2019 State of Rust Language Survey

Whether or not you use Rust Programming Language < https://rust-lang.org today, we want to hear from you!

The Rust Community Team has created this survey to help us gauge how we're doing, what can be improved, and how we can best engage with all of you as we move forward.

Our survey will run to December 16th, 2019. This is your chance to have a say in the development priorities for Rust.

Unless you choose to enter your email, your answers will be anonymous. Any personal data you submit as a part of this survey will be handled in accordance with our policy as described in our Frequently Asked Questions:

https://github.com/rust-community/team/wiki/State-of-the-Rust-Language-Community-Survey-FAQ

We estimate it will take about 10-15 minutes to complete.

| | · |
|----------------------|--|
| * | Required |
| 1. | Do you use Rust? * |
| | Mark only one oval. |
| | Yes Skip to question 12 |
| | No, but I've used it in the past Skip to question 2 |
| | No, I've never used Rust Skip to question 8 |
| S ¹ 2. | topped using Rust How long did you use Rust before you stopped? |
| | Mark only one oval. |
| | Less than a day |
| | Less than a week |
| | Less than a month |
| | Less than a year |
| | More than a year |

| 3. | How long ago did you stop using Rust? |
|----|--|
| | Mark only one oval. |
| | Less than a day |
| | Less than a week |
| | Less than a month |
| | Less than a year |
| | More than a year |
| | |
| 4. | Why did you stop using Rust? |
| | Select all that apply |
| | Check all that apply. |
| | Rust didn't solve a problem for me |
| | Rust was too intimidating, too hard to learn, or too complicated |
| | Rust didn't have the libraries I need |
| | Rust didn't have the tools I need |
| | Rust didn't have good IDE support |
| | Rust didn't support the platforms I need |
| | Rust seemed too risky to use in production |
| | My company doesn't use Rust |
| | Switching to Rust slowed me down too much |
| | I needed better interoperability between Rust and other languages |
| | Other: |
| | |
| | |
| 5. | If you indicated a lack of support for platforms or architectures that you would |
| | like to target, which would those be? |
| | |
| | |
| | |

| heck all that | apply. |
|---------------|---|
| С | |
| C++ | |
| C# | |
| Clojure | |
| Elm | |
| Elixir | |
| Erlang | |
| Go | |
| Haskell | |
| Java | |
| JavaScri | pt |
| Objective | -C |
| PHP | |
| Python | |
| Ruby | |
| Scala | |
| Swift | |
| ther: | |
| | |
| | de any additional details on why you stopped using Rust. |
| lease provi | |
| lease prov | as any additional details on viny you deepped doing rade. |
| lease prov | as any additional details on why you ecopped doing rade. |
| lease prov | |
| ease prov | |
| | |
| lease provi | |

| 8. | I never used Rust because Select all that apply |
|----|---|
| | Check all that apply. |
| | Rust doesn't solve a problem for me Rust is too intimidating, too hard to learn, or too complicated Rust doesn't have the libraries I need Rust doesn't have the tools I need Rust doesn't have good IDE support Rust doesn't support the platforms I need Rust seems too risky to use in production I need better interoperability between Rust and other languages My company doesn't use Rust Switching to Rust would slow me down too much I haven't learned Rust, yet, but I want to. I haven't learned Rust, yet, and I don't want to. Other: |
| 9. | If you indicated a lack of support for platforms or architectures that you would like to target, which would those be? |

| 10. | If you indicated a desire for increased interoperability, which of the following |
|------|--|
| | languages would you want to use with Rust? |
| | Select all that apply |
| | Check all that apply. |
| | С |
| | C++ |
| | C# |
| | Clojure |
| | ☐ Elm |
| | Elixir |
| | Erlang |
| | Go |
| | Haskell |
| | Java |
| | JavaScript |
| | Objective-C |
| | PHP |
| | Python |
| | Ruby |
| | Scala |
| | Swift |
| | Other: |
| | |
| | |
| 11. | Please provide any additional details on why you never used Rust |
| | riedee previde any daditional detaile on why you have adod hade |
| | |
| | |
| | |
| | |
| | |
| | |
| Skip | o to question 57 |
| | |

Using Rust

| + | How long have you been working with Rust? |
|---|--|
| ٨ | Mark only one oval. |
| (| Less than a week |
| (| Less than a month |
| (| 1 to 3 months |
| (| 3 to 6 months |
| (| 6 to 12 months |
| (| 1 to 2 years |
| (| 2 to 3 years |
| (| More than 3 years |
| | |
| + | How long did it take you to become productive in Rust? |
| ٨ | Mark only one oval. |
| (| Less than a week |
| (| Less than a month |
| (| Less than a year |
| (| More than a year |
| / | I don't feel productive, yet |

| 15. | How many other programming languages did you know when you originally started working with Rust? |
|-----|--|
| | Mark only one oval. |
| | 0 |
| | |
| | 2 |
| | <u>3</u> |
| | <u> </u> |
| | 5 6 or more |
| | O OF MOTO |
| | |
| 16. | If you summed the size of all Rust projects you work on, how big would it be? |
| | Mark only one oval. |
| | Less than 1,000 lines |
| | 1,000 to 10,000 lines |
| | 10,000 to 100,000 lines |
| | More than 100,000 lines |
| | I don't know |
| | |
| 17. | How regularly do you work with Rust? |
| | Mark only one oval. |
| | Daily |
| | Weekly |
| | Monthly |
| | Rarely |
| | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|----------|---|---|---|---|---|---|---|---|---|----|-----|
| Beginner | | | | | | | | | | | Exp |

18. How would you rate your Rust expertise?

19. How would you rate the difficulty of learning these concepts/topics?

Mark only one oval per row.

| | Easy | Moderate | Tricky | Very Difficult | Still don't get it | N/A (haven't gotten there yet) |
|---|------|----------|--------|-------------------|--------------------------|--|
| Enums | | | | | | |
| Modules | | | | | | |
| Ownership & Borrowing | | | | | | |
| Iterators | | | | | | |
| Traits | | | | | | |
| Generics & Trait Bounds | | | | | | |
| Lifetimes | | | | | | |
| Cargo | | | | | | |
| Macros | | | | | | |
| Unsafe | | | | | | |
| Async I/O | | | | | | |
| Pattern Matching | | | | | | |
| Collections (Vec, HashMap, etc.) | | | | | | |
| Closures | | | | | | |
| FFI | | | | | | |
| Concurrency (Threads, Locks, Channels, etc.) | | | | | | |

| 20. | I would use Rust more often if |
|-----|---|
| | Select all that apply |
| | Check all that apply. |
| | Rust solved more problems for me Rust was less intimidating, easier to learn, or less complicated Rust had the libraries I need Rust had the tools I need Rust had better IDE support Rust supported the platforms I need Rust was less risky to use in production Rust had better interoperability between languages My company used Rust Other: |
| 21. | If you indicated a desire for increased interoperability, which of the following languages would you want to use with Rust? Select all that apply |
| | Check all that apply. |
| | С |
| | C++ |
| | |
| | Clojure |
| | Elm |
| | Elixir |
| | Erlang |
| | Go |
| | Haskell |
| | Java |
| | JavaScript |
| | Objective-C |
| | PHP |
| | Python |
| | Ruby |
| | Scala |
| | Swift |
| | Other: |

Rust Compiler and Tools

| 22. | Do you currently use the 2015 or 2018 edition of Rust? |
|-----|--|
| | Mark only one oval. |
| | 2015 Skip to question 37 2018 Both |
| | Don't Know Skip to question 37 |
| 23. | Which version(s) of Rust do you use for your applications? Select all that apply |
| | Check all that apply. |
| | Current Stable Release Previous Stable Release Beta Release Nightly Custom Fork I don't know Other: |
| 24. | If you do not use the current Stable compiler, why? Please name specific dependencies or unstable features, if relevant. |
| | |
| | |
| | |
| | |

| 25. | If you use a nightly version, do you automatically update or pin a version for use? |
|-----|---|
| | Check all that apply. Automatically Update Pin Don't know Other: |
| 26. | Has upgrading to a new stable version of the Rust compiler (not when upgrading any library dependencies) broken your code in the past year? |
| | Mark only one oval. |
| | Yes No |
| | On't recall |
| 27. | If so, how much work did it take to fix your code when you upgraded to a newer stable version of the Rust compiler? |
| | Mark only one oval. |
| | 1 2 3 4 5 |
| | Very Little Work A Lot of Work |
| | |
| 28. | Please provide details about what broke and what was needed to fix it |
| | |
| | |
| | |

| 29. | What's your preferred way of installing Rust? Select all that apply |
|-----|---|
| | Check all that apply. |
| | Official <u>rust-lang.org</u> tarballs Official <u>rust-lang.org</u> Windows .msi installers Official <u>rust-lang.org</u> OS X .pkg installers |
| | rustup.rs |
| | Linux distribution package |
| | Other: |
| 30. | |
| 30. | If you do not use <u>rustup.rs</u> , why not? |
| | |
| | |
| | |
| | |
| | |
| 31. | If you do not use Cargo, why not? |
| | |
| | |
| | |
| | |
| | |
| | |

| 32. | What is your experience with other tools you use? |
|-----|---|
| | Mark only one oval per row. |

| | Really dislike | Dislike | Neither like or dislike | Like | Really like | Never used | |
|-------------------------------|-------------------|------------|----------------------------|-----------|----------------|---------------|---|
| rustfmt | | | | | | | |
| clippy | | | | | | | |
| rustdoc or cargo doc | | | | | | | |
| racer | | | | | | | |
| Rust Language Server (RLS) | | | | | | | |
| rust-analyzer | | | | | | | |
| bindgen | | | | | | | |
| IntelliJ Rust | | | | | | | |
| Feel free to tell us tools | more abo | ut your ex | perience with | these too | ols, or oth | er Rust | |
| | | | | | | | _ |
| | | | | | | | |
| | | | | | | | |

2018 Upgrade

| | Mark only o | one oval. |
|-----|--------------|--|
| | Yes | |
| | ◯ No | |
| | O Do no | ot recall |
| | | |
| | | |
| 35. | If you did u | upgrade, how much work was it? |
| | Mark only o | ne oval. |
| | | |
| | | 1 2 3 4 5 |
| | Very Little | Work A Lot of Work |
| | | |
| | | |
| Res | sponse | In the previous surveys, we've asked for your comments regarding where Rust can improve. Now we'd like to know if you feel change has been made. |
| to | | improve. Now we'd like to know if you reel change has been made. |
| Ch | allenges | |
| | | |
| | | |
| | allenges | |

36. For each of the challenges listed below, please indicate whether you believe there has been any change within the last year

Mark only one oval per row.

| | Got worse | No change | Slight improvement | Some improvement | A lot of improvement | I don't know |
|--|--------------|--------------|-----------------------|---------------------|----------------------|-----------------|
| Library Support | | | | | | |
| IDE Experience | | | | | | |
| Adoption level of Rust | | | | | | |
| Available tools and support | | | | | | |
| Learning curve | | | | | | |
| Stable language features and crates | | | | | | |
| Async programming options | | | | | | |
| GUI development | | | | | | |
| Rust documentation | | | | | | |
| Compile time | | | | | | |

Rust Platform

| 37. | What platforms are you developing on? Select all that apply |
|-----|--|
| | Check all that apply. |
| | Windows Apple macOS Linux BSD-variant Other: □ |
| 38. | What platforms are you targeting? Select all that apply |
| | Check all that apply. Android Windows Apple iOS Apple macOS Linux BSD-variant WebAssembly |
| | Embedded asm.js Other: |
| 39. | Are there any platforms or architectures that you would like to target, but currently cannot? (If possible, please provide details, ideally toolchain "triples") |
| | |
| | |
| | |
| | |
| | |

Editors

| 40. | What editor do you use when writing Rust? |
|-----|--|
| | Select all that apply |
| | Check all that apply. |
| | Atom |
| | Eclipse |
| | Emacs |
| | IntelliJ |
| | Sublime |
| | ☐ Vim |
| | Visual Studio |
| | VSCode |
| | Other: |
| | |
| | |
| 41. | Which IDE setup(s) do you use? |
| | Check all that apply. |
| | No special support (or just CTAGS) |
| | Only Racer |
| | RLS |
| | Rust-analyzer |
| | IntelliJ Rust |
| | Other: |
| | |
| | |
| Rus | st Ecosystem |
| | |
| 42. | What libraries do you consider critical in the Rust ecosystem? |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| 13. | Has a minor version upgrade of a dependency broken your code? |
|-------------|---|
| | The Rust ecosystem uses semantic versioning to signal to users if upgrading a library to a particular version is backwards compatible, or contains breaking changes. You can read more about it here: http://doc.crates.io/manifest.html#the-version-field |
| | Mark only one oval. |
| | Yes |
| | No |
| 14. | If so, please provide details here on how minor version upgrades broke your code. |
| | |
| | |
| | |
| | |
| 45 . | How many of your dependencies are 1.0 or above? |
| | Mark only one oval. |
| | None |
| | Some |
| | Most |
| | All |
| | I don't know |
| | |
| l6. | What critical libraries are missing in the Rust ecosystem? |
| | |
| | |
| | |
| | |
| | |

Rust at Work There are a growing number of companies using Rust at work: https://www.rust-lang.org/en-US/friends.html. This section asks about professional experience with our project.

| 47. | Do you or your company use Rust at work? | | |
|------|--|--|--|
| | Mark only one oval. | | |
| | Yes, I work with Rust full time Skip to question 51 | | |
| | Yes, I work with Rust part time Skip to question 51 | | |
| | No, but my company uses Rust Skip to question 51 | | |
| | No Skip to question 49 | | |
| | Not sure Skip to question 57 | | |
| | Not applicable Skip to question 57 | | |
| 48. | For programmers - what languages, other than Rust, do you use at work? | | |
| Skip | to question 51 | | |
| No | t using Rust at Work | | |
| 49. | Does your company plan to use or evaluate Rust in the future? | | |
| | Mark only one oval. | | |
| | Yes | | |
| | No | | |
| | I don't know | | |

| 50. | How could we make Rust more appealing to your company? |
|------|--|
| | |
| | |
| | |
| | |
| Skip | to question 57 |
| Usi | ng Rust at Work |
| 51. | How many developers at your company use Rust at work? |
| | Mark only one oval. |
| | 1 |
| | 2-5 |
| | 6-10 |
| | 11-25 |
| | 25-100 |
| | More than 100 |
| | I don't know |
| | |

| 52. | Approximately how many total employees are in your company? |
|-----|---|
| | Mark only one oval. |
| | Under 10 |
| | 11-49 |
| | 50-99 |
| | 100-149 |
| | 150-199 |
| | 200-499 |
| | 500-999 |
| | 1000-4999 |
| | 5000-10,000 |
| | More than 10,000 |
| | |
| 53. | If you summed the size of all Rust projects at work, how big would it be? |
| | Mark only one oval. |
| | Less than 1,000 lines |
| | 1,000 to 10,000 lines |
| | 10,000 to 100,000 lines |
| | More than 100,000 lines |
| | I don't know |
| | |
| 54. | Is your company planning on hiring Rust developers in the next year? |
| | Mark only one oval. |
| | Yes |
| | No |
| | I don't know |

| 55. | What are some | ways you or your company is using Rust at work? | | | | | |
|-----|--|---|--|--|--|--|--|
| 56. | How could we help make Rust more accepted at your company? | | | | | | |
| | | | | | | | |
| | to question 57 | This section asks about your technical and professional experience outside | | | | | |
| | hnical kground | This section asks about your technical and professional experience outside of the Rust project. | | | | | |

| 57. | Which titles do you believe best match your role? |
|-----|---|
| | Optional. Select all that apply |
| | Check all that apply. |
| | Analyst |
| | Architect |
| | Consultant / Freelance |
| | Data Scientist |
| | Designer |
| | DevOps / SRE |
| | Executive |
| | Founder |
| | Hobbyist |
| | Manager / Team Leader |
| | Programmer / Software Engineer |
| | QA Engineer |
| | Research Assistant |
| | Scientist |
| | Student |
| | System Operations |
| | Teacher / Professor |
| | Technical Writer |
| | Web Developer / Front End Developer |
| | Other: |

| 58. | What industries do you work in? Optional. Select all that apply |
|-----|--|
| | Check all that apply. |
| | AdvertisingAdvertising / Marketing TechnologyAerospaceAudio |
| | Automated Share Trading Big Data Bioinformatics |
| | Blockchain |
| | Computer Administration Data Science |
| | Databases |
| | Desktop Applications |
| | Distributed Systems |
| | Education / Academia |
| | Embedded Devices |
| | Enterprise Software |
| | Financial |
| | Gaming |
| | Geospatial |
| | Government / Military |
| | Health Care |
| | High-Performance Computing (HPC) |
| | Internet of Things |
| | ☐ IT |
| | Industrial |
| | Machine Learning |
| | Entertainment / Media |
| | Medical Devices |
| | Mobile (Android) |
| | Mobile (iOS) |
| | Network Programming |
| | Retail / e-commerce |
| | Robotics |
| | Scientific and Numeric Computing |
| | Security |
| | Simulation |
| | Technology |

| | Telecom |
|-----|---|
| | Web Application Backend |
| | Web Application Frontend |
| | Other: |
| | |
| | |
| 59. | How many software developers work at your company? |
| | Mark only one oval. |
| | Not Applicable |
| | None |
| | 1-10 |
| | 10-20 |
| | 20-50 |
| | 50-100 |
| | 100-1000 |
| | More than 1000 |
| | I don't know |
| | |
| | |
| 60. | Have you contributed to any open source code in the past year? |
| | Mark only one oval. |
| | Yes |
| | |
| | O No |
| | |
| 61. | If you answered yes, have you ever contributed to a Rust crate or tool? |
| | |
| | Mark only one oval. |
| | No, but if I find something that bothers me, I'll try to help fix it |
| | No, and I probably won't |
| | Yes, a couple times |
| | Yes, I contribute regularly |
| | Yes, I maintain crates |

| 62. | What programming languages are you comfortable with? Select all that apply |
|-----|--|
| | Check all that apply. |
| | C C++ C# Clojure Elm Elixir |
| | ☐ Erlang ☐ Go ☐ Haskell ☐ Java ☐ JavaScript |
| | Objective-C PHP Python Ruby Rust |
| | Scala Swift Other: |

63. Please rank your top 5 programming languages in terms of preference: (Please only select 1 per column - Google Forms will not allow you to unselect an option once clicked.)

Check all that apply.

| | 1st | 2nd | 3rd | 4th | 5th |
|-------------|-----|-----|-----|-----|-----|
| C | | | | | |
| C++ | | | | | |
| C# | | | | | |
| Clojure | | | | | |
| Elm | | | | | |
| Elixir | | | | | |
| Erlang | | | | | |
| Go | | | | | |
| Haskell | | | | | |
| Java | | | | | |
| JavaScript | | | | | |
| Objective-C | | | | | |
| PHP | | | | | |
| Python | | | | | |
| Ruby | | | | | |
| Rust | | | | | |
| Scala | | | | | |
| Swift | | | | | |
| Other | | | | | |

Demographics

Our teams are committed to making the Rust community a welcoming space for all. This will help us measure the effectiveness of our outreach efforts. Feel free to fill in as much or as little as you would like.

| 64. | Do you feel welcome in the Rust community? |
|-----|---|
| | Mark only one oval. |
| | Yes |
| | No |
| | I don't know |
| 65. | What actions could we take to make you feel more welcome? |
| | |
| | |
| | |
| | |
| | |

| 66. | Do you consider yourself a member of an underrepresented demographic in technology? |
|-----|---|
| | Optional - Select all that apply. Please share only what you are comfortable sharing. This will help us understand how well our outreach efforts are going. |
| | Check all that apply. |
| | ☐ No |
| | Yes, but I prefer not to specify |
| | Cultural beliefs |
| | Disabled or person with disability (including physical, mental, and other) |
| | Educational background |
| | Language |
| | Lesbian, gay, bisexual, queer or otherwise non-heterosexual |
| | Non-binary gender |
| | Older or younger than the average developers I know |
| | Political beliefs |
| | Racial or ethnic minority |
| | Religious beliefs |
| | Trans |
| | Woman or perceived as a woman |
| | Other: |
| | |
| | |
| 67. | Do you feel your situation makes it difficult for you to participate in the Rust |
| 07. | community? |
| | Optional. Please share only what you are comfortable sharing. |
| | |
| | Mark only one oval. |
| | Yes |
| | No |
| | Maybe |
| | |
| | |

| 68. | If you find it difficult to participate in the Rust community, and feel comfortable giving more details, please tell us what makes it difficult Optional. Please share only what you are comfortable sharing. |
|-----|--|
| 69. | What city / state / region / country do you live in? Optional. Please share only what you are comfortable sharing. This helps us understand where our community is located so we can help develop local content, meetups, and other events. |
| | |

| 70. | What language(s) are you fluent in? Optional - Select all that apply |
|-----|--|
| | Check all that apply. |
| | |
| | ☐ Arabic |
| | Bengali |
| | Cantonese |
| | ☐ English |
| | French |
| | German |
| | Hindi |
| | Japanese |
| | ☐ Mandarin |
| | Polish |
| | Portuguese |
| | Punjabi Russian |
| | Swedish |
| | Spanish |
| | Other: |
| | |
| | |
| Du | est Community |
| iλα | ist Community |
| 71 | NA/le at transfer and a construction of a least of the the a Doubt of a construction 2 (Coloret all the at |
| 71. | What resources do you use to keep up with the Rust ecosystem? (Select all that |
| | apply) |
| | Check all that apply. |
| | This Week in Rust (TWiR) |
| | Read Rust |
| | Reddit r/rust |
| | lobste.rs t/rust |
| | Twitter |
| | internals.rust-lang.org (Discourse) |
| | <u>users.rust-lang.org</u> |
| | StackOverflow StackOverflow |
| | Discord |
| | Zulip |
| | Private Chat Group |
| | Other: |

Rust Conferences

| 72. | Did you attend a Rust conference in the past year? If so, which ones? | | | | | |
|-----|---|--|--|--|--|--|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 3. | If you wanted to attend a Rust conference, but couldn't, why not? | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| 74. | If you are interested in attending a Rust conference, which of these regions |
|-----|---|
| | would you travel to? |
| | Select all that apply - This list is derived from https://en.wikipedia.org/wiki/Template:Regions_of_the_world |
| | Check all that apply. |
| | Africa - North |
| | Africa - East |
| | Africa - Central |
| | Africa - West |
| | Africa - South |
| | North America - Canada |
| | North America - United States |
| | North America - Mexico |
| | North America - Central |
| | North America - Caribbean |
| | South America - North |
| | South America - South |
| | South America - West |
| | South America - East |
| | Asia - Central |
| | Asia - North |
| | Asia - East |
| | Asia - West |
| | Asia - South |
| | Asia - Southeast |
| | Europe - North |
| | Europe - East |
| | Europe - Central |
| | Europe - West |
| | Europe - South |
| | Oceania - Australia |
| | Oceania - New Zealand |
| | Oceania - Melanesia |
| | Oceania - Micronesia |
| | Oceania - Polynesia |
| | |

| • | Please provide more precise details on where you would travel to for a Rust conference |
|-----|---|
| | |
| | |
| | |
| Cha | allenges and Feedback |
| | What do you feel are the biggest challenges or problems for the Rust project? What could we do to improve adoption? |
| | |
| | |
| | |
| | What new things related to the Rust project are you most excited about in 2020? |
| | |
| | |
| | |
| | Anything else you would like to tell us? |
| | |
| | |
| | |

Contact Information

If you would like to be contacted by a member of the Rust Community or Core teams, please enter your email address. We will not share this information with third parties. You may also send an email to community-team@rust-lang.org or the core-team@rust-lang.org if you would like to avoid associating your answers in this survey with your identity. If you would like to read more about out how we will use and protect contact information, you can read more about it on our FAQ:

https://github.com/rust-community/team/wiki/State-of-the-Rust-Language-Community-Survey-FAQ

| 79. | Email Address Optional - Only share if you are comfortable. | | | | |
|-----|--|--|--|--|--|
| | | | | | |
| 30. | What are the reasons you would like to be contacted? Optional - Select all that apply | | | | |
| | Check all that apply. | | | | |
| | I'm interested in attending Rust meetups or conferences I am interested in starting a Rust meetup or conference | | | | |
| | My company uses Rust, or would like to, and I would like to talk to the Core or Community team | | | | |
| | I am interested in Rust training | | | | |
| | I am interested in being contacted for more details on my survey answers. | | | | |
| 81. | If other, why would you like to be contacted? | | | | |
| | Optional | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

This content is neither created nor endorsed by Google.