BBM103 Introduction to Programming Lab 1

Week 3

Example: Python Calculator

```
1  import math
2  # to write output of the process to file
3  output=open("newFile.txt","w")
4
5  def sum(x,y):
6      return x+y
7
8  def sub(x,y):
9      if x>y:
10         return x-y
11     else :
12         return y-x
13
14 def div(x,y):
15     return x/y
16
17 def mul(x,y):
18     return x*y
19
20 def expo(x):
21     return math.pow(x,2)
22
23 def base(x):
24     return math.sqrt(x)
25
26 enter="""
27 (1) summation
28 (2) subtraction
29 (3) multiplication
30 (4) division
31 (5) calculate square
32 (6) extraction
33 """
```

```
print(enter)

for i in range(10):
    print("Process ",i+1)
    question = input("Please select a number to do calculation: ")

    if question == "1":
        number1 = int(input("Enter first number: "))
        number2 = int(input("Enter second number: "))
        out="{} +{}={}"
        print(out.format(number1,number2,sum(number1,number2)))
        print(out.format(number1,number2,sum(number1,number2)),file=output)

    elif question == "2":
        number1 = int(input("Enter first number: "))
        number2 = int(input("Enter second number: "))
        out="{} -{}={}"
        print(out.format(number1,number2,sub(number1,number2)))
        print(out.format(number1,number2,sub(number1,number2)),file=output)

    elif question == "3":
        number1 = int(input("Enter first number: "))
        number2 = int(input("Enter second number: "))
        out="{} x{}={}"
        print(out.format(number1,number2,mul(number1,number2)))
        print(out.format(number1,number2,mul(number1,number2)),file=output)

    elif question == "4":
        number1 = int(input("Enter first number: "))
        number2 = int(input("Enter second number: "))
        out="{} /{}={}"
        print(out.format(number1,number2,div(number1,number2)))
        print(out.format(number1,number2,div(number1,number2)),file=output)

    elif question == "5":
        number1 = int(input("Enter number to calculate second powder: "))
        out="{} ^2={}"
        print(out.format(number1,expo(number1)))
        print(out.format(number1,expo(number1)),file=output)

    elif question == "6":
        number1 = int(input("Enter number to take the square root: "))
        out="{} **0.5={}"
        print(out.format(number1,base(number1)))
        print(out.format(number1,base(number1)),file=output)

    else:
        print("Wrong input.")
        print("Please select a number range(1,6)", enter)

# close the file
output.close()
```