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 Exception
except Exception as e:
    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 executed 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.

URBAN EDGE

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

```
list1 = [1, 7, 12, 11, 22]

list2 = [i for item in list1 if item > 8]
```

URBAN EDGE

Chapter 12 - Practice Set

1. Write a program to open three files 1.txt, 2.txt and 3.txt. If any of these files are not present, a message without exiting the program must be printed prompting the same.

2. Write a program to print third, fifth and seventh element from a list using enumerate function

3. Write a list comprehension to print a list which contains the multiplication table of a user entered number.

4. Write a program to display a/b where a and b are integers. If b=0, display Infinite by handling the ZeroDivisionError.

5. Store the multiplication tables generated in Problem 3 in a file named Tables.txt.