Python: Function and Error Handling

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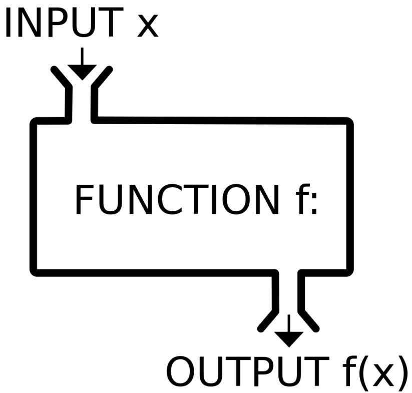
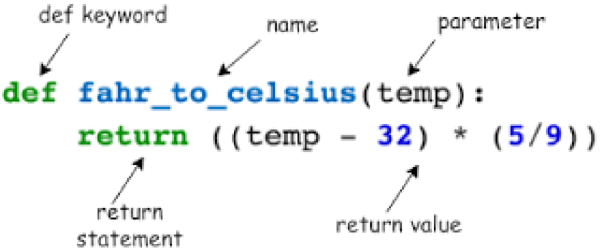
Agenda for Discussion

1. Functions
   - What is Function ?
   - Creating Functions
   - Definition vs. Calling
   - Testing and Documenting
2. Error Handling
   - Errors
   - Syntax Error
   - Index Errors
   - Variable Name Errors
   - Error Handling

What is Function ?



Creating Functions



```
def fahr_to_celsius(temp):
    return ((temp - 32) * (5/9))
```

Definition vs. Calling

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Calling:When the defined function is called by passing the required parameters.

Calling **fahr_to_celsius** function

```
fahr_to_celsius(32)
```

Testing and Documenting

Testing: To check the how robust our implementation of the define function is, we write extra code for testing. This testing can be done by defining a test function.

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Documenting: When we put docstring inside a function which describes input, output, what the function is doing, and sample input/ouputs etc. For making it easier to re-use.

What are errors ?

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In python errors have a form called *traceback*.

Syntax Error

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Example: wrong indentation, missing parenthesis, colon etc.

Syntax Error

```
def hello():
  print(”hello world !”)
    print(”hello python!”)
```

Index Error

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Index Error

```
primes = [ 2, 3 , 5, 7 ]
print( primes[4] )
```

Variable Name Error

Variable Name Error: If the error is due to accessing a variable whose name is misspelled its called *variable name error*.

Variable Name Error

```
primes = [ 2, 3 , 5, 7 ]
print( prime )
```

Try Except

When an error occurs also called exceptions, the python code stops executing, we can handle such scenarios using **try** statements.

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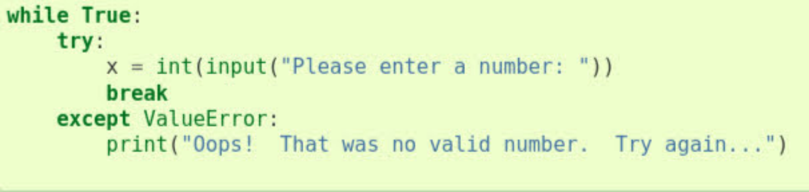

```
while True:
    try:
        x = int(input("Please enter a number: "))
        break
    except ValueError:
        print("Oops!  That was no valid number.  Try again...")
```

Figure 1: Example of Try Except

References

- Python Errors
- Google Python Style Guide
- PEP 8 Style Guide

Thank You!

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Post your queries at: resources@e-yantra.org/