Exceptions

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WAY TO REINVENT YOURSELF

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1 Introduction

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What is the difference?

Syntax Errors

What is the difference between these two types of errors?

Exception Errors

Students, write your response!

Pear Deck Interactive Slide
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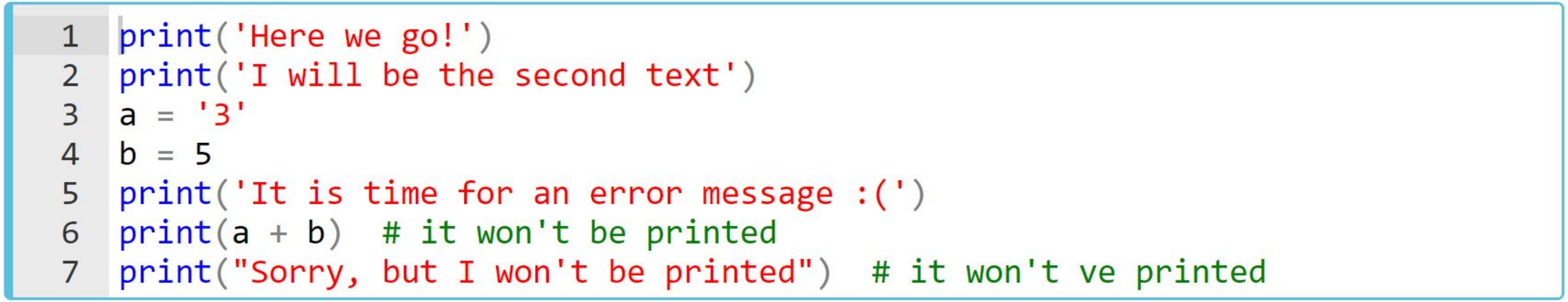
Introduction (review)

Syntax Error	Exception Error
These types of errors are detected during **compiling** the program into byte-code.	These types of errors are detected during the program execution (**interpretation**) process.

Introduction (review)

- Now, let's examine the following example :



```python
print('Here we go!')
print('I will be the second text')
a = '3'
b = 5
print('It is time for an error message :(')
print(a + b)  # it won't be printed
print("Sorry, but I won't be printed")  # it won't ve printed
```

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Introduction (review)

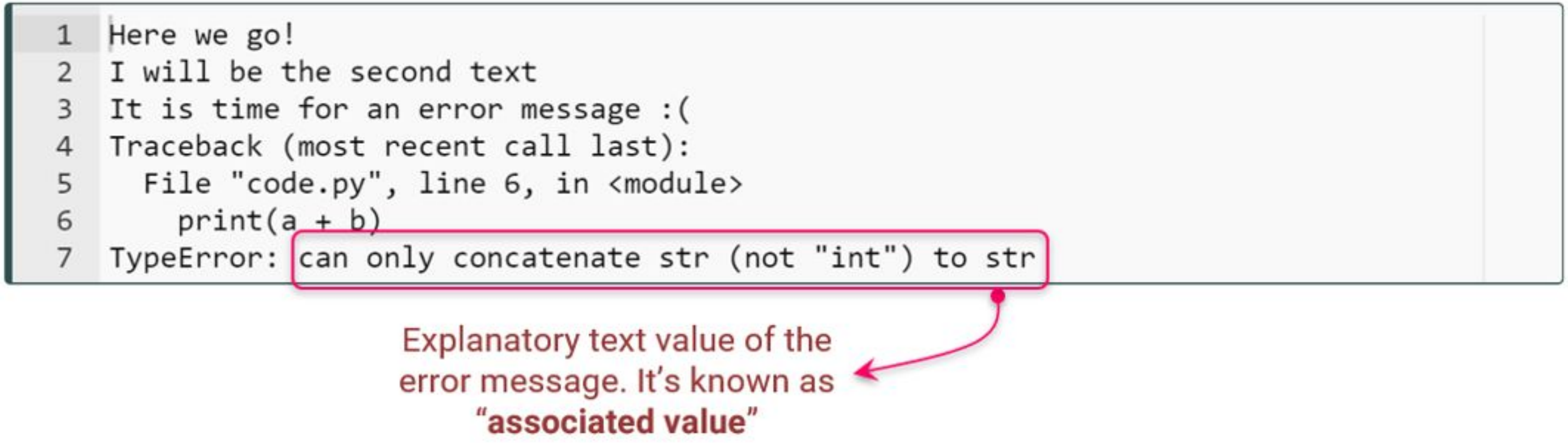
- Now, let's examine the following example :

```python
print('Here we go!')
print('I will be the second text')
a = '3'
b = 5
print('It is time for an error message :(')
print(a + b)  # it won't be printed
print("Sorry, but I won't be printed")  # it won't ve printed
```

```
Here we go!
I will be the second text
It is time for an error message :(
Traceback (most recent call last):
  File "code.py", line 6, in <module>
    print(a + b)
TypeError: can only concatenate str (not "int") to str
```

Introduction (review)

- Exceptions also have explanatory "**associated value**" at the last line of the error message.



```
Here we go!
I will be the second text
It is time for an error message :(
Traceback (most recent call last):
  File "code.py", line 6, in <module>
    print(a + b)
TypeError: can only concatenate str (not "int") to str
```

Explanatory text value of the error message. It's known as "**associated value**"

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Common Exceptions

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Can you summarize the **common exceptions?**

Students, write your response!

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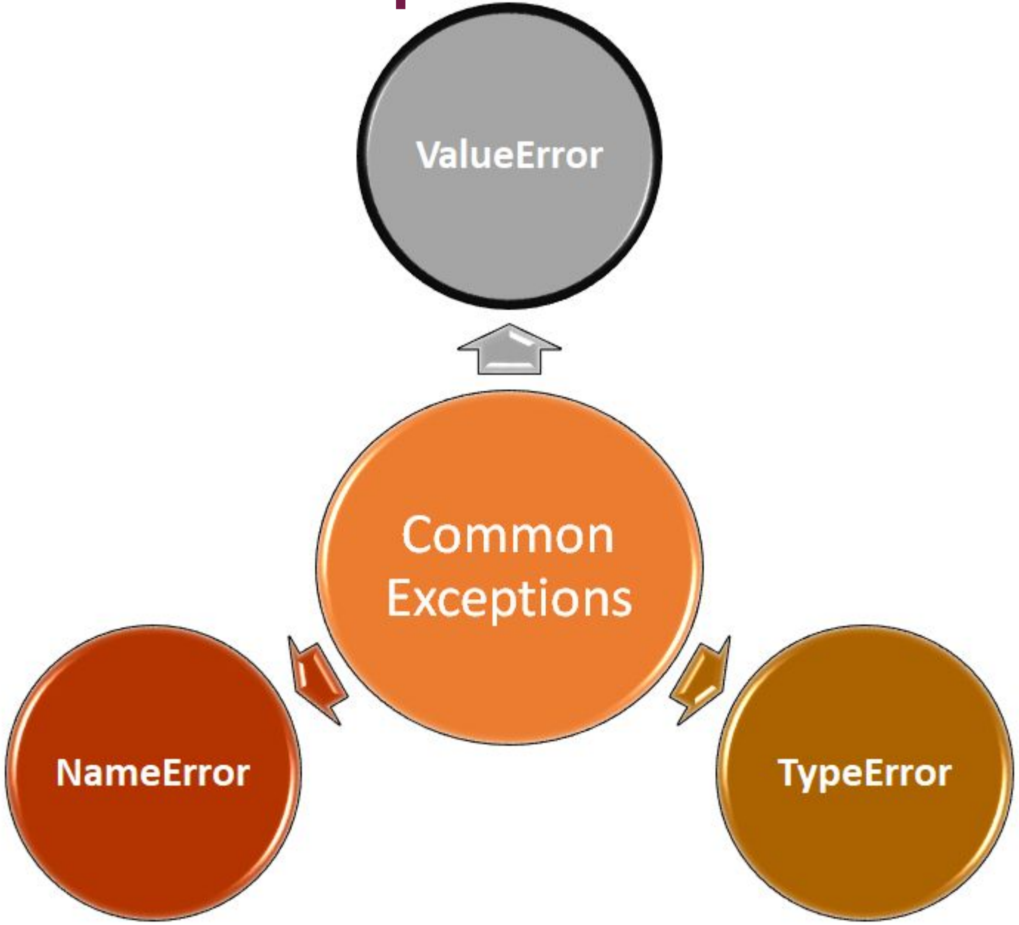
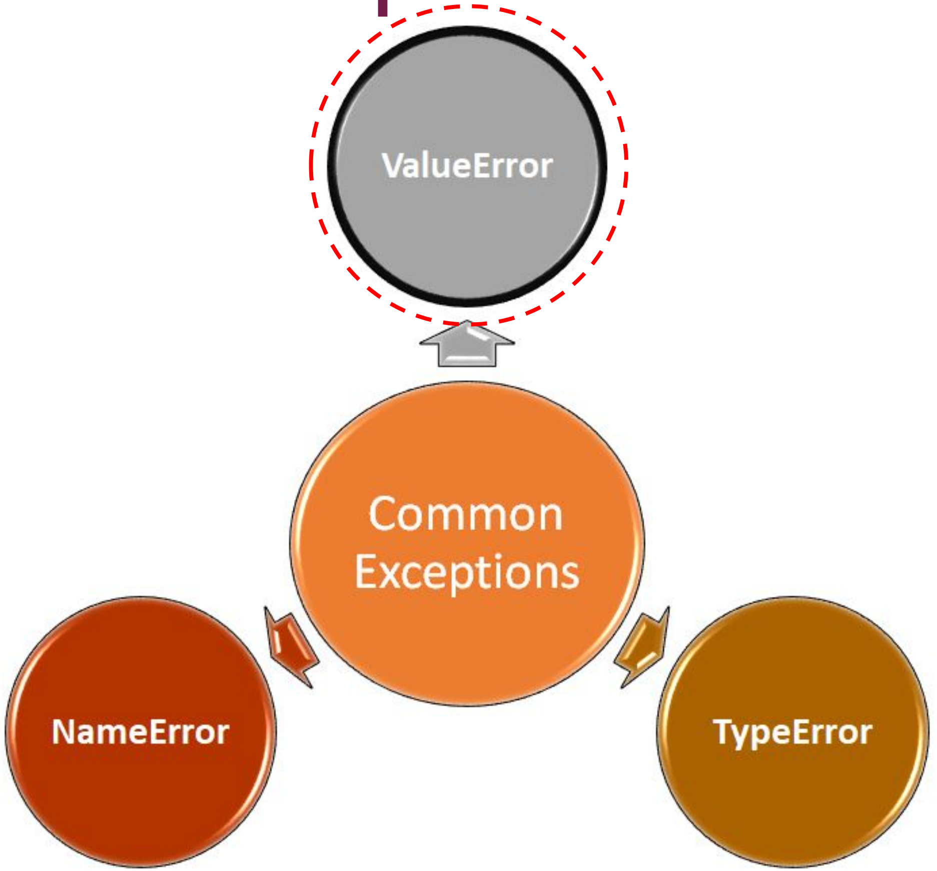
Common Exceptions (review)



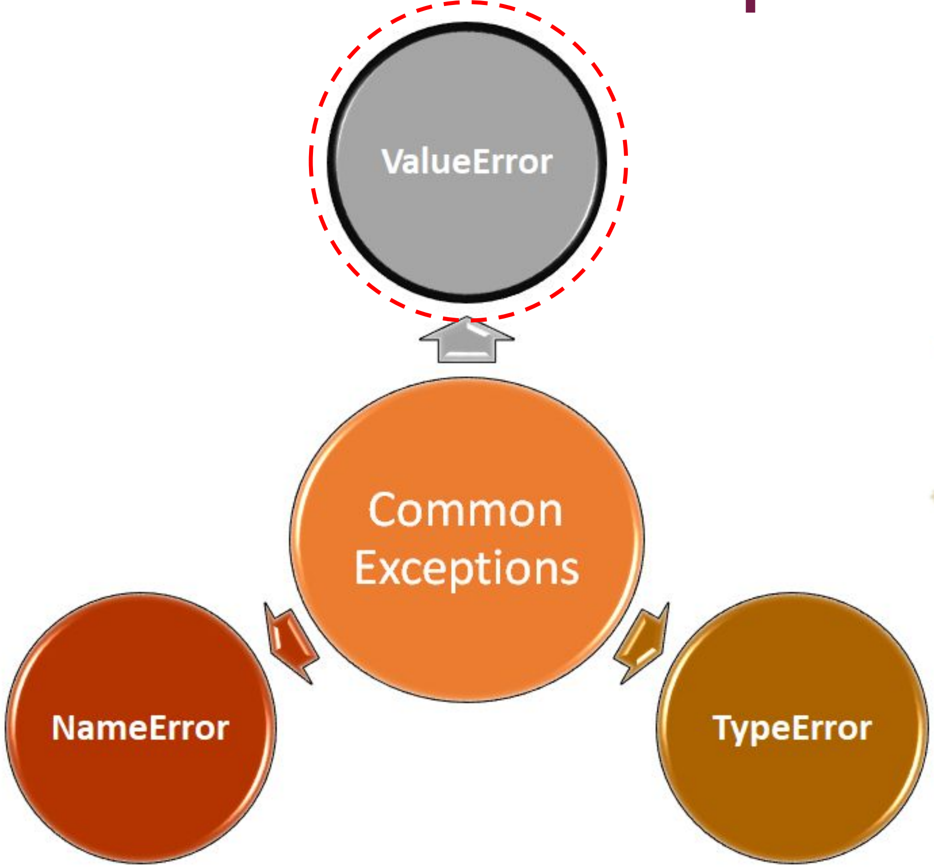
Common Exceptions (review)

ValueError



Common Exceptions (review)

`ValueError`



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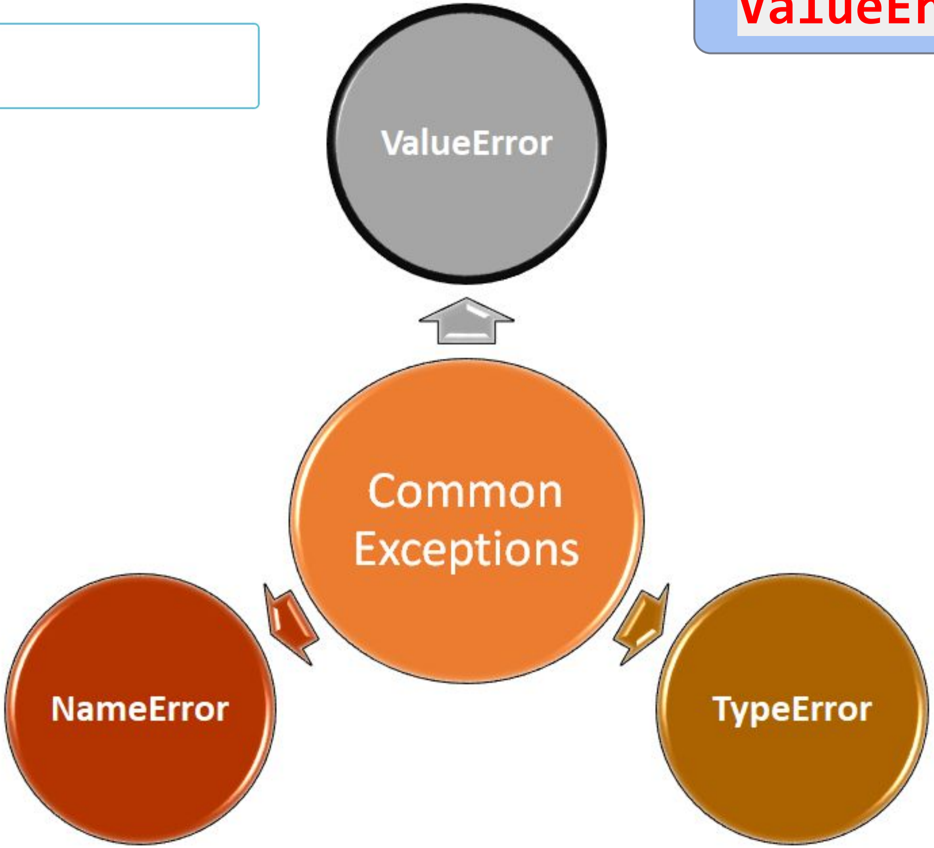
Common Exceptions (review)

```
print(int('ten'))

```

ValueError

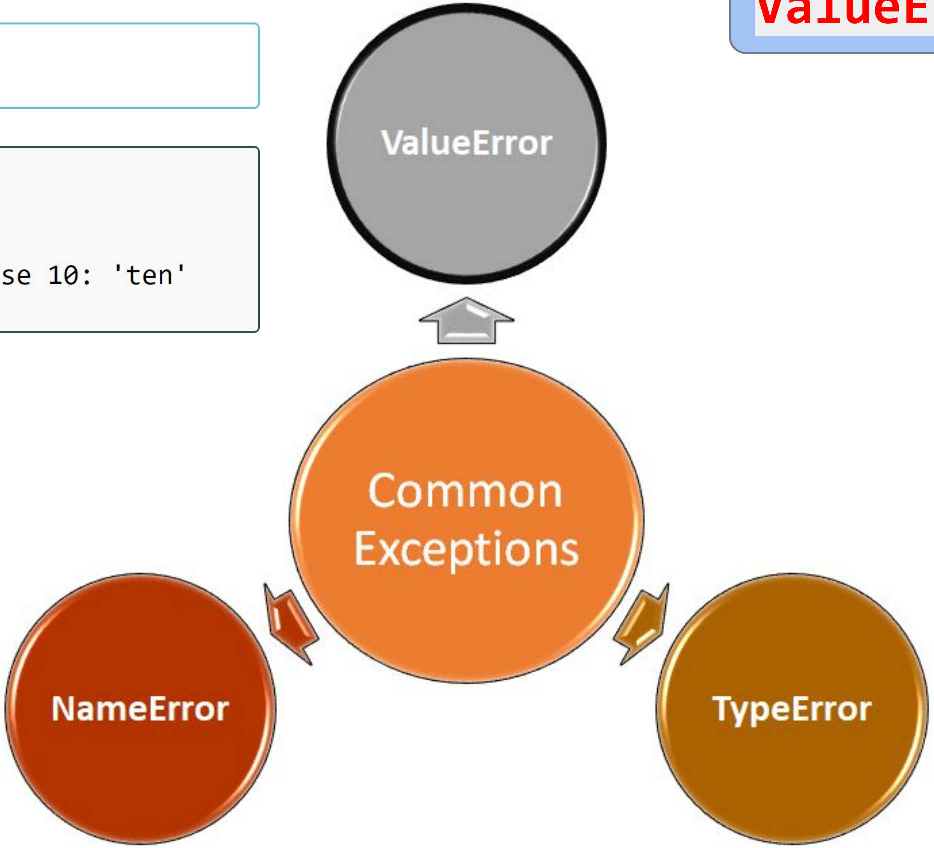


Common Exceptions (review)

ValueError

```python
print(int('ten'))
```

```
Traceback (most recent call last):
  File "code.py", line 1, in <module>
    print(int('ten'))
ValueError: invalid literal for int() with base 10: 'ten'
```



Common Exceptions

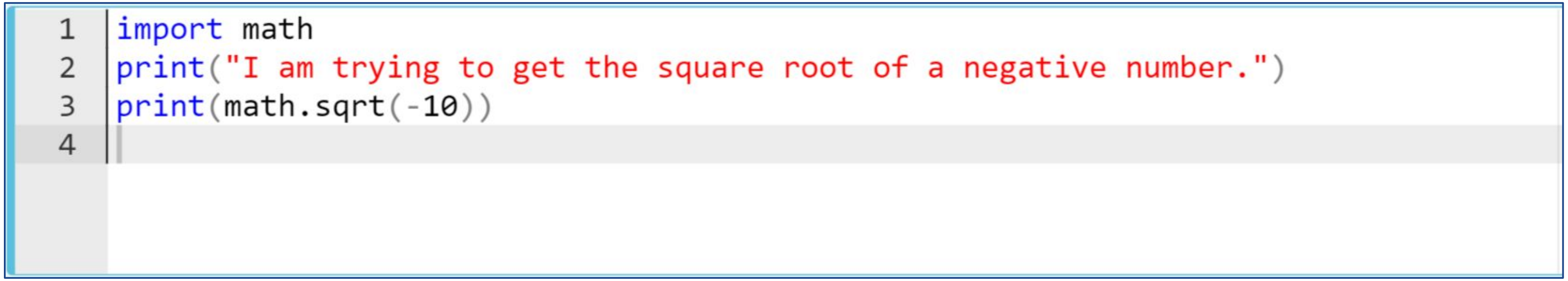
`ValueError`

- **Task :**
  - Try to set a code to raise `ValueError` intentionally using the `math` module.

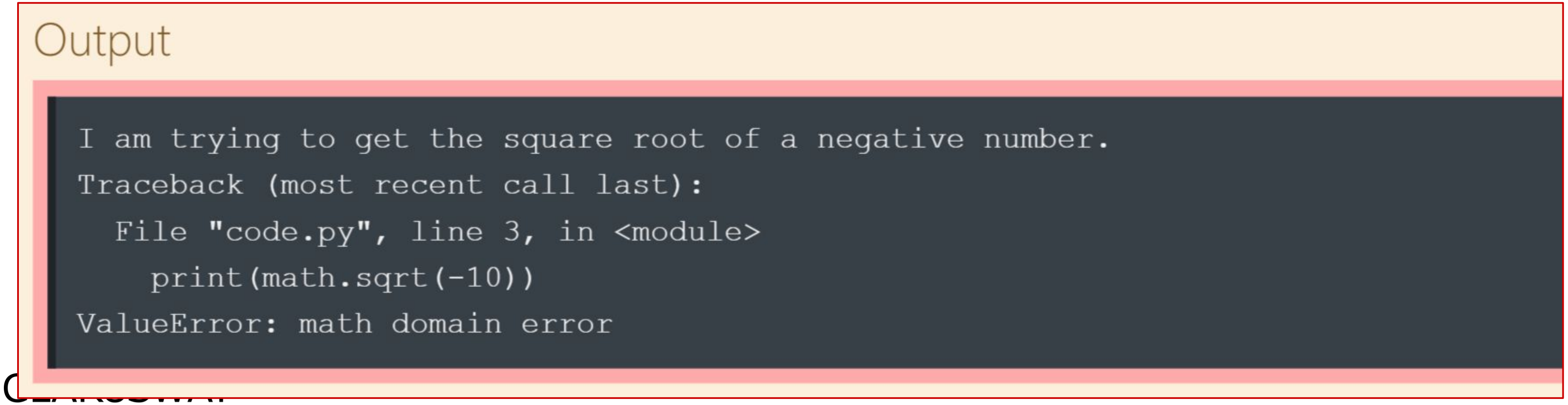
Common Exceptions

ValueError

- A **sample** of the code can be as follows :



```python
import math
print("I am trying to get the square root of a negative number.")
print(math.sqrt(-10))
```

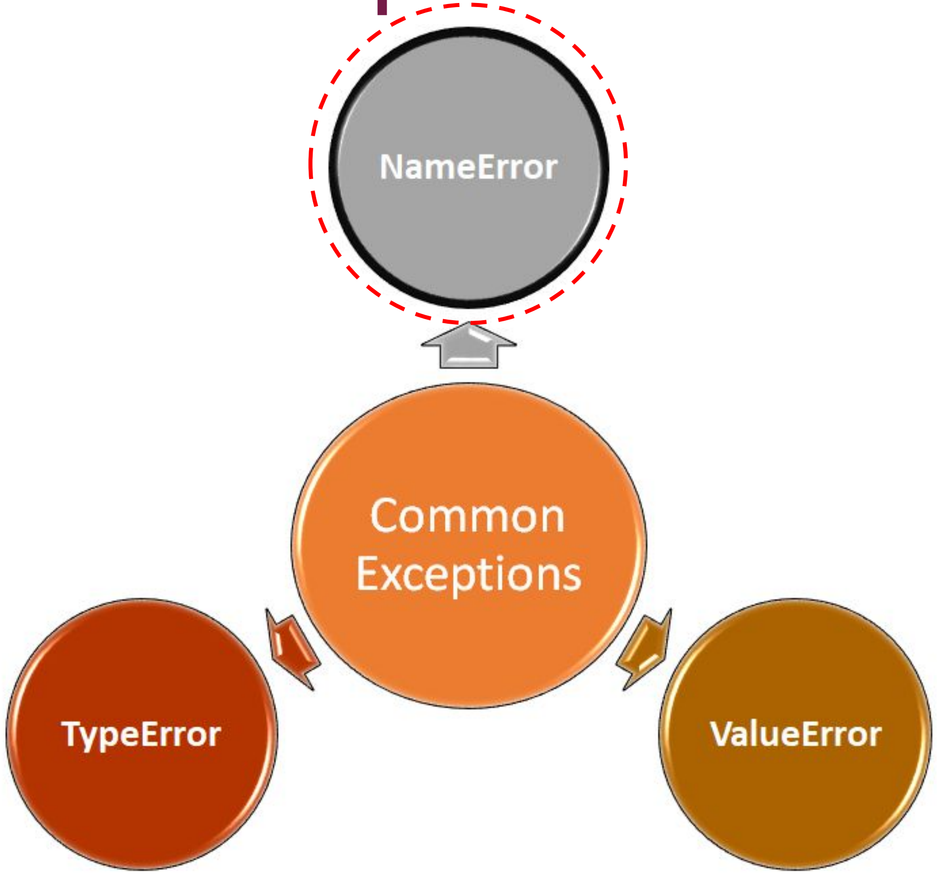


Output

```
I am trying to get the square root of a negative number.
Traceback (most recent call last):
  File "code.py", line 3, in <module>
    print(math.sqrt(-10))
ValueError: math domain error
```

Common Exceptions (review)

NameError



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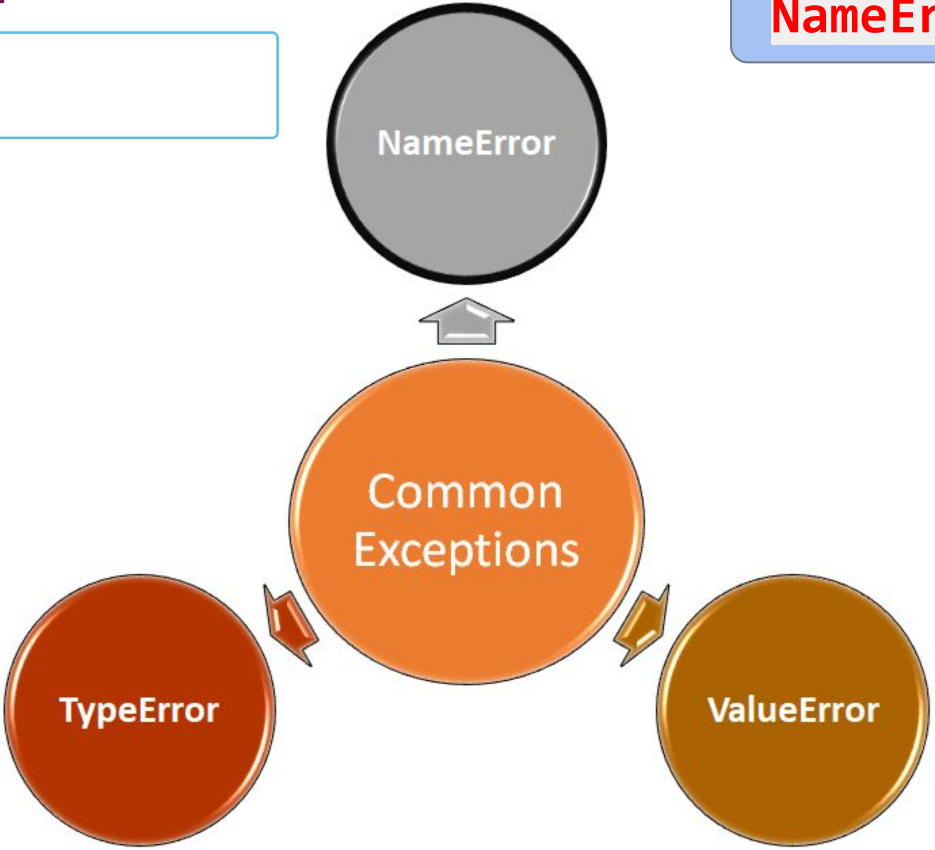
Common Exceptions (review)

```python
print(variable)
variable = "Don't ever give up!"
```

NameError



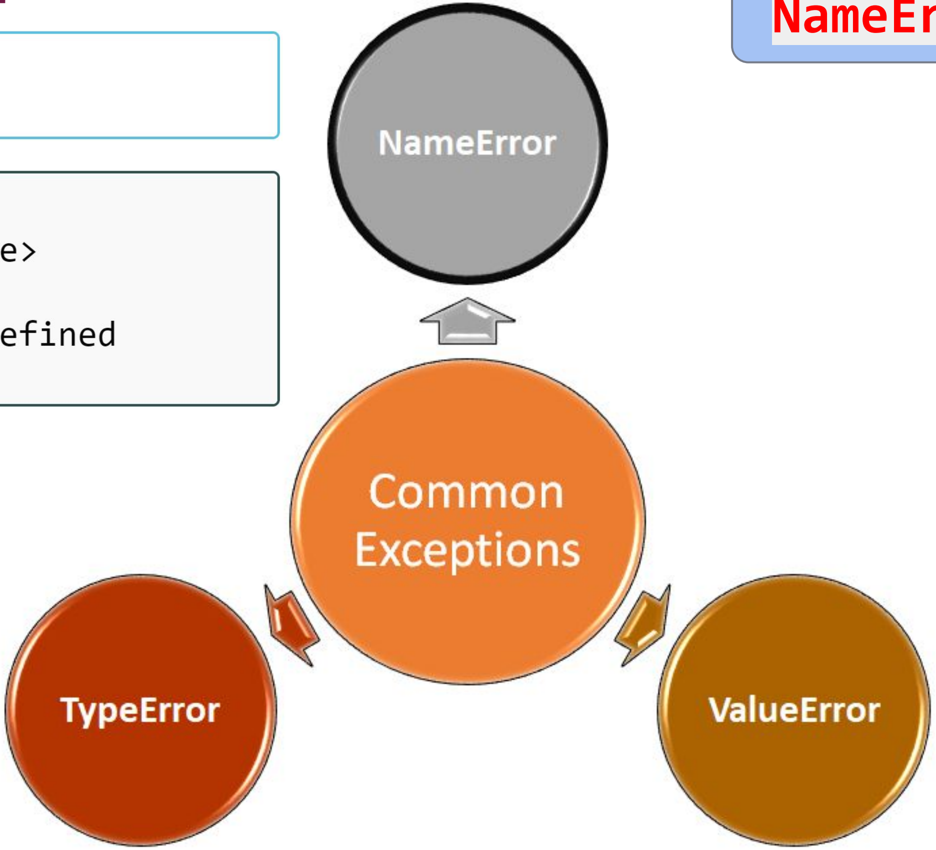
Common Exceptions (review)

NameError

```python
print(variable)
variable = "Don't ever give up!"
```

```
Traceback (most recent call last):
  File "code.py", line 1, in <module>
    print(variable)
NameError: name 'variable' is not defined

```



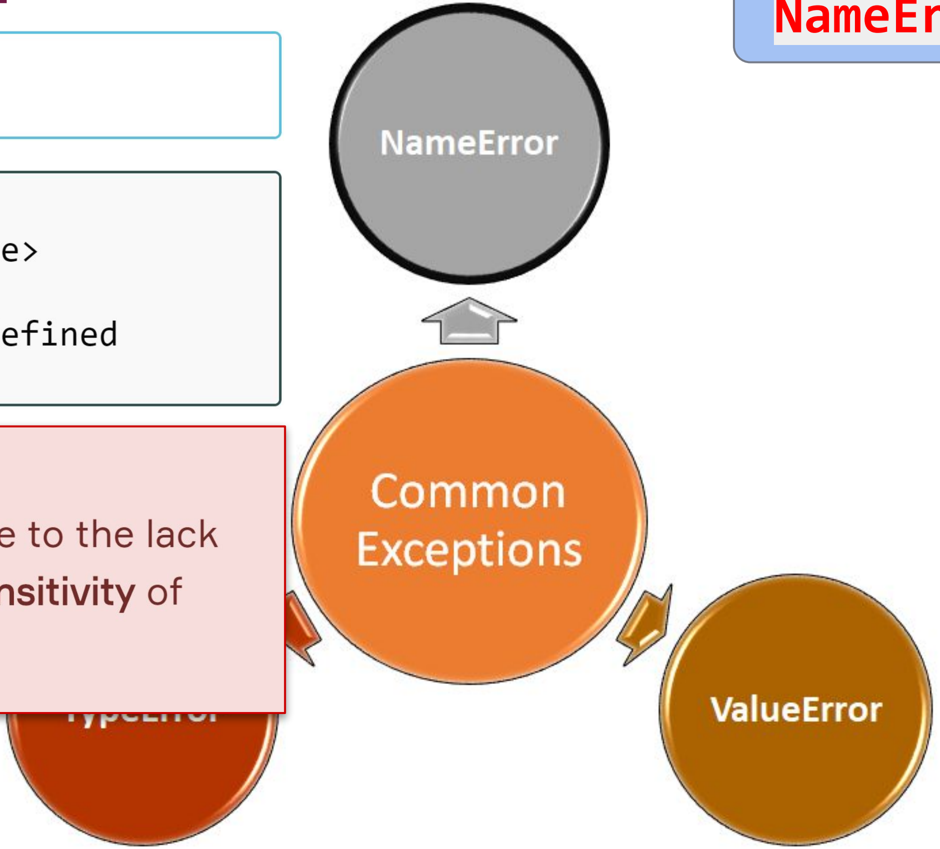
Common Exceptions (review)

NameError

```python
print(variable)
variable = "Don't ever give up!"
```

```
Traceback (most recent call last):
  File "code.py", line 1, in <module>
    print(variable)
NameError: name 'variable' is not defined

```



⚠ **Attention :**

- Note that the NameError often raises due to the lack of attention to these two things: **case-sensitivity** of Python and **pre-defines** of the variables.

Common Exceptions

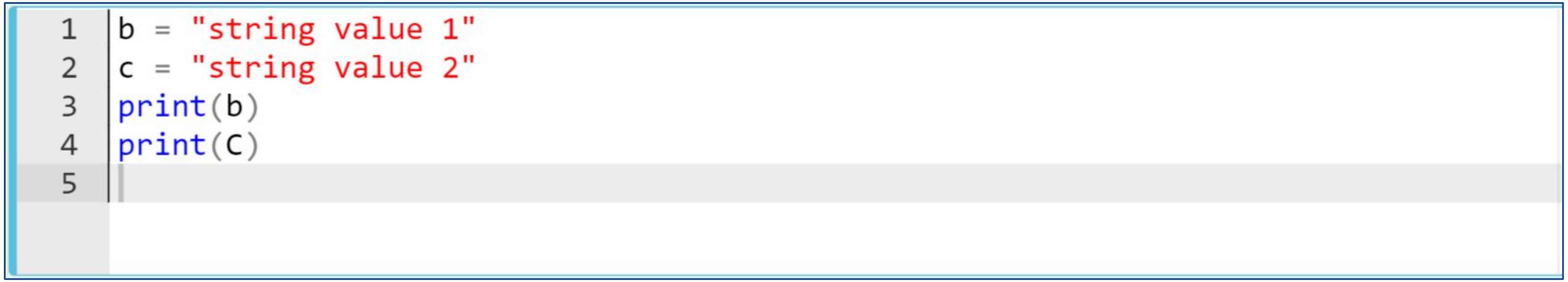
`NameError`

- **Task :**
  - Try to set a code to raise `NameError` intentionally.

Common Exceptions

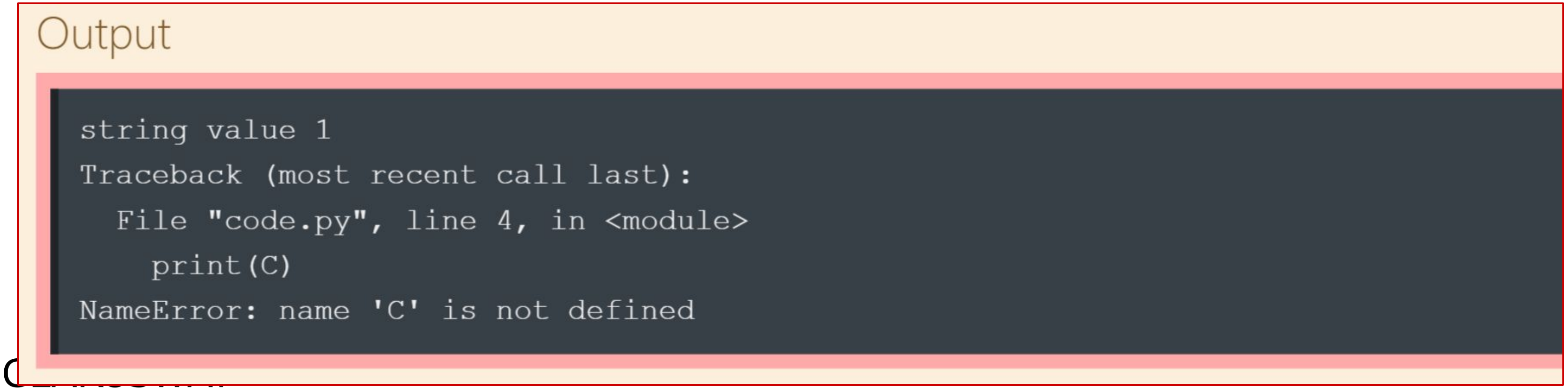
NameError

- A **sample** of the code can be as follows :



```python
b = "string value 1"
c = "string value 2"
print(b)
print(C)

```



Output

```
string value 1
Traceback (most recent call last):
  File "code.py", line 4, in <module>
    print(C)
NameError: name 'C' is not defined
```

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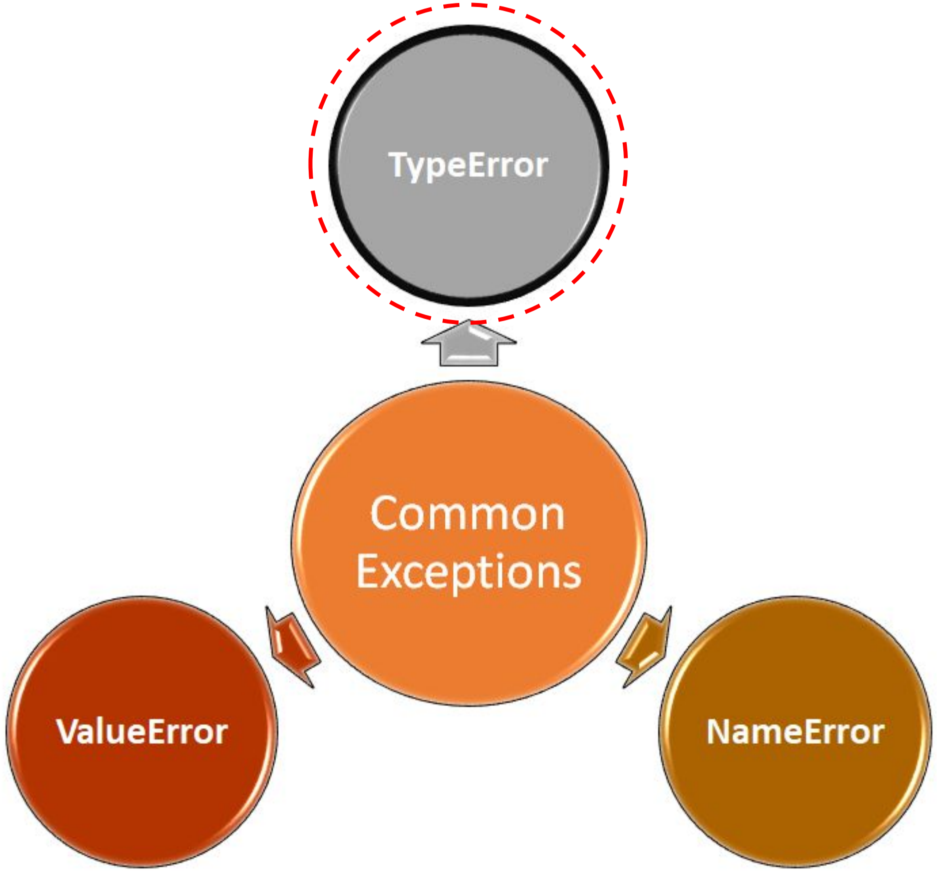
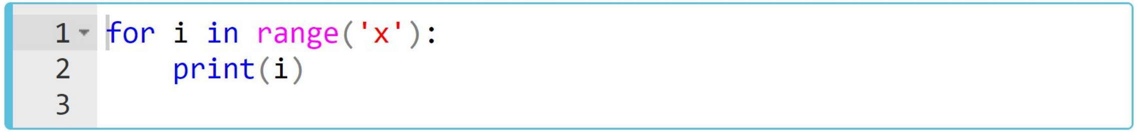
Common Exceptions (review)

`TypeError`



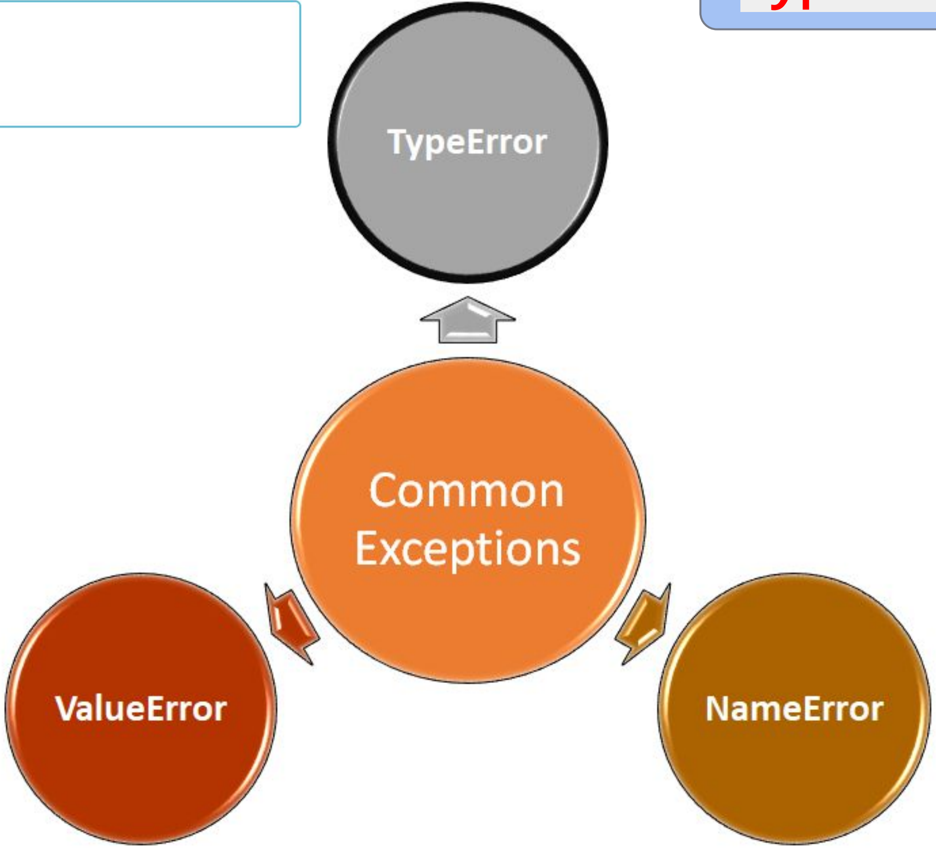
Common Exceptions (review)



```python
for i in range('x'):
    print(i)

```

TypeError



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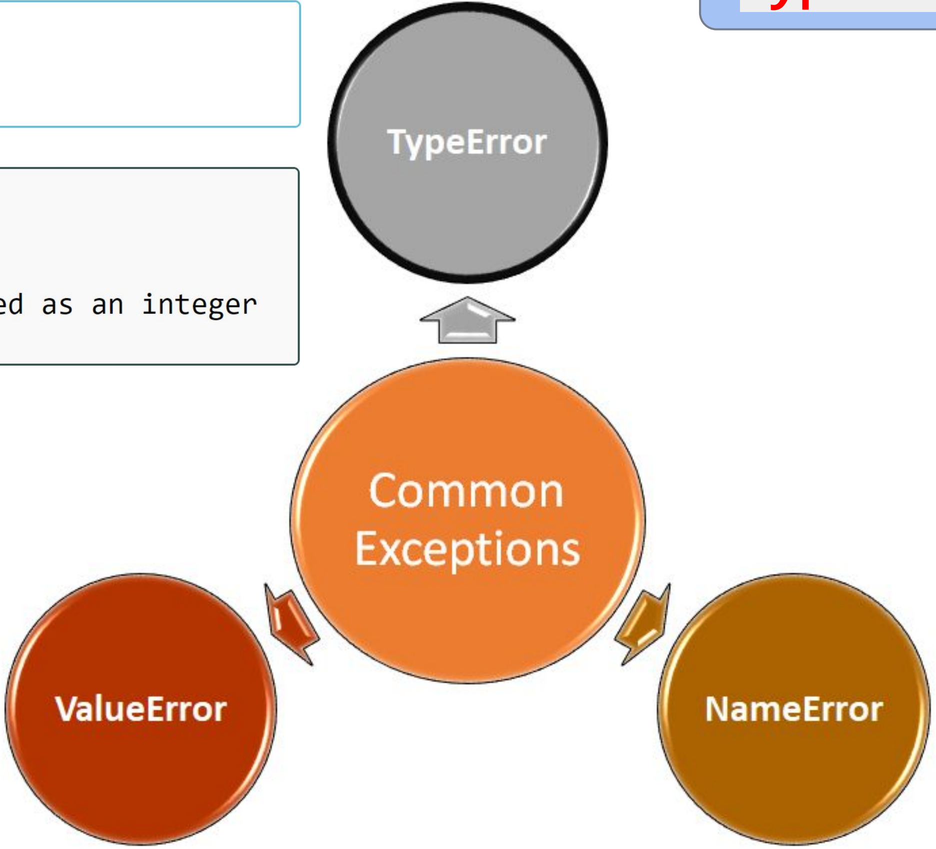
Common Exceptions (review)

TypeError

```python
for i in range('x'):
    print(i)

```

```
Traceback (most recent call last):
  File "code.py", line 1, in <module>
    for i in range('x'):
TypeError: 'str' object cannot be interpreted as an integer
```



Common Exceptions

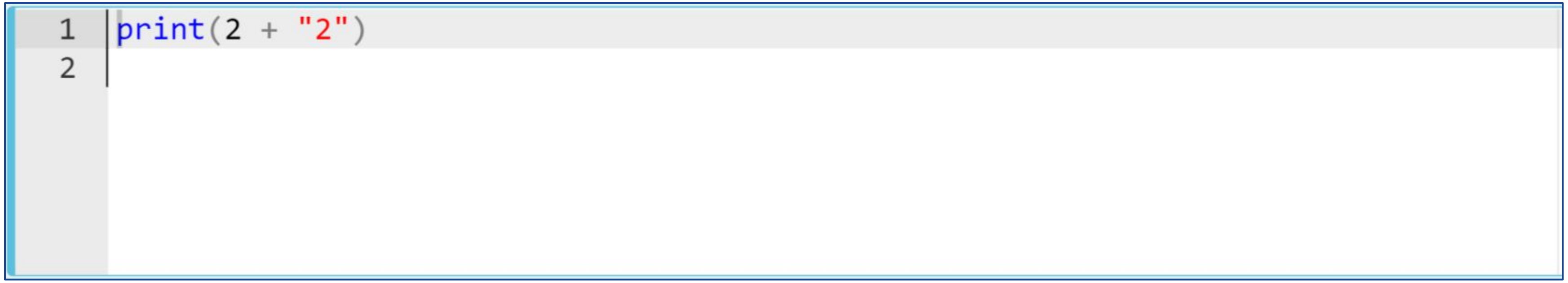
`TypeError`

- **Task :**
  - Try to set a code to raise `TypeError` intentionally.

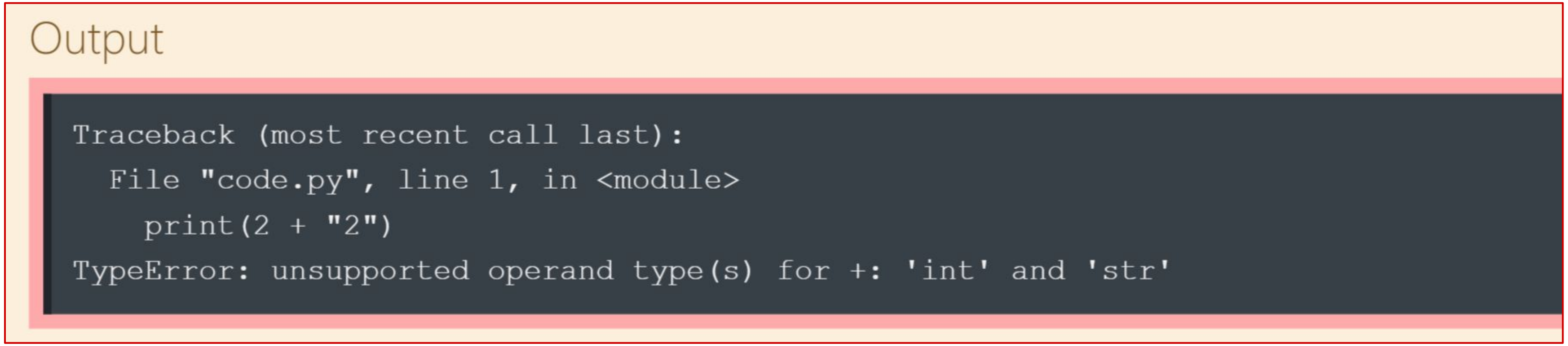
Common Exceptions

TypeError

- A **sample** of the code can be as follows :



```python
print(2 + "2")
```



Output

```
Traceback (most recent call last):
  File "code.py", line 1, in <module>
    print(2 + "2")
TypeError: unsupported operand type(s) for +: 'int' and 'str'
```

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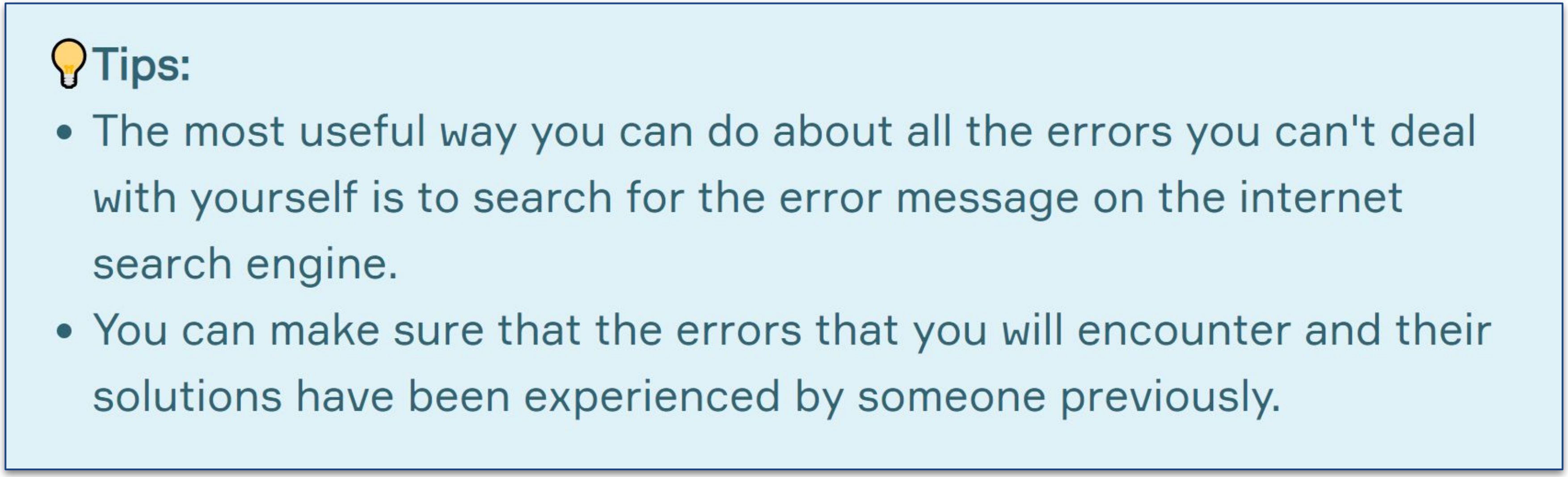
Common Exceptions (review)



💡Tips:

- The most useful way you can do about all the errors you can't deal with yourself is to search for the error message on the internet search engine.
- You can make sure that the errors that you will encounter and their solutions have been experienced by someone previously.

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THANKS!

End of the Lesson

(Exceptions)

next Lesson

Exception Handling

click above