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#Product or sum condition
num1=int(input("Enter the first number : "))
num2=int(input("Enter the second number : "))
product=num1*num2
if product >500:
    result=num1+num2
    print("Product is greatert Than 500:",result)
else:
    result=product
    print(" The product is:",result)

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Enter the first number : 12
Enter the second number : 500

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Product is greatert Than 500: 512

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#find Greatest of Three numbers
num1=230
num2=90
num3=56
if num1 >= num2 and num2 >= num3:
    print("The largest number is:" ,num1)
elif num2 >= num3 and num3 >= num1:
    print("The Largest number is:",num2)
else:
    Print("The Largest number is:",num3)

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The largest number is: 230

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#reomove Duplicate item from list
check_list = [10, 20, 30, 40, 50, 50, 50, 60, 70, 90]
remove_duplicate = list(set(check_list))
print("List after removing duplicates:", remove_duplicate)

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List after removing duplicates: [70, 40, 10, 50, 20, 90, 60, 30]

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# remove and replace the element
# Input list and number to remove
nums = [3, 2, 2, 3]
remove = 3
result = [num for num in nums if num != remove]
result.extend(["_"] * (len(nums) - len(result)))
print("nums =", result)

nums = [2, 2, '_', '_']

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#check duplcte in a list
num1 = [1,2,3,1]
num2 = [1,2,3,4]

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duplicates = len(num1) != len(set(num2))
if duplicates:
    print("Check whether any number appears more than
once:",duplicates)
else:
    print("Check whether any number appears more than
once:",duplicates)

```

Check whether any number appears more than once: False

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#repeatedly sum digits until a single digit is obtaines
num = int(input("Enter a number: "))
while num >= 10:
    num = sum(int(digit) for digit in str(num))
print("The single digit result is:", num)

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Enter a number: 38

The single digit result is: 2

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#duplicate each occuance of zer in a list
arr = [1, 0, 2, 3, 0, 4, 5, 0]
result = []
for num in arr:
    if num == 0:
        result.append(0)
        if len(result) < len(arr):
            result.append(0)
    else:
        result.append(num)
        if len(result) == len(arr):
            break
print("Modified list:", result)

```

Modified list: [1, 0, 0, 2, 3, 0, 0, 4]

```

#intersection of tw list
num1={1,2,2,1}
num2={2,2}
intersect=num1&num2
print("Intersection of Two list is:",intersect)

```

Intersection of Two list is: {2}