

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  """
```

```

34 print(enter)
35
36 for i in range(10):
37     print("Process ",i+1)
38     question = input("Please select a number to do calculation: ")
39
40     if question == "1":
41         number1 = int(input("Enter first number: "))
42         number2 = int(input("Enter second number: "))
43         out="{ } +{ }={ }"
44         print(out.format(number1,number2,sum(number1,number2)))
45         print(out.format(number1,number2,sum(number1,number2)),file=output)
46
47     elif question == "2":
48         number1 = int(input("Enter first number: "))
49         number2 = int(input("Enter second number: "))
50         out="{ } -{ }={ }"
51         print(out.format(number1,number2,sub(number1,number2)))
52         print(out.format(number1,number2,sub(number1,number2)),file=output)
53
54     elif question == "3":
55         number1 = int(input("Enter first number: "))
56         number2 = int(input("Enter second number: "))
57         out="{ } x{ }={ }"
58         print(out.format(number1,number2,mul(number1,number2)))
59         print(out.format(number1,number2,mul(number1,number2)),file=output)
60
61     elif question == "4":
62         number1 = int(input("Enter first number: "))
63         number2 = int(input("Enter second number: "))
64         out="{ } /{ }={ }"
65         print(out.format(number1,number2,div(number1,number2)))
66         print(out.format(number1,number2,div(number1,number2)),file=output)
67
68     elif question == "5":
69         number1 = int(input("Enter number to calculate second powder: "))
70         out="{ } ^2={ }"
71         print(out.format(number1,expo(number1)))
72         print(out.format(number1,expo(number1)),file=output)
73
74     elif question == "6":
75         number1 = int(input("Enter number to take the square root: "))
76         out="{ } **0.5={ }"
77         print(out.format(number1,base(number1)))
78         print(out.format(number1,base(number1)),file=output)
79
80     else:
81         print("Wrong input.")
82         print("Please select a number range(1,6)", enter)
83
84 # close the file
85 output.close()

```