

# Chapter 2

## Knowledge Check

Software Engineering > Chapter ...

🔥 Welcome to the knowledge check! 🔥

In this (somewhat) lengthy quiz you will get an idea of how you're doing up until now.

Please note that the required score to pass the test is 100%, meaning you need to get all the questions right to pass! Take any mistakes you might make not as a sign of weakness, but rather an indicator of what you need to revisit.

Remember, you cannot succeed if you do not fail spectacularly and learn from it!

Good luck 🍀

## Results

39 of 45 Questions answered

correctly

YOUR TIME:

00:20:34

You have reached 39 of 45  
point(s), (86.67%)

Restart Quiz

View Questions

Continue

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36	37	38	39	40
41	42	43	44	45

Which method removes an  
element by its value?

Correct answer

remove()

Correct answer

clear()

✗ pop()

Incorrect

del

Incorrect

What will be the output of the following code?

```
x = 10  
y = x  
x = 20  
print(y)
```

10

Correct answer

An error

✗ 20

Incorrect

None

Incorrect

What is the main purpose of programming?

To create hardware components

To memorize computer commands

To manually execute repetitive calculations

To write and execute  
✓ instructions for computers to perform tasks

Correct



WBS CODING  
SCHOOL

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### Chapter 3: Linear Data Structures

▶ [Intro to Data Structures and Alg...](#) 2 Topics

▶ [Arrays](#) 10 Topics

▶ [Stacks](#) 1 Topic

▶ [Queues](#) 1 Topic

▶ [Exercises](#) 5 Topics

Correct



What is a function in Python?

A piece of reusable  
✓ code

Correct

A library

A variable

A data structure

► [Chapter 3 Exam](#)

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**Correct**

## Chapter 4: Non-linear Data Structures

► [Hash Tables](#)

[3 Topics](#)



Which operator is used to check if two values are NOT equal?

► [Trees](#)

[7 Topics](#)



==

► [Graphs](#)

[7 Topics](#)



✓ !=

**Correct**

► [Exercises](#)

[6 Topics](#)



>=

<



**Correct**

What is the main purpose of pseudocode?

To write actual executable code

✓ To describe an algorithm in a human-readable format

**Correct**

To replace programming languages


To debug programs  
before running them

**Correct**

What is an infinite loop?

A loop that breaks  
automatically

A loop inside a  
function

 A loop with a condition  
that always remains True **Correct**

A loop that executes  
only once

**Correct**

How do you access the value  
associated with a key in a  
dictionary?

```
my_dict = {"name":  
"Bobby"}
```

my\_dict[0]

my\_dict("name")

my\_dict.name

✓ my\_dict["name"] **Correct**

**Correct**

What does this code return?

```
some_func = lambda x, y: x  
+ y  
print(some_func(2, 3))
```

An error

✓ 5 **Correct**

23

None

**Correct**

Which of the following best describes a programming language?

✓ A set of instructions **Correct**  
at a computer can understand and execute

understand and execute

A tool for writing  
mathematical equations

A method for  
designing databases

A way to communicate  
with other programmers

**Correct**

What happens if a function  
expects two arguments but only  
one is provided?

✓ It raises a `TypeError` **Correct**

It runs with a default  
value

It ignores the missing  
argument

It returns `None`

**Correct**

What is the correct data type for  
storing a whole number in Python?



storing a whole number in Python:

float

bool

str



int

Correct

Correct

What does

`my_list.append(5)` do?

5

Creates a new list with

list

Removes 5 from the

the list



Adds 5 to the end of

Correct

Inserts 5 at index 0

**Correct**

What is a control structure in Python?

A way to organize functions

A library for managing loops

A structure that  
✓ controls the flow of a program

**Correct**

A method for defining variables

**Correct**

What is the correct way to write an `if` statement in Python?


`if` ✓ `x > 10`

`:` ✓

```
print("Greater  
than 10")
```

**Correct**

What is the key difference  
between a list and a tuple?

 **Correct**  
Tuples are immutable,  
lists are mutable

Tuples are faster than  
lists but less flexible


Lists are immutable,  
tuples are mutable

Lists use parentheses  
( ), tuples use []

**Correct**

Which of the following is a valid  
Python variable name?

my var

 **Correct**  
my\_var\_2

mv-var

my\_var


2my\_var

**Correct**

When does a `while` loop stop executing?

When return is used

When an error occurs

 **Correct**  
When the loop reaches  
the break

After a fixed number of  
iterations

**Correct**

What is pattern matching in  
Python?

A method to compare  
strings

A way to format text

A way to iterate over lists

**Correct**  
A feature that allows matching different structures using match-case ✓

**Correct**

Which data type would best represent a value of 6.4?

int

**Correct**  
✓ float

str

bool

**Correct**

Which method adds an element to a set?

update()

append()

append()

insert()



add()

Correct

Correct

Which of the following is NOT a benefit of list comprehension?

It can replace for loops in some cases



It always runs faster than regular loops

Correct

It simplifies loops

It makes code more readable

Correct

How do you create a list in Python?

my\_list = {1, 2, 3}

my\_list = (1, 2, 3)

my\_list = (1, 2, 3)

my\_list = <1, 2, 3>

✓ my\_list = [1, 2, 3] **Correct**

**Correct**

How do you create a tuple with a single element?

[1]

✓ (1,) **Correct**

{1}

(1)

**Correct**

What is a key difference between a list and a set in Python?

✓ Lists allow duplicate values, but sets do not **Correct**

Lists use curly braces {}, while sets use []

Lists are unordered,  
sets are ordered

Lists only contain  
numbers, sets contain any  
data type

**Correct**

What does this code return?

```
[x*2 for x in range(3)]
```

✗ [2, 4, 6]

**Incorrect**

[0, 2, 4]

**Correct answer**

[1, 2, 3]

[0, 1, 2]

**Incorrect**

What does the expression `5 == "5"` return in Python?

None



True



False

Correct

An error

Correct

What is `i` in this loop?

```
for i in range(5):  
    print(i)
```



The loop counter

Correct

A list element

A function

A dictionary key

Correct

What happens if no exception occurs in the `try` block?

The program stops

The except block runs

✓ The except block is <sup>Correct</sup> skipped

The program crashes

**Correct**

Given `my_list = [10, 20, 30, 40]` , what does `my_list[2]` return?

20

10

✓ 30 <sup>Correct</sup>

40


**Correct**

Which of the following is true about pseudocode?

It is only used in advanced programming

It follows the syntax of Python exactly

It can be executed directly by a computer

 **Correct**  
It helps programmers outline logic before coding

**Correct**

What happens if you add a duplicate value to a set?

**Correct answer**  
The duplicate is ignored

An error occurs

The set will store duplicates

**Incorrect**  
✗ The value replaces the original

**Incorrect**

What happens if you try to access an index that does not exist in a list?

**Correct**  
✓ It raises an IndexError

It returns None

It deletes the list

It prints Undefined

**Correct**

What is a lambda function?

**Correct**  
✓ A function defined without a name

A function that runs automatically

A function with a

return statement

A built-in Python  
function

**Correct**

Which of the following data  
structures is mutable?

String

Integer

Tuple



Set

**Correct**

**Correct**

What data structure is a dictionary  
based on?



Sets

**Incorrect**

Tuples

Lists

Correct answer

Hash tables

**Incorrect**

What is a variable in Python?

A constant value that never changes

A part of Python's standard library

Correct

A named storage  
✓ location for a value in  
memory

A type of function that prints values

**Correct**

Which of the following is NOT a control structure?

for loop

while loop

if-else



print()

Correct

Correct

What is the index of the first element in a Python list?

1

Depends on the list size



0

Correct

-1

Correct

Which keyword is used for pattern matching in Python?

compare



match

Correct

switch

case

**Correct**

What is a parameter in a function?

The name of a function

**Incorrect**  
✗ The value returned by  
a function

**Correct answer**  
A value passed into a  
function

The function's print  
statement

**Incorrect**

What is the purpose of a `try-  
except` block in Python?

**Correct**  
✓ To catch and handle  
errors

To define a function



To declare variables

To import libraries

**Correct**

How many times does this loop run?

```
for i in range(3):  
    print(i)
```

2

✓ 3

**Correct**

Infinite loop

1

**Correct**

What is the output of this code?

```
x = 5  
if x > 3:  
    print("Hello")
```