

Python Typing Exercises

In this exercise, you'll take a simple [7-way rock paper scissors](#) game which was written without types. You'll see that the editor cannot help you with writing code or errors when it does not know the types.

Steps

Open the folder `rocks-game` and open `rpsgame.py`. Go through each **variable**, **function parameter**, and **function return value**. See if your editor can understand what they are or detect errors (for example, return a string where a number is expected or visa versa).

You will need to use nested types for certain containers, such as:

```
1 | thing: dict[str, list[str]]
```

(that's not an actual example, but something to use as a hint, it's a dictionary like `{"key": ["val1", "val2"]}`)

Solutions

The solution (*a solution*) is in the `./solution` folder.

Motivation

Here are some examples of the benefits:

Catching **invalid return types**:

```
def get_players() → tuple[int, str]:  
    p1 = input("Player 1, what is your name? ")  
    p2 = "Computer"  
  
    return p1, p2
```

No autocomplete:

```
rolls = {}
```

```
rolls['rock'].|
```

Michael Ker

def main()
 log("A

load_r
show_h
show_l

player

if

ifn

main

ifnn

not

par

print

return

while

if expr

if expr is None

if __name__ = '__main__': expr

if expr is not None

not expr



(expr)

print(expr)

return expr


while expr


Press ↵ to insert, → to replace [Next Tip](#)





Now **with autocomplete**:


```
rolls['rock']['defeated_by'].|
```


 sort(self, key, reverse)


 clear(self)


 append(self, __object)


 index(self, __value, __start, __stop)


 reverse(self)


 copy(self)


 count(self, __value)

 extend(self, __iterable)

 insert(self, __index, __object)

 pop(self, __index)

 remove(self, __value)

 add (self, v)

list

MutableSequence

list

list

MutableSequence

list

list

list

list

list

list

list

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