**stackoverflow**

**Welcome**

**Hello world!**

Thank you for taking the 2020 Stack Overflow Developer Survey, the largest and most comprehensive survey of software developers (and anyone else who codes!) on Earth.

As in previous years, anonymized results of the survey will be made publicly available under the Open Database License, where anyone can download and analyze the data. On that note, throughout the survey, certain answers you and your peers give will be treated as personally identifiable information, and therefore kept out of the anonymized results file. We'll call out each of those in the survey with a note saying "This information will be kept private."

There are six sections in this survey. The 2nd, 3rd, and 4th sections will appear in a random order.

1. Basic Information
2. Education, Work, and Career
3. Technology and Tech Culture
4. Stack Overflow Usage + Community
5. Demographic Information
6. Final Qs

Most questions in this survey are optional. Required questions are marked with *. The survey will take about 20 minutes to complete. We encourage you to complete it in one sitting.

**If you use security or ad-blocking plugins, you may see error messages**
Our third-party software provider, Qualtrics, does not work well with certain ad blockers and security software. To avoid error messages that prevent you from taking the survey, please try specifically unblocking Qualtrics in your plugin or pausing the plugin while you take the survey.

To begin, click **Next.**

Browser Meta Info

*This question will not be displayed to the recipient.*
Browser: **Chrome**
Version: **83.0.4103.97**
Operating System: **Macintosh**
Screen Resolution: **2560x1440**
Flash Version: **-1**
Java Support: **0**
User Agent: **Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_3) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/83.0.4103.97 Safari/537.36**

**Qualification**

# Basic Information

The first section will focus on some basic information about who you are.

Most questions in this section are required. Required questions are noted with *.

Which of the following options best describes you today? Here, by "developer" we mean "someone who writes code." * <span style="color:green">A MainBranch</span>

○  I am a developer by profession
○  I am not primarily a developer, but I write code sometimes as part of my work

○ I used to be a developer by profession, but no longer am
○ I am a student who is learning to code
○ I code primarily as a hobby
○ None of these

## Do you code as a hobby? * 2 hobbyst

○ Yes
○ No

## Which of the following best describes your current **employment status**? p Employment

○ Employed full-time
○ Employed part-time
○ Independent contractor, freelancer, or self-employed
○ Not employed, but looking for work
○ Not employed, and not looking for work
○ Student
○ Retired
○ I prefer not to say

## Location   I Country NOT IMPORTANT

Where do you live? *

[ ⌄ ]

In which state or territory of the USA do you live? *This information will be kept private.*

[ ⌄ ]

In which part of the United Kingdom do you live? *This information will be kept private.*

[ select ▼ ]

In which federal state do you live? *This information will be kept private.*

[ select ▼ ]

In which province or territory do you live? *This information will be kept private.*

[ select ▼ ]

In which department of France do you live? *This information will be kept private.*

[ select ▼ ]

In which city or town do you live? *This information will be kept private.*

[ text field ]

**2 - Education + Work + Career**

# Education, work, and career

This section will focus on your education, work, and career.

Most questions in this section are optional. Required questions are noted with *.

Which of the following best describes the highest level of formal education that you've completed? <span style="color:green">O EdLevel</span>

- ◯ I never completed any formal education
- ◯ Primary/elementary school
- ◯ Secondary school (e.g. American high school, German Realschule or Gymnasium, etc.)
- ◯ Some college/university study without earning a degree
- ◯ Associate degree (A.A., A.S., etc.)
- ◯ Bachelor's degree (B.A., B.S., B.Eng., etc.)
- ◯ Master's degree (M.A., M.S., M.Eng., MBA, etc.)
- ◯ Professional degree (JD, MD, etc.)
- ◯ Other doctoral degree (Ph.D., Ed.D., etc.)
- ◯ [          ] Other (please specify):

What was your primary field of study? <span style="color:green">BC Undergrad major</span>

- ◯ Computer science, computer engineering, or software engineering
- ◯ Web development or web design
- ◯ Information systems, information technology, or system administration
- ◯ Mathematics or statistics
- ◯ Another engineering discipline (such as civil, electrical, mechanical, etc.)
- ◯ A business discipline (such as accounting, finance, marketing, etc.)
- ◯ A health science (such as nursing, pharmacy, radiology, etc.)
- ◯ A humanities discipline (such as literature, history, philosophy, etc.)
- ◯ A natural science (such as biology, chemistry, physics, etc.)
- ◯ A social science (such as anthropology, psychology, political science, etc.)
- ◯ Fine arts or performing arts (such as graphic design, music, studio art, etc.)
- ◯ I never declared a major
- ◯ [          ] Other (please specify):

How important is a formal education, such as a university degree in computer science, to your career? <span style="color:green">AD NewEdImpt</span>

○ Critically important
○ Very important
○ Fairly important
○ Somewhat important
○ Not at all important/not necessary

If you could go back and change your educational path (but end up in the same career), what would you change?

At what age did you write your first line of code or program? (e.g., webpage, Hello World, Scratch project) <span style="color:green">E Age1stCode</span>

Including any education, how many years have you been coding in total? <span style="color:green">BH YearsCode</span>

NOT including education, how many years have you coded professionally (as a part of your work)? <span style="color:green">BI YearsCodePro</span>

Which of the following describe you? Please select all that apply. <span style="color:red">MAYBE N DevType</span>

- [ ] Academic researcher
- [ ] Data or business analyst
- [ ] Data scientist or machine learning specialist
- [ ] Database administrator
- [ ] Designer
- [ ] Developer, back-end
- [ ] Developer, desktop or enterprise applications
- [ ] Developer, embedded applications or devices
- [ ] Developer, front-end
- [ ] Developer, full-stack
- [ ] Developer, game or graphics
- [ ] Developer, mobile
- [ ] Developer, QA or test
- [ ] DevOps specialist
- [ ] Educator
- [ ] Engineer, data
- [ ] Engineer, site reliability
- [ ] Engineering manager
- [ ] Marketing or sales professional
- [ ] Product manager
- [ ] Scientist
- [ ] Senior Executive (C-Suite, VP, etc.)
- [ ] System administrator
- [ ] Other (please specify): _____

What industry or industries do you work in? *This information will be kept private.*

[                                                                ]

How satisfied are you with your current job? (If you work multiple jobs, answer for the one you spend the most hours on.) T JobSat

○ Very dissatisfied
○ Slightly dissatisfied
○ Neither satisfied nor dissatisfied
○ Slightly satisfied
○ Very satisfied

Approximately how many people are employed by the company or organization you currently work for? AQ OrgSize

○ Just me - I am a freelancer, sole proprietor, etc.
○ 2 to 9 employees
○ 10 to 19 employees
○ 20 to 99 employees
○ 100 to 499 employees
○ 500 to 999 employees
○ 1,000 to 4,999 employees
○ 5,000 to 9,999 employees
○ 10,000 or more employees
○ I don't know

* Which currency do you use day-to-day? If your answer is complicated, please pick the one you're most comfortable estimating in. J CurrencyDesc + K CurrencySymbol NOT IMPORTANT

```
AED United Arab Emirates dirham
AFN Afghan afghani
ALL Albanian lek
AMD Armenian dram
ANG Netherlands Antillean guilder
AOA Angolan kwanza
ARS Argentine peso
AUD Australian dollar
AWG Aruban florin
AZN Azerbaijan manat
```

What is your current total compensation (salary, bonuses, and perks, before taxes and deductions), in ${q://QID50/ChoiceGroup/SelectedChoicesTextEntry}? Please enter a whole number in the box below, without any punctuation. If you are paid hourly, please estimate an equivalent weekly, monthly, or yearly salary. If you prefer not to answer, please leave the box empty. G CompTotal x F CompFreq -> H ConvertedComp(USD)

Is that compensation weekly, monthly, or yearly? F CompFreq

○ Weekly
○ Monthly
○ Yearly

On average, how many hours per week do you work? Please enter a whole number in the box. BG WorkWeekHrs

How often do you work overtime or beyond the formal time expectation of your job? AK NewOvertime

○ Never
○ Rarely: 1-2 days per year or less
○ Occasionally: 1-2 days per quarter but less than monthly
○ Sometimes: 1-2 days per month but less than weekly
○ Often: 1-2 days per week or more

Do you think your company has a good onboarding process? (By onboarding, we mean the structured process of getting you settled in to your new role at a company)  AI NEWOnboardGood

○ Yes
○ No
○ Onboarding? What onboarding?

How could onboarding at your company be improved?

```

```

Does your company have a dedicated DevOps person? AB NEWDevOps NOT IMPORTANT

○ Yes
○ No
○ Not sure

How important is the practice of DevOps to scaling software development?

AC NEWDevOpsImpt NOT IMPORTANT

○ Extremely important
○ Somewhat important
○ Neutral
○ Not very important
○ Not at all important

Which of the following best describes your current job-seeking status? *

○ I am actively looking for a job
○ I'm not actively looking, but I am open to new opportunities
○ I am not interested in new job opportunities

In general, what drives you to look for a new job? Select all that apply.

☐ Just because
☐ Having a bad day (or week or month) at work
☐ Wanting to share accomplishments with a wider network
☐ Curious about other opportunities
☐ Better compensation
☐ Trouble with my teammates
☐ Trouble with my direct manager
☐ Trouble with leadership at my company
☐ Better work/life balance
☐ Wanting to work with new technologies
☐ Growth or leadership opportunities
☐ Looking to relocate
☐ Other (please specify):

When job searching, how do you learn more about a company? Select all that apply.

☐ Read company media, such as employee blogs or company culture videos
☐ Company reviews from third party sites (e.g. Glassdoor, Blind)
☐ Publicly available financial information (e.g. Crunchbase)
☐ Personal network - friends or family
☐ Read other media like news articles, founder profiles, etc. about the company
☐ Directly asking current or past employees at the company

☐ ⬚ Other (please specify):

Imagine that you are deciding between two job offers with the same compensation, benefits, and location. Of the following factors, which 3 are MOST important to you?  S JobFactors

☐ Remote work options
☐ Office environment or company culture
☐ Financial performance or funding status of the company or organization
☐ Opportunities for professional development
☐ Diversity of the company or organization
☐ How widely used or impactful my work output would be
☐ Industry that I'd be working in
☐ Specific department or team I'd be working on
☐ Flex time or a flexible schedule
☐ Languages, frameworks, and other technologies I'd be working with
☐ Family friendliness

**3 - Tech and Tech Culture**

# Tech and tech culture

The next set of questions will focus on technology and tech culture.

Most questions in this section are optional. Required questions are noted with *.

How frequently do you learn a new language or framework?  AG NEWLearn

○ Every few months
○ Once a year

○ Once every few years

○ Once a decade

○ [ ] Other (please specify):

Which **programming, scripting, and markup languages** have you done extensive development work in over the past year, and which do you want to work in over the next year? (If you both worked with the language and want to continue to do so, please check both boxes in that row.) <span style="color:red">V LanguageDesireNextYear; W LanguageWorkedWith Not important</span>

| | Worked with in PAST year | Want to work with NEXT year |
|---|---|---|
| Assembly | ☐ | ☐ |
| Bash/Shell/PowerShell | ☐ | ☐ |
| C | ☐ | ☐ |
| C# | ☐ | ☐ |
| C++ | ☐ | ☐ |
| Dart | ☐ | ☐ |
| Go | ☐ | ☐ |
| Haskell | ☐ | ☐ |
| HTML/CSS | ☐ | ☐ |
| Java | ☐ | ☐ |
| JavaScript | ☐ | ☐ |
| Julia | ☐ | ☐ |
| Kotlin | ☐ | ☐ |
| Objective-C | ☐ | ☐ |
| Perl | ☐ | ☐ |
| PHP | ☐ | ☐ |
| Python | ☐ | ☐ |
| R | ☐ | ☐ |

| | Worked with in PAST year | Want to work with NEXT year |
|---|:---:|:---:|
| Ruby | ☐ | ☐ |
| Rust | ☐ | ☐ |
| Scala | ☐ | ☐ |
| SQL | ☐ | ☐ |
| Swift | ☐ | ☐ |
| TypeScript | ☐ | ☐ |
| VBA | ☐ | ☐ |
| Other (please specify): | ☐ | ☐ |

Which **database environments** have you done extensive development work in over the past year, and which do you want to work in over the next year? (If you both worked with the database and want to continue to do so, please check both boxes in that row.) L DatabaseDesirenextYear, M DatabaseWorkedWith Not important

| | Worked with in PAST year | Want to work with NEXT year |
|---|:---:|:---:|
| Cassandra | ☐ | ☐ |
| Couchbase | ☐ | ☐ |
| DynamoDB | ☐ | ☐ |
| Elasticsearch | ☐ | ☐ |
| Firebase | ☐ | ☐ |
| IBM DB2 | ☐ | ☐ |
| MariaDB | ☐ | ☐ |
| Microsoft SQL Server | ☐ | ☐ |
| MongoDB | ☐ | ☐ |
| MySQL | ☐ | ☐ |
| Oracle | ☐ | ☐ |

|  | Worked with in PAST year | Want to work with NEXT year |
|---|:---:|:---:|
| PostgreSQL | ☐ | ☐ |
| Redis | ☐ | ☐ |
| SQLite | ☐ | ☐ |
| Other (please specify): | ☐ | ☐ |

Which **platforms** have you done extensive development work in over the past year, and which do you want to work in over the next year? (If you both worked with the platform and want to continue to do so, please check both boxes in that row.)

AR PlatformDesireNextYear; AS PlatformWorkedWith Not important

|  | Worked with in PAST year | Want to work with NEXT year |
|---|:---:|:---:|
| Android | ☐ | ☐ |
| Arduino | ☐ | ☐ |
| AWS | ☐ | ☐ |
| Docker | ☐ | ☐ |
| Google Cloud Platform | ☐ | ☐ |
| Heroku | ☐ | ☐ |
| IBM Cloud or Watson | ☐ | ☐ |
| iOS | ☐ | ☐ |
| Kubernetes | ☐ | ☐ |
| Linux | ☐ | ☐ |
| MacOS | ☐ | ☐ |
| Microsoft Azure | ☐ | ☐ |
| Raspberry Pi | ☐ | ☐ |
| Slack Apps and Integrations | ☐ | ☐ |
| Windows | ☐ | ☐ |

|  | Worked with in PAST year | Want to work with NEXT year |
|---|---|---|
| WordPress | ☐ | ☐ |
| Other (please specify): | ☐ | ☐ |

Which **web frameworks** have you done extensive development work in over the past year, and which do you want to work in over the next year? (If you both worked with the framework and want to continue to do so, please check both boxes in that row.) <span style="color:red">Not important</span>

|  | Worked with in PAST year | Want to work with NEXT year |
|---|---|---|
| Angular | ☐ | ☐ |
| Angular.js | ☐ | ☐ |
| ASP.NET | ☐ | ☐ |
| ASP.NET Core | ☐ | ☐ |
| Django | ☐ | ☐ |
| Drupal | ☐ | ☐ |
| Express | ☐ | ☐ |
| Flask | ☐ | ☐ |
| Gatsby | ☐ | ☐ |
| jQuery | ☐ | ☐ |
| Laravel | ☐ | ☐ |
| React.js | ☐ | ☐ |
| Ruby on Rails | ☐ | ☐ |
| Spring | ☐ | ☐ |
| Symfony | ☐ | ☐ |
| Vue.js | ☐ | ☐ |

|  | Worked with in PAST year | Want to work with NEXT year |
|---|:---:|:---:|
| Other (please specify): | ☐ | ☐ |

Which **other frameworks, libraries, and tools** have you done extensive development work in over the past year, and which do you want to work in over the next year? (If you both worked with the framework and want to continue to do so, please check both boxes in that row.) <span style="color:red">X MiscTechDesireNextYear; Y MiscTechWorkedWith Not important</span>

| | Worked with in PAST year | Want to work with NEXT year |
|---|:---:|:---:|
| .NET | ☐ | ☐ |
| .NET Core | ☐ | ☐ |
| Ansible | ☐ | ☐ |
| Apache Spark | ☐ | ☐ |
| Chef | ☐ | ☐ |
| Cordova | ☐ | ☐ |
| Flutter | ☐ | ☐ |
| Hadoop | ☐ | ☐ |
| Keras | ☐ | ☐ |
| Node.js | ☐ | ☐ |
| Pandas | ☐ | ☐ |
| Puppet | ☐ | ☐ |
| React Native | ☐ | ☐ |
| TensorFlow | ☐ | ☐ |
| Terraform | ☐ | ☐ |
| Torch/PyTorch | ☐ | ☐ |
| Unity 3D | ☐ | ☐ |
| Unreal Engine | ☐ | ☐ |

| | Worked with in PAST year | Want to work with NEXT year |
|---|:---:|:---:|
| Xamarin | ☐ | ☐ |
| Other (please specify): | ☐ | ☐ |

Which **collaboration tools** have you done extensive development work in over the past year, and which do you want to work in over the next year? (If you worked with the tool and want to continue to do so, please check both boxes in that row.)

| | Worked with in PAST year | Want to work with NEXT year |
|---|:---:|:---:|
| Confluence | ☐ | ☐ |
| Jira | ☐ | ☐ |
| GitHub | ☐ | ☐ |
| GitLab | ☐ | ☐ |
| Facebook Workplace | ☐ | ☐ |
| Slack | ☐ | ☐ |
| Microsoft Teams | ☐ | ☐ |
| Microsoft Azure | ☐ | ☐ |
| Trello | ☐ | ☐ |
| Google Suite (Docs, Meet, etc) | ☐ | ☐ |
| Stack Overflow for Teams | ☐ | ☐ |
| Other (please specify): | ☐ | ☐ |

What is the primary operating system in which you work? <span style="color:green">AP OpSys</span>

○ Linux-based
○ Windows

○ MacOS
○ BSD
○ [                    ] Other (please specify):

What level of influence do you, personally, have over new technology purchases at your organization? <span style="color:green">AT PurchaseWhat</span>

○ I have a great deal of influence
○ I have little or no influence
○ I have some influence

When buying a new tool or software, how do you discover and research available solutions? Select all that apply. <span style="color:red">Not important</span>

☐ Start a free trial
☐ Ask developers I know/work with
☐ Visit developer communities like Stack Overflow
☐ Read ratings or reviews on third party sites like G2Crowd
☐ Research companies that have advertised on sites I visit
☐ Research companies that have emailed me
☐ [                    ] Other (please specify):

What do you do when you get stuck on a problem? Select all that apply. <span style="color:red">AO NEWStuck Not important</span>

☐ Call a coworker or friend
☐ Visit Stack Overflow
☐ Watch help / tutorial videos
☐ Panic
☐ Go for a walk or other physical activity
☐ Meditate
☐ Do other work and come back later

- ☐ Play games
- ☐ [_____] Visit another developer community (please name):
- ☐ [_____] Other (please specify):

You search for a coding solution online and the first result link is purple because you already visited it. How do you feel? <span style="color:red">AM NEWPurpleLink NOT IMPORTANT</span>

- ○ Amused
- ○ Annoyed
- ○ Indifferent
- ○ Hello, old friend

## 4 - Stack Community

# Stack Overflow - usage and community

This section will focus on Stack Overflow usage and community questions.

Most questions in this section are optional. Required questions are noted with *.

Which of the following Stack Overflow sites have you visited? Select all that apply.
<span style="color:red">AN NEWSOSites NOT IMPORTANT</span>

- ☐ Stack Overflow (public Q&A for anyone who codes)
- ☐ Stack Exchange (public Q&A for a variety of topics)
- ☐ Stack Overflow **Jobs** (for job seekers)
- ☐ Stack Overflow for **Teams** (private Q&A for organizations)
- ☐ Stack Overflow **Talent** (for hiring companies/recruiters)
- ☐ Stack Overflow **Advertising** (for technology companies)
- ☐ I have never visited any of these sites

How frequently would you say you visit Stack Overflow? <span style="color:red">AY SOVisitFreq</span>

- ◯ I have never visited Stack Overflow (before today)
- ◯ Less than once per month or monthly
- ◯ A few times per month or weekly
- ◯ A few times per week
- ◯ Daily or almost daily
- ◯ Multiple times per day

Do you have a Stack Overflow account? <span style="color:red">AV SOAccount NOT</span>

- ◯ Yes
- ◯ No
- ◯ Not sure/can't remember

How frequently would you say you participate in Q&A on Stack Overflow? By participate we mean ask, answer, vote for, or comment on questions.

<span style="color:red">AX SOPartFreq NOT</span>

- ◯ I have never participated in Q&A on Stack Overflow
- ◯ Less than once per month or monthly
- ◯ A few times per month or weekly
- ◯ A few times per week
- ◯ Daily or almost daily
- ◯ Multiple times per day

Do you consider yourself a member of the Stack Overflow community? <span style="color:red">AW SOComm NOT</span>

- ◯ No, not at all
- ◯ No, not really
- ◯ Neutral
- ◯ Yes, somewhat
- ◯ Yes, definitely

○ Not sure

Please elaborate on your answer to the previous question (seeing yourself as a member of Stack Overflow's community).

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Are you a member of any other online developer communities?

○ Yes
○ No

Please name up to 5 other online developer communities you belong to, and indicate whether they are public (anyone can join) or private (invitation required).

|  | Public - Anyone can join | Private - Invitation required to join |
| --- | --- | --- |
| Online community 1: | ○ | ○ |
| Online community 2: | ○ | ○ |
| Online community 3: | ○ | ○ |
| Online community 4: | ○ | ○ |

Public - Anyone can join    Private - Invitation required to join

Online community 5:

◯                              ◯

## Compared to last year, how welcome do you feel on Stack Overflow?

◯ A lot **less** welcome now than last year
◯ Somewhat **less** welcome now than last year
◯ Just as welcome now as I felt last year
◯ Somewhat **more** welcome now than last year
◯ A lot **more** welcome now than last year
◯ Not applicable - I did not use Stack Overflow last year

## Please elaborate on your answer to the previous question (how welcome you feel).

## If you could change anything about Stack Overflow, what would it be?

## What would you like to be able to ask on Stack Overflow (that you can't ask currently)?

Do you think Stack Overflow should relax restrictions on what is considered "off-topic"?

○ Yes
○ No
○ Not sure

**Demographics**

## Demographics

All questions in this section are optional. As a reminder, all reporting of the survey responses will be anonymized.

What is your age (in years)? If you prefer not to answer, you may leave this question blank.

Which of the following describe you, if any? Please check all that apply. If you prefer not to answer, you may leave this question blank. R Gender

☐ Woman
☐ Man
☐ Non-binary, genderqueer, or gender non-conforming
☐ [          ] Or, in your own words:

☐ Prefer not to say

Are you transgender?

◯ Yes
◯ No
◯ [                    ] Or, in your own words:

◯ Prefer not to say

Which of the following describe you, if any? Please check all that apply. If you prefer not to answer, you may leave this question blank.  AU Sexuality NOT IMPORTANT

☐ Bisexual
☐ Gay or Lesbian
☐ Straight / Heterosexual
☐ Queer
☐ [                    ] Or, in your own words:

☐ Prefer not to say

Which of the following describe you, if any? Please check all that apply. If you prefer not to answer, you may leave this question blank.  Q Ethnicity NOT IMPORTANT

☐ Black or of African descent
☐ East Asian
☐ Hispanic or Latino/a/x
☐ Middle Eastern
☐ White or of European descent
☐ Biracial
☐ Indigenous (such as Native American, Pacific Islander, or Indigenous Australian)
☐ South Asian
☐ Multiracial

- [ ] Southeast Asian
- [ ] I don't know
- [ ] Prefer not to say
- [ ] [                    ] Or, in your own words:

Which of the following describe you, if any? Please check all that apply. If you prefer not to answer, you may leave this question blank.

- [ ] I am blind / have difficulty seeing
- [ ] I am deaf / hard of hearing
- [ ] I am unable to / find it difficult to type
- [ ] I am unable to / find it difficult to walk or stand without assistance
- [ ] Prefer not to say
- [ ] None of the above
- [ ] [                    ] Or, in your own words:

Which of the following describe you, if any? Please check all that apply. If you prefer not to answer, you may leave this question blank.

- [ ] I have a concentration and/or memory disorder (e.g. ADHD)
- [ ] I have a mood or emotional disorder (e.g. depression, bipolar disorder)
- [ ] I have an anxiety disorder
- [ ] I have autism / an autism spectrum disorder (e.g. Asperger's)
- [ ] Prefer not to say
- [ ] None of the above
- [ ] [                    ] Or, in your own words:

**FinalThoughtsSurveyReview**

# Final Questions

You're almost done!

How do you feel about the length of the survey this year?

- ○ Too short
- ○ Appropriate in length
- ○ Too long

How easy or difficult was this survey to complete?

- ○ Easy
- ○ Neither easy nor difficult
- ○ Difficult

Any final thoughts you'd like to share?

[ text box ]