Python Scripting L2 Hands-on

1. Create file called “calc.py" which has following functions
    a. function to find the factorial of a number
    b. function to find the log10 of a number
    c. function to convert degrees to radians
    d. The sin, cos and tan trigonometric functions

Write a new program in file "maths.py" such that you import functions of file "calc.py" to your new program. Use from <module> import <function> statement to import only functions a & d from the calc module

2. Write a program to handle the following exceptions
    a) KeyboardInterrupt,
    b) NameError
    c) ArithmeticError

    Note : make use of Try, except, else and finally blocks

3. How do you handle exception for the following code?

```
c = 0
def f2(x):
   c+= 1
   b = x + c
   print c
   return b
print f2(1)
print c
```

4. Translate each of the following English statements into a regular expression:
    a. digit at the beginning of the string and a digit at the end of the string
    b. A string that contains only whitespace characters or word characters
    c. A string containing no whitespace characters

5. Write a program using re module that loops through the lines of a file or standard input (where each line contains a single word) and prints all words containing two adjacent vowels

6. Implement a child class called mathnew and parent classes as sqroot, addition, subtraction, multiplication and division. Use the super () function to inherit the parent methods.

7. Create a class called First and two classes called Second and Third which inherit from First. Create class called Fourth which inherits from Second and Third. Create a common method called method1 in all the classes and provide the Method Resolution Order

8. Implement a simple generator for Fibonacci series

9. Write an iterator class that iterators over a sequence of values in the reverse direction

10. Implement a decorator that quantifies and returns the execution time of any function