

intro

Thank you for taking the time to use Codeitz! We now want to get some information about your experience, have you take a diagnostic to identify what you know and can learn, and also learn a little bit more about you.

About the survey:

- The survey itself is broken up into multiple parts. **The diagnostic will take up to 60 minutes and the rest of the survey (combined) should take 30-45 minutes.**
- Except for the diagnostic, you can exit the survey and return to it any time. The **diagnostic must be completed in a single session** (up to 60 min).
- To get paid the full amount, you **must complete the survey** (including the diagnostic).
- Your survey **data will be anonymized** and never be shared with anyone outside of the research team (except you).
- Please **do not share information about the survey or the link to it**. The link to the survey is unique to you!

If you have any additional questions, please contact Benjamin Xie (bxie@uw.edu).

By providing the most information you can in this survey & diagnostic, you will help us help you know what you know and don't know about Python, and also help us make Codeitz better for future learners!

So thanks for taking the time to work through this survey! 😊

I understand that I must complete the survey to be eligible for full payment. 💰

☐ Yes, I understand

I understand that the diagnostic must be completed in a single session which will take up to 60 minutes. 🕒

☐ Yes, I understand

I will **not** share information about this survey or the link to it with anyone. 🤖

☐ Yes, I agree

About your Codeitz experience

In this section, we want to learn more about your experience. By understanding how you used Codeitz, we can improve it for future learners. So thanks for your insights!

After you were done with a lesson or exercise in Codeitz, how did you decide what to do next?

Think back to when you finished an exercise. How important were the following parts of Codeitz in deciding what to do next?

	Not applicable (N/A)	Not at all important	Slightly important	Moderately important	Very important	Extremely important
green checkmarks & stars	<div><div></div><div>✓</div></div>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<div><div></div><div>★</div></div>					
	<div><div></div><div>★</div></div>					
green skill bars	<div><div>expert</div></div>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<div><div>novice</div></div>					

	Not applicable (N/A)	Not at all important	Slightly important	Moderately important	Very important	Extremely important
	Not applicable (N/A)	Not at all important	Slightly important	Moderately important	Very important	Extremely important

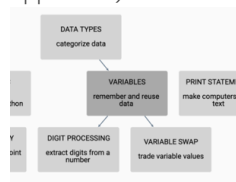
blue recommendation text (if applicable)

[You've read this concept and practiced related ones, so do this exercise to continue learning.](#)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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	Not applicable (N/A)	Not at all important	Slightly important	Moderately important	Very important	Extremely important
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concept hierarchy/
world view (if applicable)



<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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	Not applicable (N/A)	Not at all important	Slightly important	Moderately important	Very important	Extremely important
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feedback on how you did on the exercise

Feedback

Not quite!

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Were there other parts of Codeitz that you considered when deciding what to do next?
If so, please describe them and how important they were.

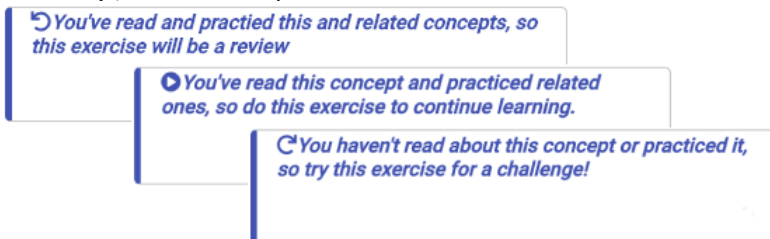
Think back to when you finished an exercise. How important were the following factors in deciding what to do next?

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
your goals related to Codeitz	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
how motivated you felt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
how tired you felt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
how much time you already spent using Codeitz	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
how much time you had available to use Codeitz	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Were there other factors that were important to you when deciding what to do next?
If so, please describe them and how important they were.

If you remember seeing the blue recommendation text (pictured below), how did you use it to decide what to do next?



What about using Codeitz caused you to feel frustrated, if anything?

What about using Codeitz was helpful to you, if anything?

diagnostic description

Time to see what you learned and what else you can learn!

The next section is the diagnostic. The diagnostic is a test that covers content that was included in Codeitz.

The goal of the diagnostic is to see what you know and what you don't know. By giving the diagnostic an honest effort, we can use it to help you understand what you know and don't yet know about introductory Python programming. So trying your hardest on this diagnostic will accelerate your Python learning!

If you're not sure about a question, just try your best! Your responses will likely be at least partially correct, and this helps us identify what you know and can still learn.

Here's some more information about the diagnostic

- **You will have 60 minutes to complete the diagnostic.** A timer will display the time remaining. You do *not* need to use to all 60 minutes. After 60 min is up, you will automatically advance to the next part of the survey.
- **You may NOT consult any external resources** (e.g. Codeitz, websites, textbooks, etc.) or other people (e.g. friends, teachers).
- **Please complete the diagnostic in one session.** Be sure you have an hour to commit to taking the diagnostic. Otherwise, save your progress and come back later.

I understand that I have 60 minutes to complete the diagnostic and I must do so in one consecutive session. 🕒

☐ I understand.

When taking the diagnostic, I will not consult any external resources or consult with other people. 🚫🗣️🚫📖

☐ I agree.

I will try my best on this diagnostic, because doing so helps me learn Python! 👍

☐ I will try my best!

Diagnostic

Instructions for diagnostic
(reprinted from previous section)

- **If you're not sure about a question, just try your best!** Your responses will likely be at least partially correct, and this helps us identify what you know and can still learn.
- **You will have 60 minutes to complete the diagnostic.** A timer will display the time remaining. You do *not* need to use to all 60 minutes. After 60 min is up, you will automatically advance to the next part of the survey.
- **You may NOT consult any external resources** (e.g. Codeitz, websites, textbooks, etc.) or other people (e.g. friends, teachers).
- **Please complete the diagnostic in one session.** Be sure you have an hour to commit to taking the diagnostic. Otherwise, save your progress and come back later.

These page timer metrics will not be displayed to the recipient.

First Click: *0 seconds*

Last Click: *0 seconds*

Page Submit: *0 seconds*

Click Count: *0 clicks*

0	1	0	0	0	0
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1. Consider the following code:

```
x = 2
y = 5
z = 3

if (y % x == 1):
    print("a")
```

```
        x = x * x;
elif (y % x == 2):
    print("b")
    z = z * z
else:
    print("c")
    y = y * y
if (y / x == 1):
    print("g")
    x = x + 3
else:
    y = y * 2
    print("h")

print(x)
print(y)
print(z)
```

Write down all values printed as output after this code runs.



2. Consider the following code:

```
name = "james"
time = "night"

print("hi")
if(time != "day" and name == "Alice"):
    print("hi alice")
elif(time != "day"):
    print("hello")
    print("name")
else:
    print("good day to you")
print("done")
```

Write down all values printed as output after this code runs.



3. For the next three questions (3A-3C), consider the following code. The code below assumes that the variables *a*, *b*, and *c* all store numbers (integers or floats).

```
x = -1
y = -1

if(a < b and a < c):
    print(1)
    x = a
elif(b < c):
    print(2)
    x = b
else:
    print(3)
    x = c

if(a > b and a > c):
    print(4)
    y = a
elif(b > c):
    print(5)
    y = b
else:
    print(6)
    y = c

val = y - x

if(val > 0):
    print("THE VALUE:")
    print(val)
```

3A. Given the variable values $a = 1.1$, $b = 5$, $c = 2$, write down all values printed as output after this code runs.



3B. Summarize in plain English what the code does.

3C. Consider a scenario where 'THE VALUE:' (statement near the bottom of code) was not printed as output. In this scenario, what would be the relationship between the variables a, b, and c? (e.g. "a < b" or "c > 5").

4. For the next three questions (4A-4C), consider the following code. The code below assumes that the variables a, b, and c all store integers.

```
x = a%2==0
y = b%2==0
z = c%2==0

u = 0

if(x):
    u = u + 1
if(y):
    u = u + 1
if(z):
    u = u + 1

print(u)
```

4A. Given the variable values a = -2, b = 3, c = 4, determine the output of the code and write the output in the box below:

4B. Summarize in plain English what the code does:

**4C. Consider a scenario where '0' was printed as output after the code ran.
In this scenario, what would variables `a`, `b`, and `c` have to be? (e.g. "`a < b`" or "`c` must be 0")**

5. The following instructions are for code which assumes that variables `winner`, `follower`, and `leader` are defined as strings and variable `current_streak` is defined as a number.

1. If `winner` is equal to `follower`, then there is a new champion.
 1. Swap the names stored in `leader` and `follower` to reflect this change.
 2. Reset `current_streak` to 0.
 3. Print "new leader"
2. If `winner` is equal to `leader`, then the person who won the previous game has won another one
 1. Update `current_streak` by adding 1 to the previous value.
 2. Print "same leader"
3. If `winner` is not equal to `follower` or `leader`, then there is an unknown player.
 1. Print "unknown player"

Translate the instructions above into Python code.

6. You and your friends go out to eat at a restaurant and decide to split the bill and pay in gold. The meal costs each of you a very small fraction of a single kilogram (kg) of gold.

The amounts each of you and your 2 friends (3 people total) paid are decimal numbers stored in the variables `amt1`, `amt2`, and `amt3`. You want to determine if you paid within `0.0001` kg gold of the bill. The cost of the meal is stored in the decimal variable `cost`.

You and your friends are worried that you may have underpaid or overpaid.

Write code that determines if you and your friends properly paid for the bill:

- If in total you all paid is at least `0.0001` less than the cost, your code should print "underpaid" and then the (positive) amount that you underpaid on the next line.
- If in total you all paid within `0.0001` of the cost, your code should print "paid in full".
- If in total you all paid at least `0.0001` more than the cost, your code should print "overpaid" and then the (positive) amount you all overpaid on the following line.

In example, say

```
amt1 = 0.001, and  
amt2 = 0.002, and  
amt3 = 0.003, and  
cost = 0.0062.
```

The output of the code would be:

```
underpaid  
0.0002
```

Write your code in the box below:

If you need to indent code, use two spaces (the tab button won't work).

7. Write code that determines if the variable `inp`, a four digit integer value (between 1000–9999), is a valid passcode. Variable `inp` is a valid passcode if the sum of the first three digits modulus 7 is equal to the last digit. If `inp` is valid, the code should print `'valid'`. If the string is not valid, it should print `'NOT valid'`.

So if `inp` were set to 5312, it would be a valid passcode and your code would print `'valid'` because the first 3 digits (5, 3, and 1) sum to 9 and 9 modulus 7 equals the last digit (2). 1234 would not be a valid passcode and your code would print `'NOT valid'`. Write your solution in the box below.

Assume a variable `inp` has already been declared and stores a four digit integer value (between 1000–9999).

Write your code to check for a valid passcode in the box below:

If you need to indent code, use two spaces (the tab button won't work).

post-diagnostic

Now you're *almost* done! The remaining parts of the survey are for learning more about you. Your anonymized responses to these questions will help us contextualize the information we gather and help us build a more effective and inclusive Codeitz in the future!

Did you put forth your best effort on this test?
This will *not* affect your compensation, but it will affect how we interpret your data for our analysis. So thank you for answering honestly!

- ### Self-Efficacy measure

[illegible]

[illegible]

	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Write a long and complex Python program to solve any given problem as long as the specifications are clearly defined.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Organize and design my program in a modular manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Understand the object-oriented paradigm.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Identify the objects in the problem domain and declare, define, and use them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Make use of a pre-written function, given a clearly labeled declaration of the function.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Make use of a class that is already defined, given a clearly labeled declaration of the class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)

[illegible]

	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Complete a programming project if I had just the built-in help facility for assistance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Find ways of overcoming the problem if I got stuck at a point while working on a programming project.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Come up with a suitable strategy for a given programming project in a short time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Manage my time efficiently if I had a pressing deadline on a programming project.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Mentally trace through the execution of a long, complex, multi-file program given to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)
Rewrite lengthy confusing portions of code to be more readable and clear.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 (not at all confident)	2	3	4	5	6	7 (absolutely confident)

You can learn new things, but you can't really change your basic intelligence.

Strongly disagree ☒ Disagree ☐ Mostly disagree ☐ Agree ☐ Mostly agree ☐ Strongly agree ☐

demographics

You're almost done! This section will ask you for some demographic data. This data helps us learn more about what groups we are and are not reaching in this study and how Codeitz affects diverse people in different ways.

So thanks again for your feedback!

How many programming courses have you **previously** completed?
("0" if none)

How many programming courses are you **currently** enrolled in?
("0" if none)

What is/are the name of the programming course(s) you are currently enrolled in?
(Please separate multiple course names with commas, e.g. "UW CSE 142, UW INFO 201")

Please describe your highest level of education:

- ☐ No high school
- ☐ Some high school
- ☐ High school diploma or GED
- ☐ Some college
- ☐ Associate degree
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Doctorate degree
- ☐ Professional certificate or degree
- ☐ (prefer not to answer)

If you are working towards a degree, please indicate what you are working towards:

- ☐ Not currently taking courses or pursuing a degree
- ☐ Taking courses but not pursuing degree
- ☐ High school diploma or GED
- ☐ Associate degree
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Doctorate degree
- ☐ Professional certificate or degree
- ☐ (prefer not to answer)
- ☐ other (please specify)

What universities or institutions are you attending?

If your degree has a major or concentration, please specify what it is:

(e.g. computer science, informatics, engineering, communications, etc.)

What is your gender?

- ☐ Woman
- ☐ Man
- ☐ Non-binary
- ☐ Prefer not to disclose
- ☐ Prefer to self-describe

Please self-describe your gender

What is your ethnicity?

- ☐ Asian
- ☐ Black/African
- ☐ Caucasian
- ☐ Hispanic/Latinx
- ☐ Native American
- ☐ Pacific Islander
- ☐ Prefer not to disclose
- ☐ Prefer to self-describe

Please self-describe your ethnicity

Rate to what extent **physical/bodily disorders** hinder your daily (also household and non-paid) work, your family (social) life, and your leisure behavior.

	none	some	serious	severe
daily work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
family life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
leisure behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When you experience at least some hinder, to which physical disorder(s) do you ascribe this?

Applicable to you in your situation, rate to what extent **mental disorders** hinder with respect to your daily (also household and non-paid) work, your family (social) life and your leisure behavior.

	none	some	serious	severe
daily work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
family life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
leisure behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When you experience at least some hinder, to which mental disorder(s) do you ascribe this?

Applicable to you in your situation, rate to what extent **social disorders** hinder with respect to your daily (also household and non-paid) work, your family (social) life and your leisure behavior.

	not	some	serious	severe
daily work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
family life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
leisure behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When you experience at least some hinderance, to which social disorder(s) do you ascribe this?

Block 5

What is your email address?

Please use the same email address as the one you used to sign up for Codeitz.

We need this email address to pay you for your participation!

Would you be willing to potentially participate in a follow-up interview?

Doing so will help us share with you what you know about Python and earn you some additional money!

- ☐ Yes, I'd be willing to participate in a follow-up interview.
- ☐ Maybe, please contact me with more details.
- ☐ No, do not contact me about participating in a follow-up interview.

Great! If there is a better way to contact you besides your email address (e.g. "text me at 206-123-4567"), please note it below. (If you leave this blank, we'll reach out to you via email.)

Is there anything you would like to tell us about yourself, your experience in this study, etc?

