



Python JSON

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JSON is a syntax for storing and exchanging data.

JSON is text, written with JavaScript object notation.

JSON in Python

Python has a built-in package called `json`, which can be used to work with JSON data.

Example

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Import the json module:

```
import json
```

Parse JSON - Convert from JSON to Python

If you have a JSON string, you can parse it by using the `json.loads()` method.

The result will be a Python dictionary.



```
import json

# some JSON:
x = '{ "name":"John", "age":30, "city":"New York"}'

# parse x:
y = json.loads(x)

# the result is a Python dictionary:
print(y["age"])
```

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Convert from Python to JSON

If you have a Python object, you can convert it into a JSON string by using the `json.dumps()` method.

Example

Convert from Python to JSON:

```
import json

# a Python object (dict):
x = {
    "name": "John",
    "age": 30,
    "city": "New York"
}

# convert into JSON:
y = json.dumps(x)
```

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You can convert Python objects of the following types, into JSON strings:

- dict
- list
- tuple
- string
- int
- float
- True
- False
- None

Example

Convert Python objects into JSON strings, and print the values:

```
import json

print(json.dumps({"name": "John", "age": 30}))
print(json.dumps(["apple", "bananas"]))
```



```
print(json.dumps(True))
print(json.dumps(False))
print(json.dumps(None))
```

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When you convert from Python to JSON, Python objects are converted into the JSON (JavaScript) equivalent:

Python	JSON
dict	Object
list	Array
tuple	Array
str	String
int	Number
float	Number
True	true
False	false
None	null

Example

Convert a Python object containing all the legal data types:

```
import json

x = {
    "name": "John",
    "age": 30,
```



```
"cars": [  
  {"model": "BMW 230", "mpg": 27.5},  
  {"model": "Ford Edge", "mpg": 24.1}  
]  
}  
  
print(json.dumps(x))
```

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Format the Result

The example above prints a JSON string, but it is not very easy to read, with no indentations and line breaks.

The `json.dumps()` method has parameters to make it easier to read the result:

Example

Use the `indent` parameter to define the numbers of indents:

```
json.dumps(x, indent=4)
```

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You can also define the separators, default value is `(", ", ": ")`, which means using a comma and a space to separate each object, and a colon and a space to separate keys from values:

Example

Use the `separators` parameter to change the default separator:

```
json.dumps(x, indent=4, separators=(". ", " = "))
```



Order the Result

The `json.dumps()` method has parameters to order the keys in the result:

Example

Use the `sort_keys` parameter to specify if the result should be sorted or not:

```
json.dumps(x, indent=4, sort_keys=True)
```

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Exercise ?

When you parse code with the `json.loads()` method, the result is returned as a specific Python data type, which one?

- ☐ list
- ☐ set
- ☐ tuple
- ☐ dictionary

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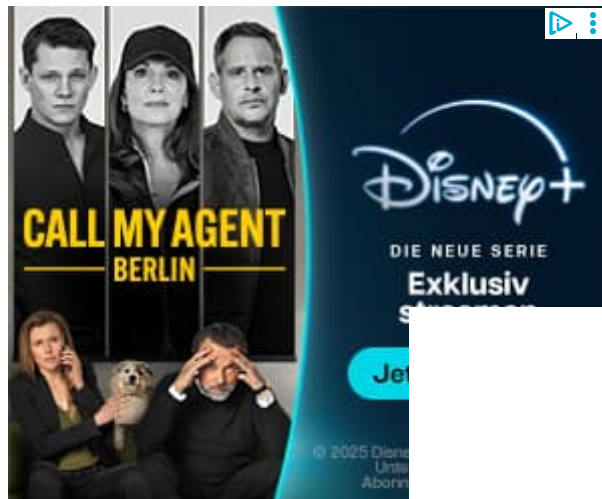
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