Finger Exercises Lecture 9

The questions below are due on Wednesday October 12, 2022; 03:00:00 PM.

1) Question 1 of 1

Implement the function that meets the specification below.:

```
def dot_product(tA, tB):
    """
    tA: a tuple of numbers
    tB: a tuple of numbers of the same length as tA
    Assumes tA and tB are the same length.
    Returns a tuple where the:
    * first element is the length of one of the tuples
    * second element is the sum of the pairwise products of tA and tB
    """
    # Your code here

# Examples:
tA = (1, 2, 3)
tB = (4, 5, 6)
print(dot_product(tA, tB)) # prints (3,32)
```

```
1  # your function here
   def dot_product(tA, tB):
       """
       tA: a tuple of numbers
       tB: a tuple of numbers of the same length as tA
       Assumes tA and tB are the same length.
       Returns a tuple where the:
       * first element is the length of one of the tuples
       * second element is the sum of the pairwise products of tA and tB
       """
       (len_tuple, pairwise_product, sum_pairwise_prod) = (0,[], 0)
       len_tuple = len(tA) # assuming tA and tB are of the same length, it does
       # not matter which one is passed as argument to len()
       for i in range(len_tuple):
           # create list with pairwise products from tA * tB
           pairwise_product.append(tA[i] * tB[i])
       for el in pairwise_product:
           # loops over previous list and sums up its element
           sum_pairwise_prod += el
       return(len_tuple, sum_pairwise_prod)
```

You have infinitely many submissions remaining.

Here is the solution we wrote:

```
def dot_product(tA, tB):
    tot = 0
    for i in range(len(tA)):
        tot += tA[i]*tB[i]
    return (len(tA), tot)
```

6.100L Introduction to CS and Programming Using Python

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