

ITEC-425 / SENG-425: Python Programming Lab

Lab - Week 7: Working with Lists

Task 1

Write Python code to print the numbers in the list given below after removing even numbers from it.

```
num_list = [3, 1, 18, 4, 11, 10, 6, 20]
```

In [1]:

```
1 # method 1 using for loop
2
3 num_list = [3, 1, 18, 4, 11, 10, 6, 20]
4 out_list = []
5
6 for num in num_list:
7     if num % 2 != 0:
8         out_list.append(num)
9
10 print('num_list = ', num_list)
11 print('out_list = ', out_list)
```

```
num_list = [3, 1, 18, 4, 11, 10, 6, 20]
out_list = [3, 1, 11]
```

Task 2

Rewrite the above Python code, using list comprehension method, to print the numbers in the list given below after removing even numbers from it.

```
num_list = [3, 1, 18, 4, 11, 10, 6, 20]
```

In [2]:

```
1 # method 2 - using list comprehension
2
3 num_list = [3, 1, 18, 4, 11, 10, 6, 20]
4 out_list = [i for i in num_list if i%2 != 0]
5
6 print('num_list = ', num_list)
7 print('out_list = ', out_list)
```

```
num_list = [3, 1, 18, 4, 11, 10, 6, 20]
out_list = [3, 1, 11]
```

Task 3

Write Python code that takes a list of nums and displays the product of all numbers in the list.

In [3]:

```
1 num_list = [3, 1, 18, 4, 11, 10, 6, 20]
2
3 prod = 1
4
5 for num in num_list:
6     prod = prod * num
7
8 print('num_list=', num_list)
9 print('product of numbers:', prod)
```

```
num_list= [3, 1, 18, 4, 11, 10, 6, 20]
product of numbers: 2851200
```

Task 4

Write python code to do the following, using the list given below:

- get the smallest number
- get the largest number
- get the size or length of the list
- get the sum of all numbers in the list

```
num_list = [3, 1, 18, 4, 11, 10, 6, 20]
```

In [4]:

```
1 # write your code here
```

Task 5

Write Python code to take a list of characters and convert it into a single word 'yellow'.

```
char_list = ['y', 'e', 'l', 'l', 'o', 'w']
```

You can use the `.join()` method of the `str` class to join the items of a list into a single string.

To see how the string `.join()` method works, use `help(str.join)`.

Also note the following example, in which the items of a list are being joined using a space character:

```
>> my_list = ['the', 'quick', 'brown', 'fox']
>> print(' '.join(my_list))
```

In [5]:

```
1 # write your code here
```

Task 6

Write Python code that takes the two list given below, and joins them to create a new list, sort the new list and display it.

```
list1 = [3, 1, 18, 4]  
list2 = [11, 10, 6, 20]
```

Expected output:

```
list1 = [3, 1, 18, 4]  
list2 = [11, 10, 6, 20]  
new_list = [1, 3, 4, 6, 10, 11, 18, 20]
```

In [6]:

```
1 # write your code here
```