PYTHON PROGRAMMING TASK PRACTICE-3

```python
# 1. Product or Sum Condition
def product_or_sum(a, b):
    product = a * b
    return product if product <= 500 else a + b

print(product_or_sum(10, 20))
print(product_or_sum(50, 15))
```

```
200
65
```

```python
# 2. Find the Greatest of Three Numbers
def max_of_three(a, b, c):
    return max(a, b, c)

print(max_of_three(10, 25, 15))
```

```
25
```

```python
# 3. Remove Duplicate Items from a List
def remove_duplicates(lst):
    return list(dict.fromkeys(lst))

print(remove_duplicates([1,2,3,2,4,1,5]))
```

```
[1, 2, 3, 4, 5]
```

```python
# 4. Remove and Replace Elements in a List
def remove_element(nums, val):
    nums[:] = [x for x in nums if x != val] + ["_"] * nums.count(val)

nums_list = [3,2,2,3]
remove_element(nums_list, 3)
print(nums_list)
```

```
[2, 2, '_', '_']
```

```python
# 5. Check for Duplicates in a List
def has_duplicates(nums):
    return len(nums) != len(set(nums))

print(has_duplicates([1,2,3,1]))
print(has_duplicates([1,2,3,4]))
```

```
True
False
```

```python
# 6. Repeatedly Sum Digits Until a Single Digit is Obtained
def sum_digits(num):
    while num >= 10:
        num = sum(int(digit) for digit in str(num))
    return num

print(sum_digits(38))
```

```
2
```

```python
# 7. Duplicate Each Occurrence of Zero in a List
def duplicate_zeros(arr):
    i = 0
    while i < len(arr):
        if arr[i] == 0:
            arr.insert(i, 0)
            arr.pop()
            i += 1
        i += 1

arr = [1,0,2,3,0,4,5,0]
duplicate_zeros(arr)
print(arr)
```

```
[1, 0, 0, 2, 3, 0, 0, 4]
```

```python
# 8. Find the Intersection of Two Lists
def find_intersection(nums1, nums2):
    return list(set(nums1) & set(nums2))

print(find_intersection([1,2,2,1], [2,2]))
```

```
[
```