ASSIGMNENT-1

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1) Interchange First and last element in a list.

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Run Save

```python
def interchange_first_last(lst):
    if len(lst) < 2:
        return lst
    lst[0], lst[-1] = lst[-1], lst[0]
    return lst
user_input = input()
lst = list(map(int, user_input.split()))
result = interchange_first_last(lst)
print("List after interchanging first and last elements:", result)

```

```
1 2 3 4 5
```

```
List after interchanging first and last elements:
[5, 2, 3, 4, 1]
```

2) Swapping In a list

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```python
def swap_elements(lst, idx1, idx2):
    if 0 <= idx1 < len(lst) and 0 <= idx2 < len(lst):
        lst[idx1], lst[idx2] = lst[idx2], lst[idx1]
    else:
        print("Error: Indices are out of range.")
user_input_list = input()
my_list = list(map(int, user_input_list.split()))
user_input_indices = input()
idx1, idx2 = map(int, user_input_indices.split())
swap_elements(my_list, idx1, idx2)
print("List after swapping elements at index", idx1, "and index", idx2, ":", my_list)
```

```
1 2 3 4 5
1 3
```

```
List after swapping elements at index 1 and index 3 : [1, 4, 3, 2,
5]
```

3) Reverse a string

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```python
def reverse_words(s):
    words = s.split()
    reversed_words = words[::-1]
    reversed_string = ' '.join(reversed_words)
    return reversed_string
user_input = input()
result = reverse_words(user_input)
print("Reversed words string:", result)
```

```
HARSHA MUKUNDHA
```

```
Reversed words string: MUKUNDHA HARSHA
```

4) length of string using slicing

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```python
user_input = input("Enter a string: ")
length_of_string = len(user_input)
print(f"The length of the string is: {length_of_string}")
```

```
HARSHA MUKUNDHA
```

```
Enter a string: The length of the string is: 15
```

5) Maximum and Minimum kth Elements in a list

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```python
import heapq
def max_min_k_elements(tpl, k):
    if k > len(tpl):
        return "k is larger than the tuple size"
    min_k_elements = heapq.nsmallest(k, tpl)
    max_k_elements = heapq.nlargest(k, tpl)
    return min_k_elements, max_k_elements
user_input = input()
k = int(input())
tpl = tuple(map(int, user_input.split()))
min_k_elements, max_k_elements = max_min_k_elements(tpl, k)
print(f"The minimum {k} elements are: {min_k_elements}")
print(f"The maximum {k} elements are: {max_k_elements}")
```

```
1 2 5 4 54
2
```

```
The minimum 2 elements are: [1, 2]
The maximum 2 elements are: [54, 5]
```

6) Sum of All items in a dictionary

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```python
def sum_of_dict_values(d):
    return sum(d.values())
user_dict = {
    'a': 10,
    'b': 20,
    'c': 30,
    'd': 40,
    'e': 50
}
sum_values = sum_of_dict_values(user_dict)
print(f"The dictionary is: {user_dict}")
print(f"The sum of the values in the dictionary is: {sum_values}")
```

```
a:10 b:20 c:30
```

```
The dictionary is: {'a': 10, 'b': 20, 'c': 30, 'd': 40, 'e': 50}
The sum of the values in the dictionary is: 150
```

7) Remove items from the set

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```
my_set = {1, 2, 3, 4, 5}
my_set.discard(3)
print(my_set)  # Output: {1, 2, 4, 5}
```

```
{1, 2, 4, 5}
```