

## پایتون (python) - پایتون در برنامه‌نویسی



در این قسمت، ما به شما خواهیم آموخت که چگونه می‌توانید خطاهای رایج در پایتون را شناسایی و رفع کنید. این بخش برای کسانی که می‌خواهند با پایتون کار کنند، بسیار مفید خواهد بود.

برای مشاهده این آموزش، به [اینجا](#) کلیک کنید.

## پایتون (python) - پایتون در برنامه‌نویسی

پایتون یک زبان برنامه‌نویسی است که برای توسعه وب، برنامه‌نویسی داده‌ها، و برنامه‌نویسی سیستم‌ها استفاده می‌شود. این زبان به دلیل سادگی و انعطاف‌پذیری خود، یکی از محبوب‌ترین زبان‌های برنامه‌نویسی در جهان است. در این بخش، ما به شما خواهیم آموخت که چگونه می‌توانید با پایتون کار کنید و چگونه می‌توانید خطاهای رایج را شناسایی و رفع کنید.

## Python 3.3 版本中异常处理的新特性

Python 3.3 版本中，异常处理有了新的特性。首先，异常处理的范围可以扩展到整个模块。其次，异常处理的范围可以扩展到整个程序。最后，异常处理的范围可以扩展到整个进程。这些特性使得异常处理更加灵活和强大。关于 Python 3.3 版本中异常处理的新特性，可以参考 <https://docs.python.org/3.3/library/exceptions.html>。

## 异常处理的范围

异常处理的范围可以扩展到整个模块。在 Python 3.3 版本中，可以在模块级别使用 `try` 语句来捕获异常。这允许在模块级别处理异常，而不是在函数级别。例如，可以使用 `try` 语句来捕获 `ArithmeticError` 异常。

## 异常处理的范围可以扩展到整个程序

异常处理的范围可以扩展到整个程序。在 Python 3.3 版本中，可以在程序级别使用 `try` 语句来捕获异常。这允许在程序级别处理异常，而不是在函数级别。例如，可以使用 `try` 语句来捕获 `MemoryError` 异常。此外，还可以使用 `KeyboardInterrupt` 异常来捕获 `Ctrl+C` 信号。

## 异常处理的范围可以扩展到整个进程

异常处理的范围可以扩展到整个进程。在 Python 3.3 版本中，可以在进程级别使用 `try` 语句来捕获异常。这允许在进程级别处理异常，而不是在函数级别。例如，可以使用 `try` 语句来捕获 `FileNotFoundError` 异常。

## 异常处理的范围

异常处理的范围可以扩展到整个进程。在 Python 3.3 版本中，可以在进程级别使用 `try` 语句来捕获异常。这允许在进程级别处理异常，而不是在函数级别。例如，可以使用 `try` 语句来捕获 `ResourceWarning` 异常。

## 异常处理的范围

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## 异常处理的范围

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except . . . except . . . try . . .



```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v.1916 (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Node/errors.py =====
Type a number between 1 and 10:hello
You must type a number between 1 and 10!
>>>
===== RESTART: C:/Node/errors.py =====
Type a number between 1 and 10:22
The value you typed is incorrect!
>>>
===== RESTART: C:/Node/errors.py =====
Type a number between 1 and 10:5.5
You must type a number between 1 and 10!
>>> |
```

0000 00000 00000 0000 000 00 .0000 0000 00 22 00000 000000 0 0000 0000 00000000 00 0000000 .6  
00 0000000 000 000000 00 0000000 0000 0000000 00 000 000000 0000 00 0000 00000 00 0000000 000 00000  
.000000 00000 00000 00 00 00000 0000000 00 0000 00000 00000 00 0000000 0000

```
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The value you typed is incorrect!
>>> |
```

000000 000000 000000000 000000 00000 00000000 000000 0000 00 7 000000 000000 0000 0 00000 00000 00 00000000 .7  
.000000 00000 00000 0000 00 0000 00000 000000

```
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Type a number between 1 and 10:5.5
You must type a number between 1 and 10!
>>>
===== RESTART: C:/Node/errors.py =====
Type a number between 1 and 10:7
You typed: 7
>>>
```

.8 Python 3.7.2 Shell Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v. (AMD64)] on win32 Type "help", "copyright", "credits" or "license()" for more informat >>> ===== RESTART: C:/Node/errors.py ===== Type a number between 1 and 10:hello You must type a number between 1 and 10! >>> ===== RESTART: C:/Node/errors.py ===== Type a number between 1 and 10:22 The value you typed is incorrect! >>> ===== RESTART: C:/Node/errors.py ===== Type a number between 1 and 10:5.5 You must type a number between 1 and 10! >>> ===== RESTART: C:/Node/errors.py ===== Type a number between 1 and 10:7 You typed: 7 >>>

```
Python 3.7.2 Shell
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You must type a number between 1 and 10!
>>>
===== RESTART: C:/Node/errors.py =====
Type a number between 1 and 10:7
You typed: 7
>>>
===== RESTART: C:/Node/errors.py =====
Type a number between 1 and 10:hello
You must type a number between 1 and 10!
>>>
===== RESTART: C:/Node/errors.py =====
Type a number between 1 and 10:
You must type a number between 1 and 10!
>>>
===== RESTART: C:/Node/errors.py =====
Type a number between 1 and 10:
Traceback (most recent call last):
  File "C:/Node/errors.py", line 2, in <module>
    Value = int(input("Type a number between 1 and 10:"))
KeyboardInterrupt
>>> |
```

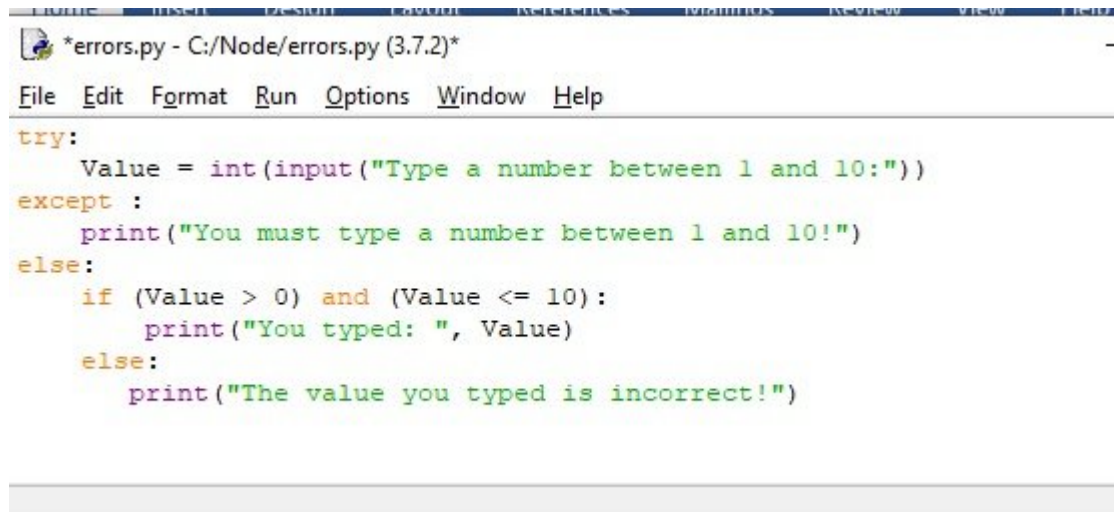
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이제 try-except 문법을 사용하여 예외 처리를 해보겠습니다. try 블록에서는 사용자로부터 입력받은 값을 int() 함수로 변환하려고 합니다. 이때 만약 사용자가 숫자가 아닌 문자를 입력하면 ValueError 예외가 발생합니다. except 블록에서는 이 예외를 처리하여 사용자에게 적절한 메시지를 출력합니다.

1. IDLE에서 New File 메뉴를 클릭하여 새 파일을 생성합니다.

2. 생성된 파일에 다음 코드를 입력합니다.

```
try:
    Value = int(input("Type a number between 1 and 10:"))
except:
    print("You must type a number between 1 and 10!")
else:
    if (Value > 0) and (Value <= 10):
        print("You typed: ", Value)
    else:
        print("The value you typed is incorrect!")
```

A screenshot of the Python IDLE 3.7.2 editor. The title bar shows the file path as \*errors.py - C:/Node/errors.py (3.7.2)\*. The menu bar includes File, Edit, Format, Run, Options, Window, and Help. The code editor contains the following Python code:

```
try:
    Value = int(input("Type a number between 1 and 10:"))
except:
    print("You must type a number between 1 and 10!")
else:
    if (Value > 0) and (Value <= 10):
        print("You typed: ", Value)
    else:
        print("The value you typed is incorrect!")
```

3. 코드를 실행하여 try-except 문법이 제대로 작동하는지 확인합니다. try 블록에서 int() 함수를 호출할 때 ValueError 예외가 발생하면 except 블록이 실행되어 "You must type a number between 1 and 10!" 메시지를 출력합니다. 그렇지 않으면 else 블록이 실행되어 if 문에 따라 적절한 메시지를 출력합니다.

4. IDLE에서 Run Module 메뉴를 클릭하여 코드를 실행합니다.

5. 실행 결과에 따라 Hello 메시지를 출력하거나 ValueError 예외 처리 메시지를 출력합니다.



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[%D9%BE%D8%A7%DB%8C%D8%AA%D9%88%D9%86](#)