

Assignment 2B

June XX, 2017

Task 1 - For Loops

Write a function that prints every element in the list `[1, 2, 3]`.

You will need to use a for loop and the `print` function, but you will not need to “return”.

Task 2 - Strings

We can also use for loops to iterate over the characters of a string.

Modify your example function to instead print the characters of the string “hello”.

Hint: There’s really not much to change! Remember, we want to print each letter, one by one, in exactly the same way in task 1, we were printing each element.

Task 3 - The While Loop

Consider the following code:

```
def foo(n):  
    while n > 1:  
        n = n / 2
```

Modify this so that at the end, it *returns* the value of `n`.

Test your code by calling `foo(6)`. What does it return?

Task 4 - Sums

Recall from mathematics that a sum over some values, just means: add them up.

Write a function to the sum of the values in a given list of integers.

You may start with this code, then finish it:

```
def sum(ls):  
    total = 0
```

Test your code by calling `sum([1, 2, 3])`, and `sum([])`, They should return 6 and 0, respectively.

Extension: Try rewriting this with a while loop instead of a for loop. One approach would be to keep track of a pointer variable, and advance that variable on each iteration of the while loop until it's reached the length of the list.

Task 5 - Maximum

Write a function that returns the maximum element in a given list of integers.

You may want to approach this by using a for loop, and keeping track of a variable with the largest seen number, and returning that variable at the end.

Extension: Try writing another similar function that, given a list of strings, returns the longest string. If you're feeling really adventurous, if there are two strings of the same length, your function should return the one that is lexicographically first (alphabetically first).

