* **Python Homework (22/02/25)**
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* **Group 3**

1. **Get smallest number in the List**

**Code:**

Numbers = list(map(int,input("Enter the numbers: ").split())) #Map throws error if input not given or invalid input therefore no condition required for empty list or invalid input

print(f"Numbers = {Numbers}")

smallest\_number = Numbers[0]

for num in Numbers:

    if num < smallest\_number:

        smallest\_number = num

print(f"Smallest number = {smallest\_number}")

1. **Remove Duplicates from List**

**Code:**

1. Numbers = list(map(int, input("Enter the numbers: ").split()))
2. i = 0
3. while i < len(Numbers):
4. j = i + 1
5. while j < len(Numbers):
6. if Numbers[i] == Numbers[j]:
7. Numbers.pop(j)
8. else:
9. j += 1
10. i += 1
11. print("List after removing duplicates:", Numbers)

**3. Remove Even Numbers from List.**

**Code:**

Numbers = list(map(int, input("Enter the numbers: ").split()))

i = 0

while i < len(Numbers):

    if Numbers[i] % 2 == 0:

        Numbers.pop(i)

    else:

        i += 1

print(Numbers)

**4. Find the second largest number in List.**

**Code:**

Numbers = list(map(int, input("Enter the numbers: ").split()))

if len(Numbers) < 2:

    print("List must have at least two numbers.")

else:

    largest = second\_largest = float('-inf')

    for num in Numbers:

        if num > largest:

            second\_largest = largest

            largest = num

        elif num > second\_largest and num != largest:

            second\_largest = num

    if second\_largest == float('-inf'):

        print("No second largest number found (all elements are equal).")

    else:

        print("Second largest number is:", second\_largest)

**5. Check if all numbers are prime.**

**Code:**

numbers = list(map(int, input("Enter the numbers: ").split()))

prime\_numbers = []

all\_prime = True

for num in numbers:

    if num < 2:

        continue

    for i in range(2, int(num \*\* 0.5) + 1):

        if num % i == 0:

            break

    else:

        prime\_numbers.append(num)

print("Prime numbers in the list:", prime\_numbers if prime\_numbers else "None")

if all\_prime and len(prime\_numbers) == len(numbers):

    print("All numbers are prime.")

else:

    print("All numbers are not prime.")

**6. Count frequency of list elements**

**Code:**

numbers = list(map(int, input("Enter the numbers: ").split()))

unique\_numbers = []

frequency = []

for num in numbers:

    if num in unique\_numbers:

        index = unique\_numbers.index(num)

        frequency[index] += 1

    else:

        unique\_numbers.append(num)

        frequency.append(1)

for i in range(len(unique\_numbers)):

    print(f"{unique\_numbers[i]} appears {frequency[i]} times")