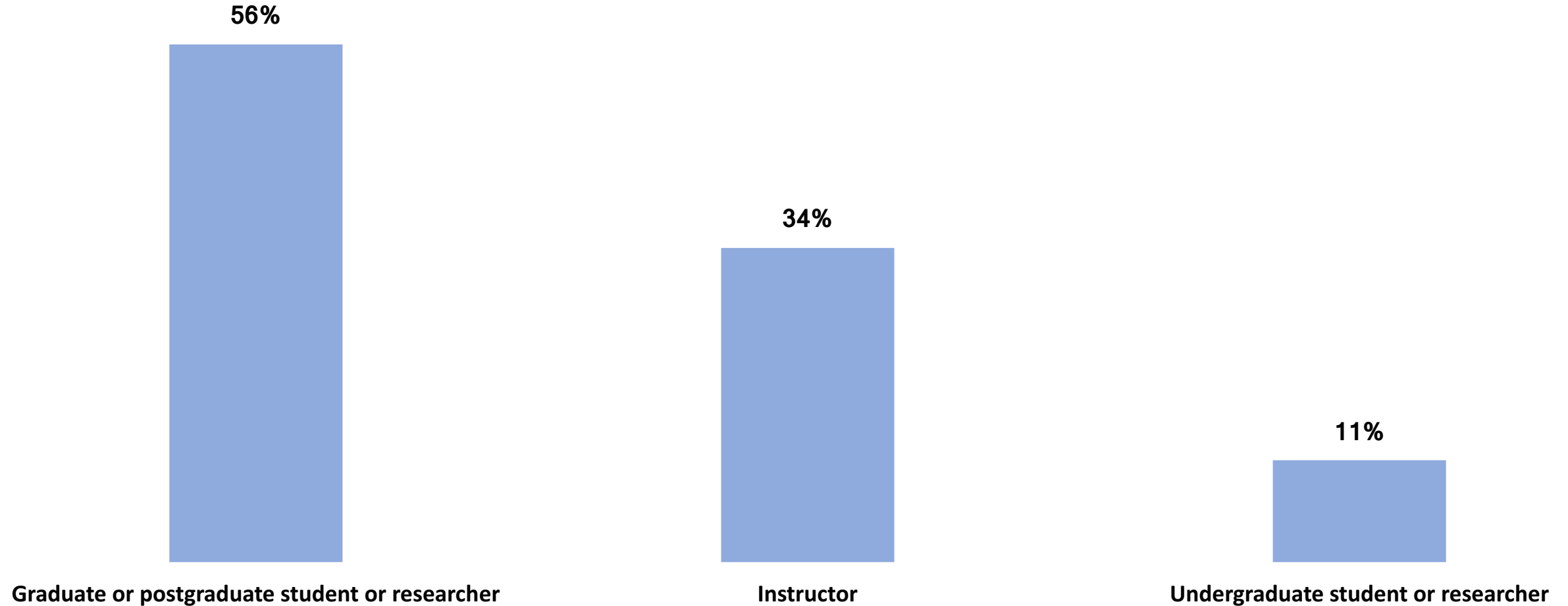
Most Respondents Are Academics (60%)

Which of the following best describes you?



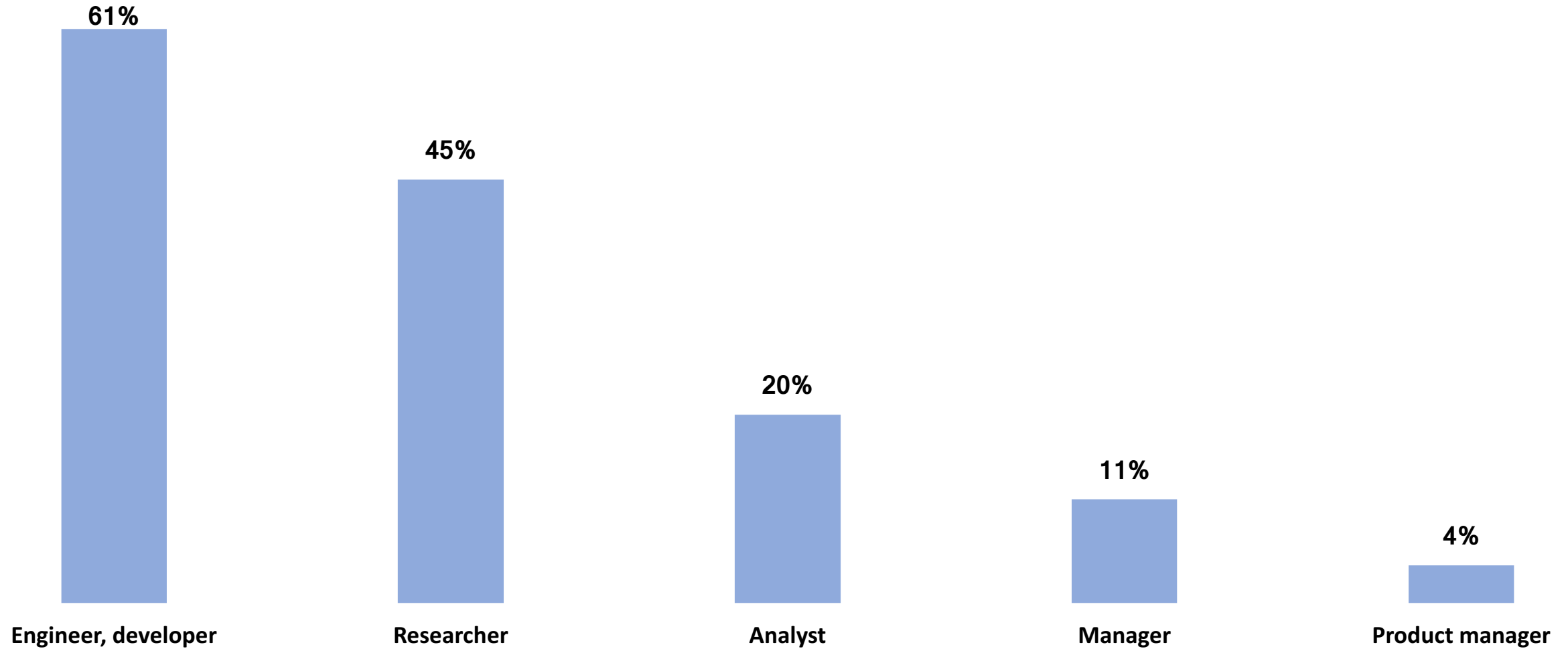
Among Academics, Most Respondents Are Graduate or Postgraduate Students or Researchers

AMONG ACADEMICS: Are you a(n):



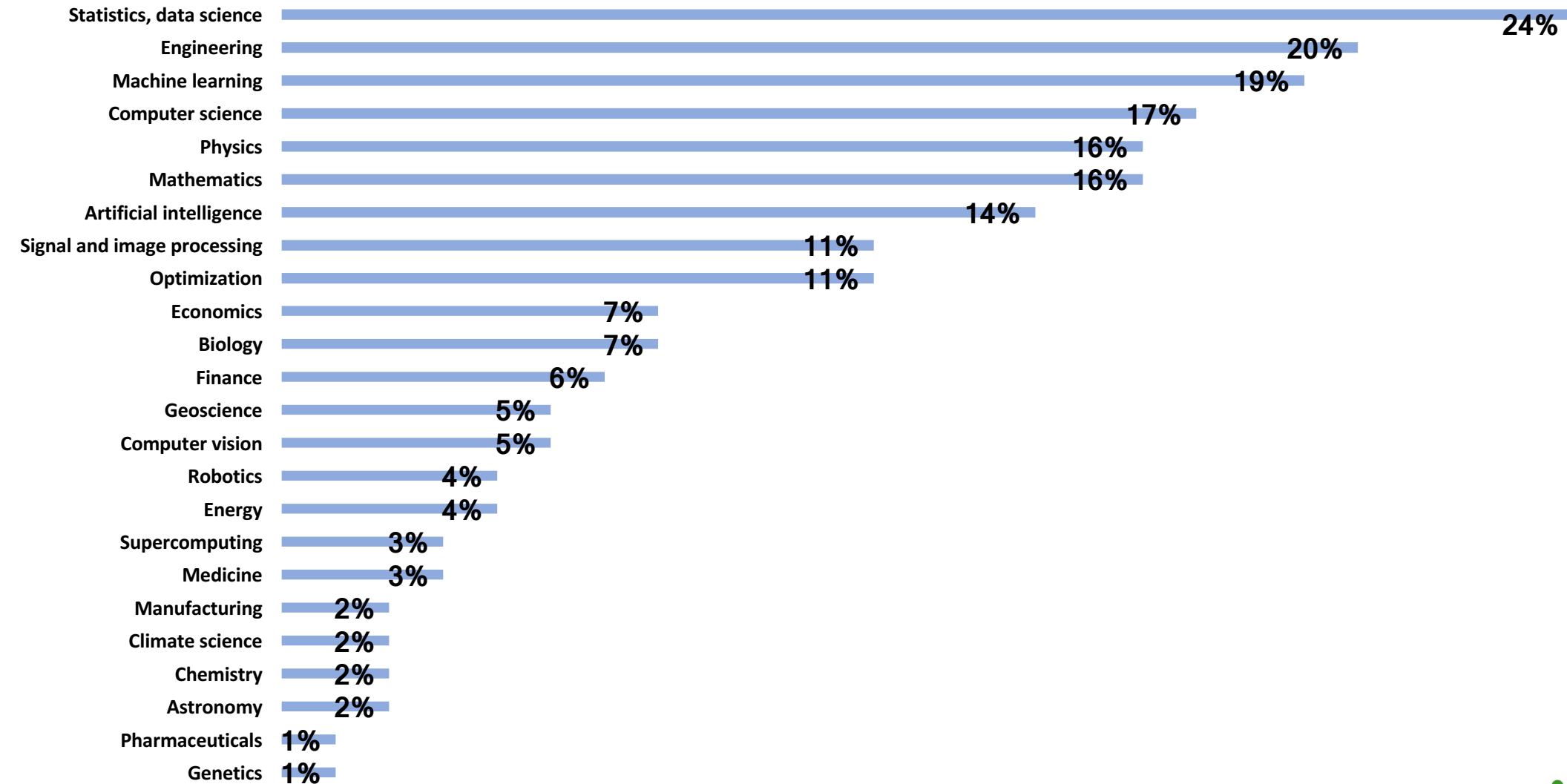
Among Professionals, Most Respondents Are Engineers or Developers

AMONG PROFESSIONALS: Are you a(n):



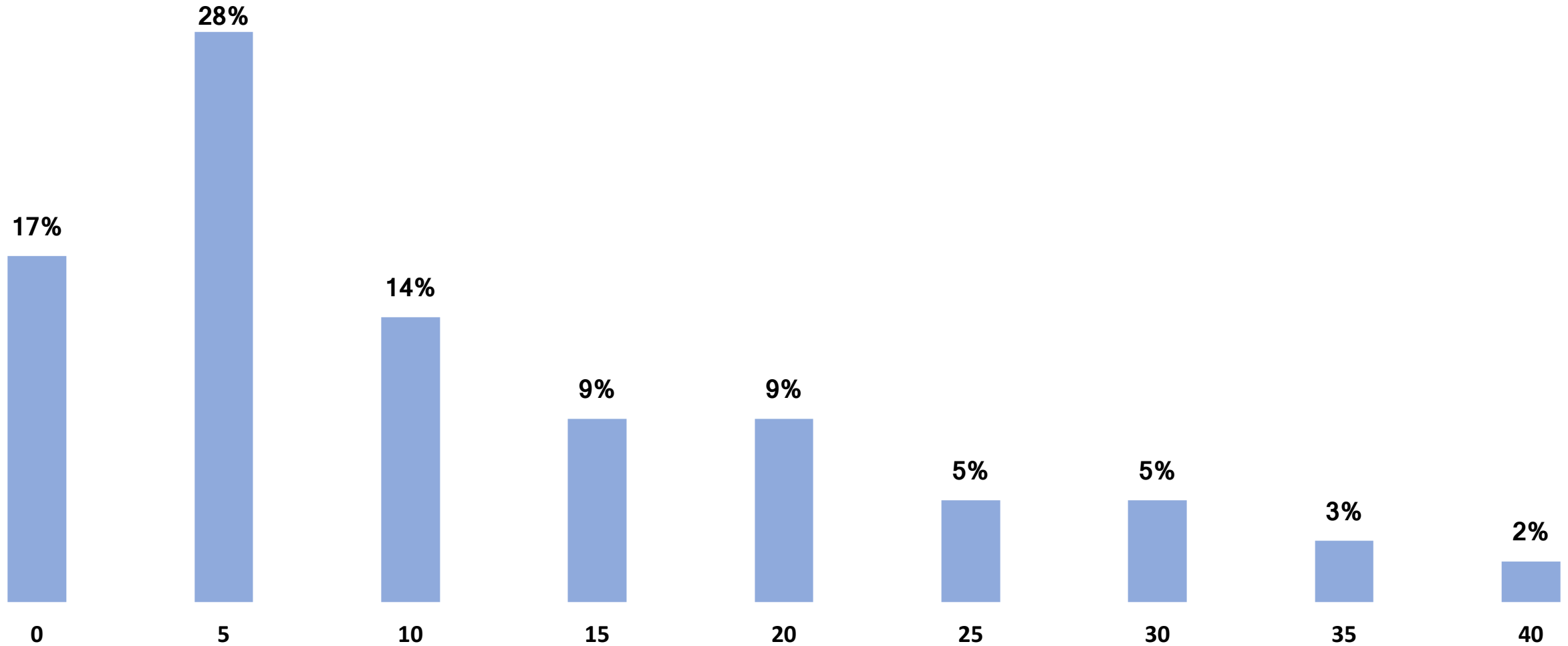
The Most Popular Fields Are Statistics, Data Science, Engineering, Machine Learning, Computer Science, Physics, Mathematics, Artificial Intelligence, Optimization and Signal and Image Processing

What is your primary field?



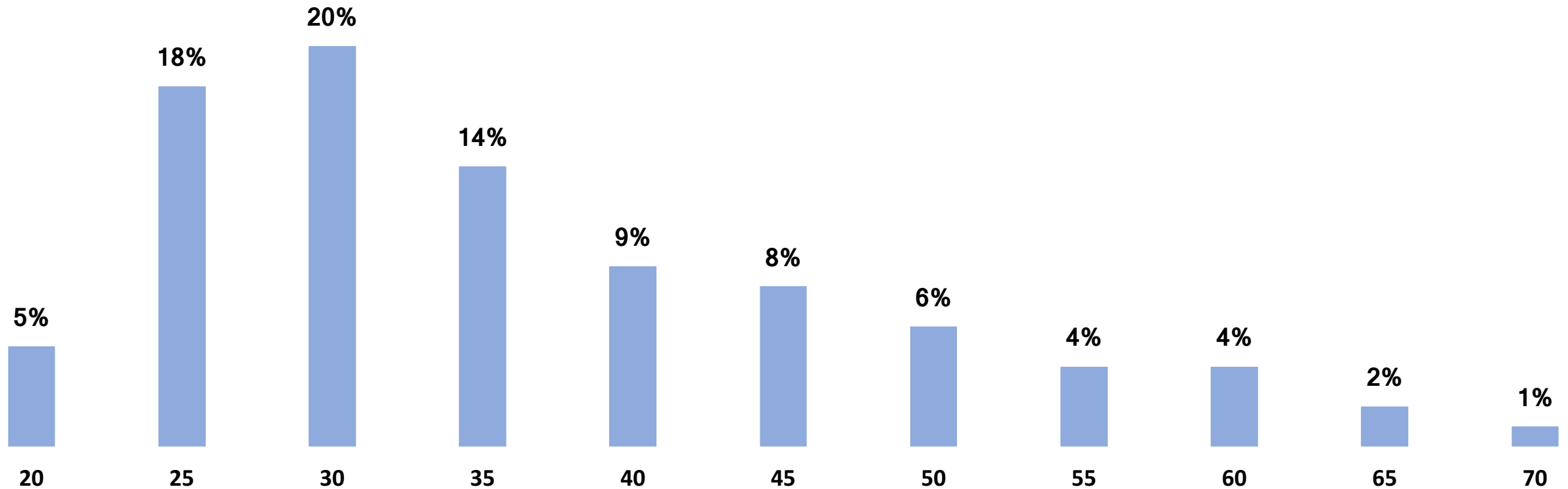
Most Professional Respondents Have 10 Years Professional Experience or Less

*AMONG PROFESSIONALS: How many years of professional experience do you have?
ROUNDED TO NEAREST 5 YEARS*



Most Are Age 25-45, but Many Are Age 60+

What is your age?
ROUNDED TO NEAREST 5 YEARS



Respondents Come from More than 90 Countries

What is the country where you are originally from?



Respondents also come from: Philippines, Chile, Slovakia, Hong Kong, Indonesia, Ukraine, South Korea, Venezuela, Luxembourg, Finland, Ireland, Bangladesh, Nigeria, Singapore, Slovenia, Peru, Nepal, Lithuania, South Korea, Malaysia, Bolivia, Georgia, Lebanon, Egypt, Bulgaria, Algeria, West Bank and Gaza, Estonia, Iceland, Vietnam, Cyprus, Kazakhstan, Uganda, Monaco, Uruguay, Serbia, Togo, Timor-Leste, Cape Verde, Ecuador, Dominican Republic, Cuba, Thailand, Morocco, Bosnia and Herzegovina, Kenya, Macedonia, Guinea-Bissau, Belarus, Sri Lanka, Moldova, Kuwait, Zimbabwe, Croatia, Saudi Arabia, Costa Rica

Respondents Live in More than 80 Countries

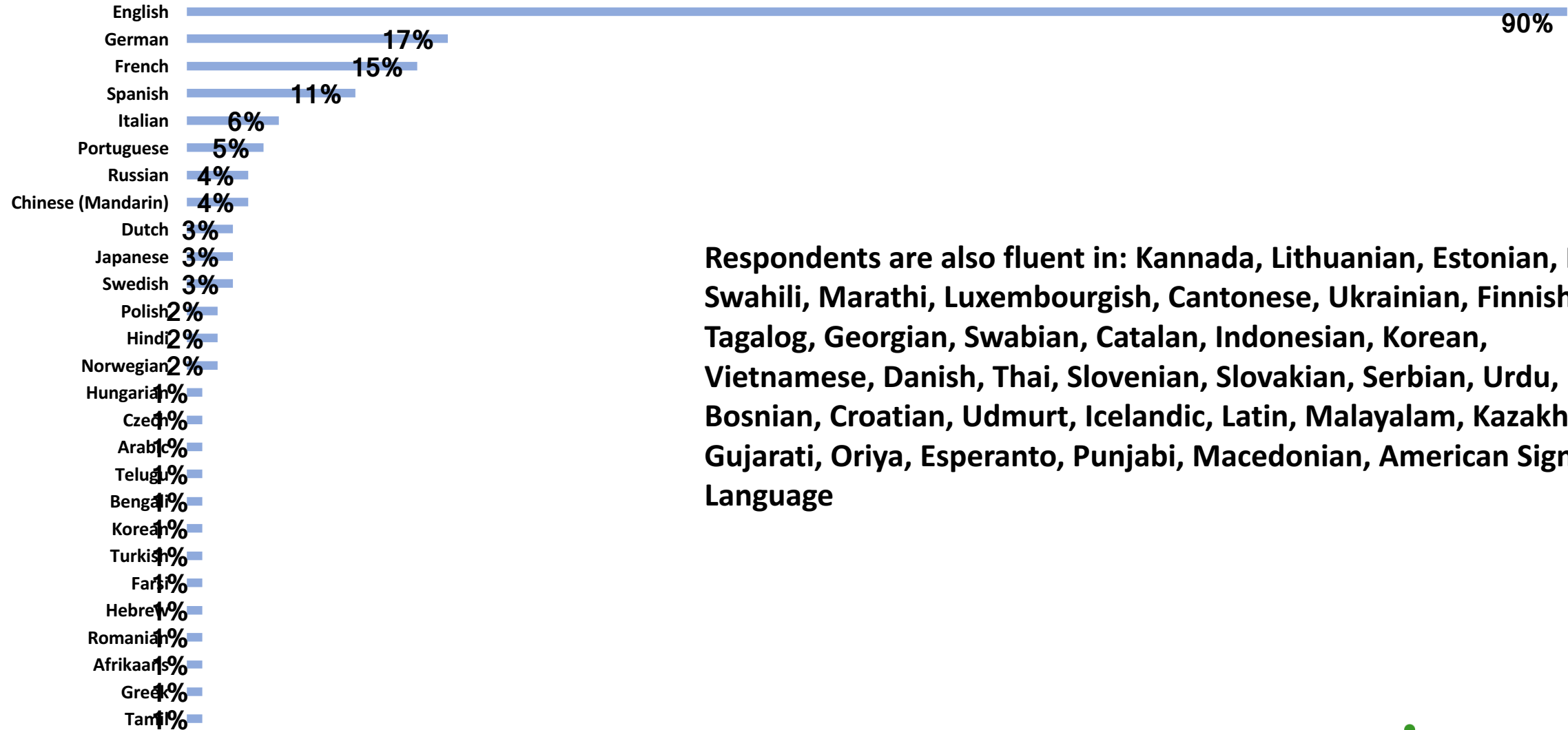
What is the country where you current live?



Respondents also live in: Sudan, Algeria, Swaziland, Qatar, Uganda, Belarus, Malta, Croatia, Georgia, Morocco, Kenya, Vietnam, Burundi, Nigeria, Iran, Cyprus, Greece, Sri Lanka, Costa Rica, Ecuador, Venezuela, Estonia, Thailand, Uruguay, Bolivia, Bulgaria, Kuwait, Iceland, Egypt, Malaysia, United Arab Emirates, Kazakhstan, Slovenia, South Korea, Ukraine, Peru, Lithuania, Luxembourg, Bangladesh, Hong Kong, Taiwan, Romania, Slovakia, Finland, Indonesia, Hungary, Argentina, Philippines, Chile, Ireland, Turkey

Respondents Are Fluent In More than 60 Languages

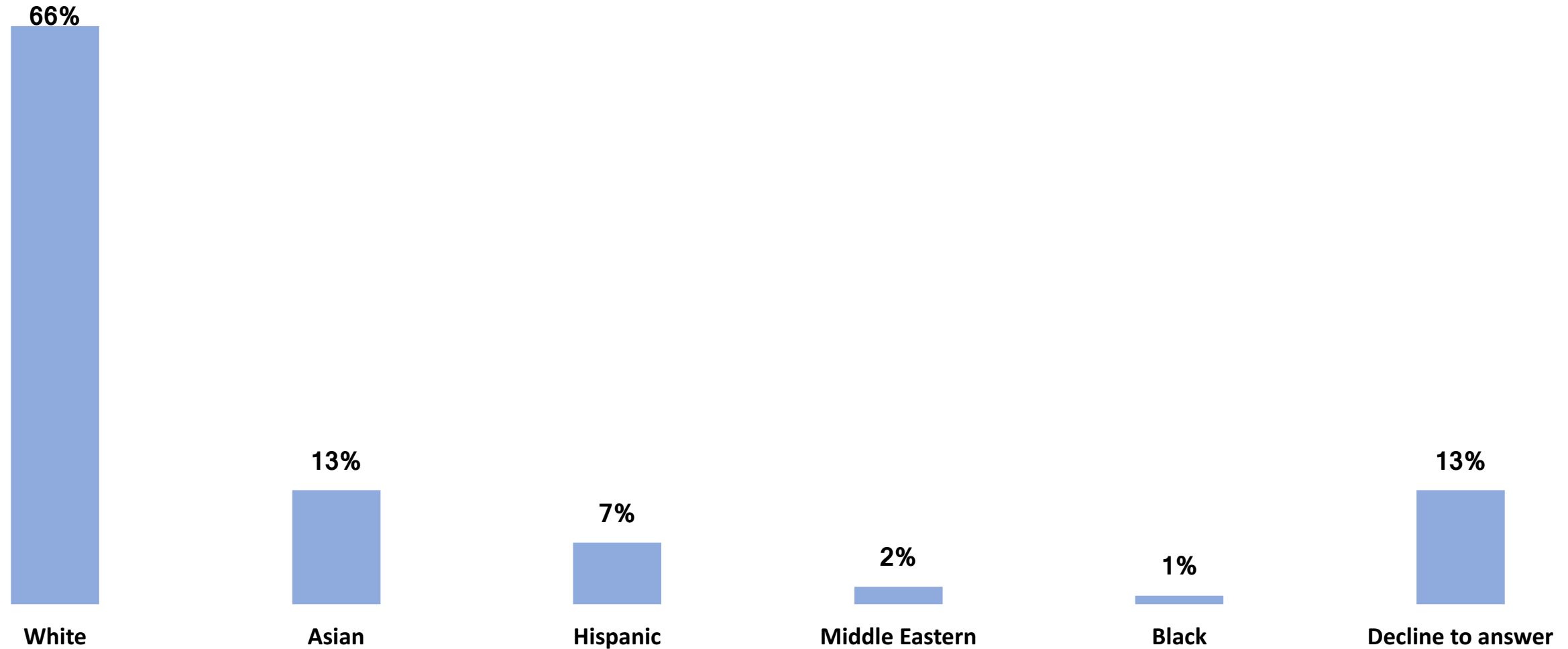
In what language(s) are you fluent?



Respondents are also fluent in: Kannada, Lithuanian, Estonian, Nepali, Swahili, Marathi, Luxembourgish, Cantonese, Ukrainian, Finnish, Tagalog, Georgian, Swabian, Catalan, Indonesian, Korean, Vietnamese, Danish, Thai, Slovenian, Slovakian, Serbian, Urdu, Bosnian, Croatian, Udmurt, Icelandic, Latin, Malayalam, Kazakh, Gujarati, Oriya, Esperanto, Punjabi, Macedonian, American Sign Language

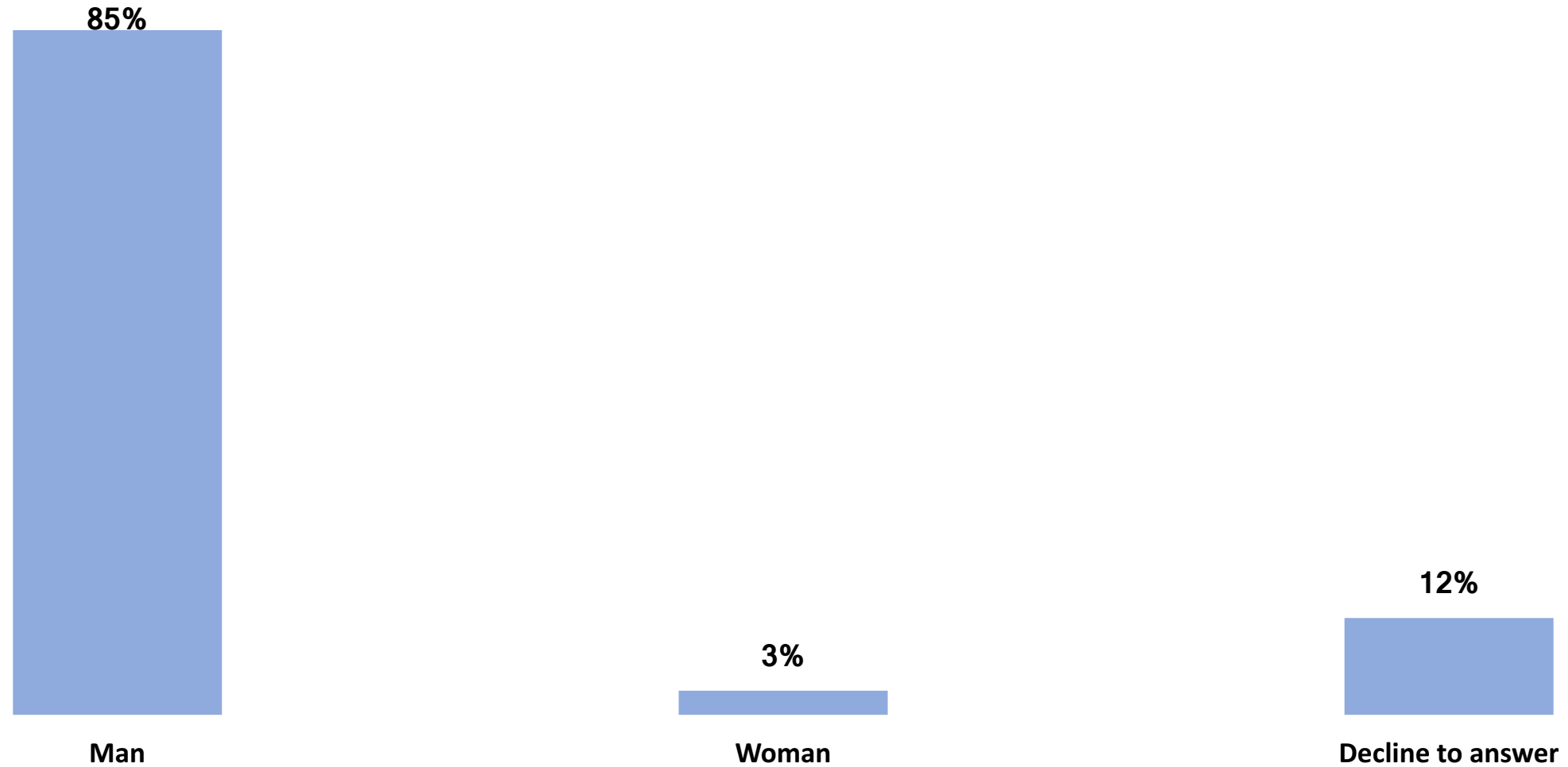
66% Identify as White, 13% as Asian, 7% Hispanic, 2% Middle Eastern and 1% Black

Which of the following best describes your race or ethnicity?



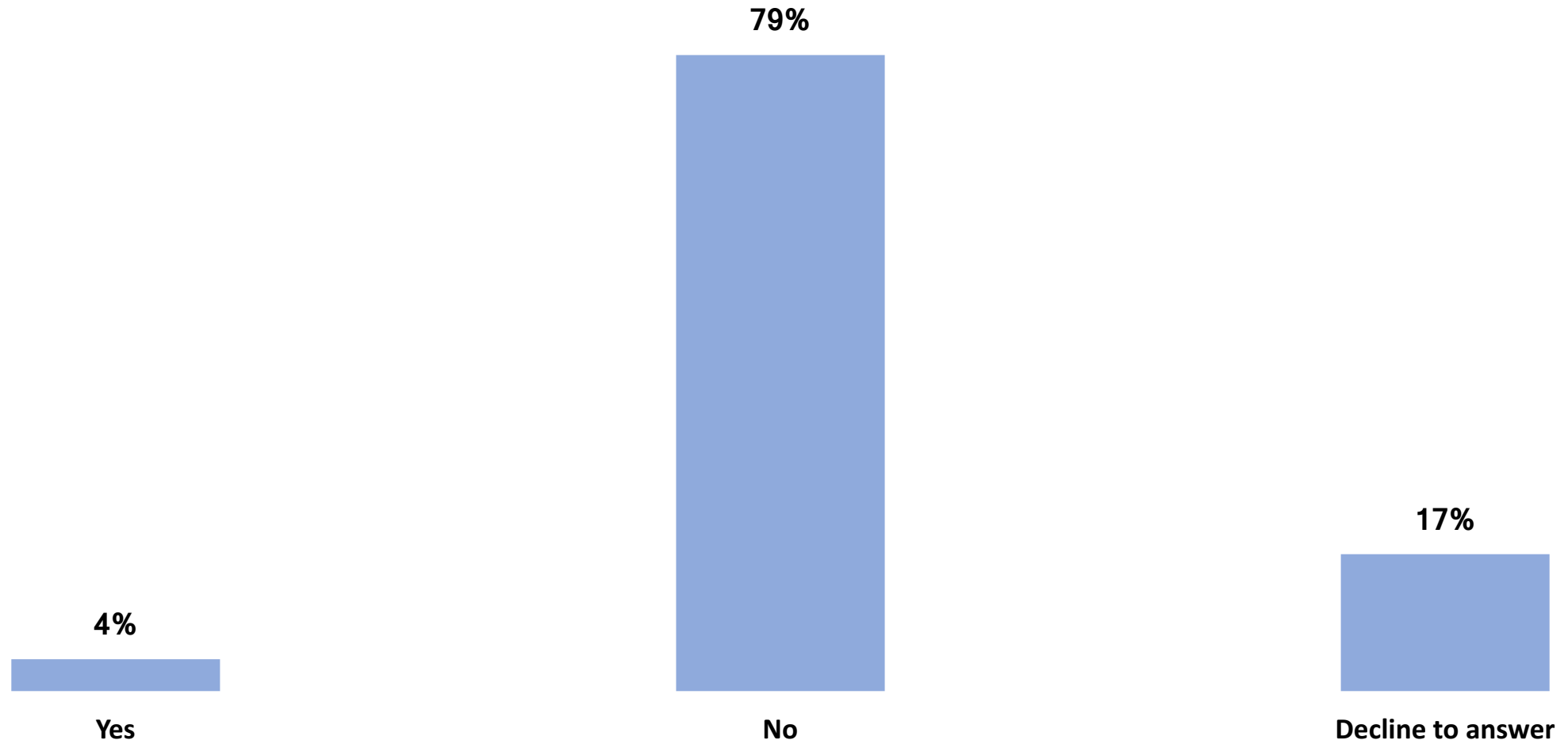
85% Identify as Men, 3% Identify as Women and 12% Decline to Answer

Are you a:



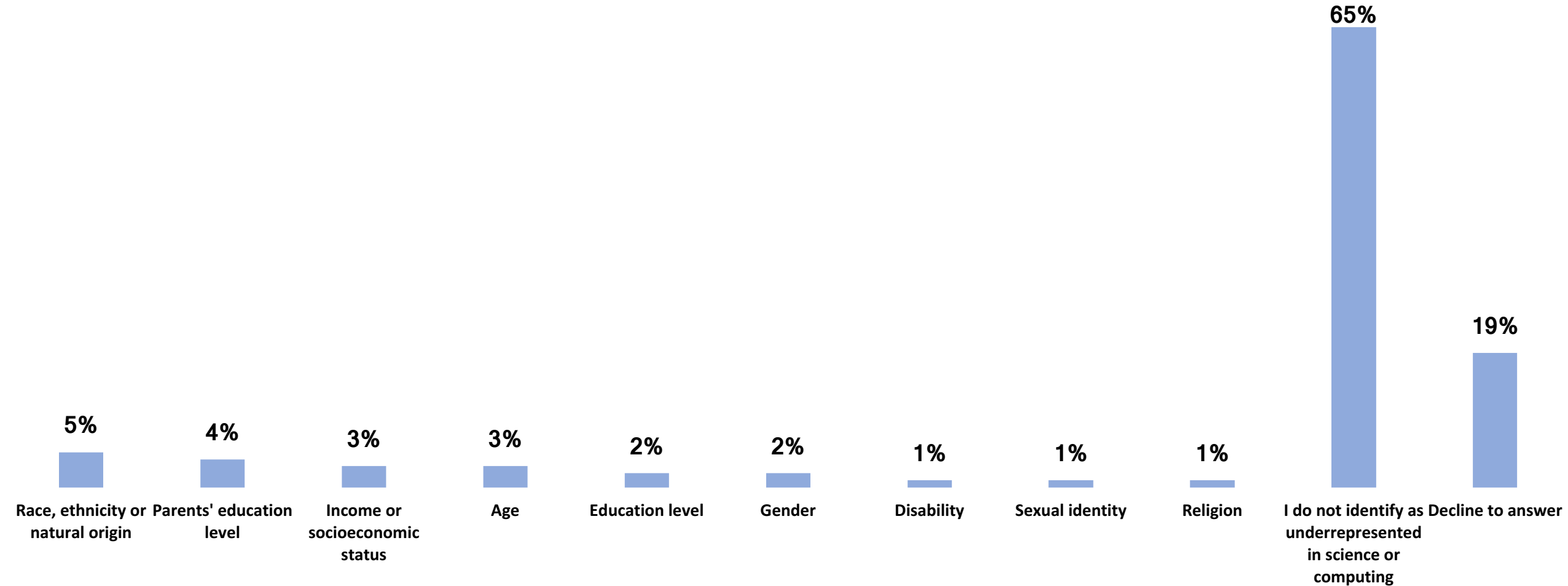
4% Identify as LGBTQ

Do you identify as LGBTQ?



Among Those Who Answered this Question (81% of Respondents), 20% Identify as Underrepresented in Science or Computing

Do you identify as underrepresented in science or computing because of your:



Diversity and Inclusion in Julia Community
Wednesday, 14:30–15:30, BOF

Raising Diversity & Inclusion among Julia users
Wednesday, 15:45–17:45, Elm B