Chapter 12 - Advanced Python 1

Exception Handling in Python

There are many built-in exceptions which are raised in Python when something goes wrong.
Exceptions in Python can be handled using a try statement. The code that handles the exception is written in the except clause.

```
try:
    # Code              → Code which might throw
except Exception as e:    Exception.
    print(e)
```

When the exception is handled, the code flow continues without program interruption.

We can also specify the exceptions to catch like below:

```
try:
    #Code
except ZeroDivisionError:
    # Code
except TypeError:
    # code
except:
    # code          → All other exceptions
                      are handled here.
```

Raising Exceptions

We can raise custom exceptions using the raise keyword in python.

try with else clause

Sometimes we want to run a piece of code when try was successful.

```
try :
        # Some code
except :
        # Some Code
else :
        # Code        → This is excecuted only if the
                        try was successful
```

try with finally

Python offers a finally clause which ensures execution of a piece of code irrespective of the exception.

```
try :
        # Some code
except :
        # Some code
finally :
        # Some Code        → executed regardless of error!
```

if __name__ == '__main__' in Python

__name__ evaluates to the name of the module in Python from where the program is ran

If the module is being run directly from the command line, the __name__ is set to string "__main__"
Thus this behaviour is used to check whether the module is run directly or imported to another file.

The global keyword

global keyword is used to modify the variable outside of the current scope.

enumerate function in Python

The enumerate function adds counter to an iterable and returns it

```
for i, item in list1:
        print(i, item)
```

↳ Prints the items of list 1 with index!

list comprehensions

list comprehension is an elegant way to create lists based on existing lists

```
list 1 = [ 1, 7, 12, 11, 22]

list 2 = [i for item in list1 if item >8]
```