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Introduction to Python II (Exercises 01)

1) Global variables

Create a script that uses a global integer variable called mybalance.

Define 2 functions inside your script as follows:

a) bal_inc(int)
This function receives an integer argument and increments the value of the global variable mybalance.

b) bal_dec(int)
This function receives an integer argument and decrements the value of the global variable mybalance.

. Prompt the user for the following values (using input())

. Increment
. Number of increments
. Decrement
. Number of Decrements

. In the main section of your script initialize mybalance to 10.

. Then call the function bal_inc() several times (using a for loop) according to the value of "Number of Increments". Pass as an argument the value of "Increment".

. Then call the function bal_dec() several times (using a for loop) according to the value of "Number of Decrements". Pass as an argument the value of "Decrement".

. Print the original value of the variable mybalance
. Print the value of total increment
. Print the value of total decrement
. Print the final value of mybalance

2) Multi arguments functions (non-keyworded)

Write a function called multiprodavg() that receives integers (any number of integers). The function multiplies all the integers and then divides the result by the number of integers passed (number of arguments). Return the result.

Test your program by calling the function multiprodavg() with the following arguments:

1, 2, 3, 4 (result: 6)

88, 77, 66 (result: 149072.0)

-1,1,-1,1 (result: 0.25)

Try the function by passing the following list "unpacked" [33,22,55,7,8,1,9]

3) Multi arguments functions (non-keyworded)

Write a function that receives several lists of 3 integers (ex. [2,4,6] and [0,2,2])

The function finds the largest integer from all the lists. (Hint, use the max function with a list, as in max(mylist). Try the function max() to explore how it works.

The function should return the largest integer and the corresponding list. Print the returned values in the main section of your script.

4) Write a function multiop() that receives a variable number of integers (ex. 3,4,21) and a keyworded parameters that contains an operation and a scope (ex. operation: '+', '-', '*', scope: 'all', 'pos', 'Neg'). Inside the function apply the operation to all the integers (depending on the scope) received and return the result. Test it with the following:

```
multiop(1,2,3,action='+')              result  6
multiop(8,10,-20,action='-')           result  2
multiop(2,3,4,action='*')              result  24
multiop(1,2,3,4,5, scope = 'all')      result  15
multiop(-2,8,10,-20,action='-', scope='pos')      result  -18
multiop(2,-5,-6,3,4,action='*', scope='neg')      result  30
```