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In [2]: numbers = list(map(int, input("Enter numbers separated by space: ").split()))
even_numbers = []
odd_numbers = []
for num in numbers:
    if num % 2 == 0:
        even_numbers.append(num)
    else:
        odd_numbers.append(num)
print("Even Numbers: ", even_numbers)
print("Even Numbers: ", even_numbers)
```

```
Even Numbers: [22, 4, 6, 78, 44]
Even Numbers: [22, 4, 6, 78, 44]
```

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In [3]: students = ["Vaibhav", "Satinder", "Puja", "Satinder", "Dixit", "Puja"]
unique_students = set(students)
print("Unique Students:", unique_students)
print("Unique Students:", len(unique_students))
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Unique Students: {'Puja', 'Vaibhav', 'Dixit', 'Satinder'}
Unique Students: 4
```

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In [5]: employees = {
    "A" : 45000,
    "B" : 55000,
    "C" : 100000,
    "D" : 35000,
    "E" : 80000,
}
print("Employees earning more than 50000")
for name, salary in employees.items():
    if salary > 50000:
        print(name, "->", salary)
highest = max(employees.values())
print("\nHighest Salary:", highest)
for name, salary in employees.items():
    if salary == highest:
        print("Highest Paid Salary:", name)
```

```
Employees earning more than 50000
B -> 55000
C -> 100000
E -> 80000
```

```
Highest Salary: 100000
Highest Paid Salary: C
```

```
In [8]: numbers = input("Enter numbers separated by space: ").split()
count_dict = {}
for num in numbers:
    num = int(num)
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    if num in count_dict:
        count_dict[num] += 1
    else:
        count_dict[num] = 1

print(count_dict)

```

```
{1: 3, 2: 3, 3: 1, 4: 1, 5: 1}
```

```

In [9]: students = {
        1: 75,
        2: 35,
        3: 50,
        4: 20,
        5: 90
    }
    passed_count = 0
    for roll_no in students:
        marks = students[roll_no]
        if marks >= 40:
            print("Roll No", roll_no, ": Pass")
            passed_count += 1
        else:
            print("Roll No", roll_no, ": Fail")
    print("Total Passed Students:", passed_count)

```

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Roll No 1 : Pass
Roll No 2 : Fail
Roll No 3 : Pass
Roll No 4 : Fail
Roll No 5 : Pass
Total Passed Students: 3

```

```

In [10]: numbers = [1, 2, 3, 4, 5]
        square_dict = {}
        for num in numbers:
            square_dict[num] = num * num
        print(square_dict)

```

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{1: 1, 2: 4, 3: 9, 4: 16, 5: 25}
```

```

In [11]: my_list = []
        while True:
            print("\n1.Add 2.Remove 3.Display 4.Exit")
            choice = input("Enter choice: ")
            if choice == "1":
                my_list.append(input("Enter element: "))
            elif choice == "2":
                my_list.remove(input("Enter element: "))
            elif choice == "3":
                print(my_list)
            elif choice == "4":
                break

```

```
1.Add 2.Remove 3.Display 4.Exit
```

```
1.Add 2.Remove 3.Display 4.Exit
```

```
1.Add 2.Remove 3.Display 4.Exit
```

```
['1', '3']
```

```
1.Add 2.Remove 3.Display 4.Exit
```

```
In [12]: inventory = {}
while True:
    print("\n1.Add 2.Update 3.Delete 4.Low Stock 5.Exit")
    ch = input("Enter choice: ")
    if ch == "1":
        item = input("Item name: ")
        inventory[item] = int(input("Quantity: "))
    elif ch == "2":
        item = input("Item name: ")
        inventory[item] = int(input("New quantity: "))
    elif ch == "3":
        item = input("Item name: ")
        if item in inventory:
            del inventory[item]
    elif ch == "4":
        for item in inventory:
            if inventory[item] < 5:
                print(item, inventory[item])
    elif ch == "5":
        break
```

```
1.Add 2.Update 3.Delete 4.Low Stock 5.Exit
```

```
1.Add 2.Update 3.Delete 4.Low Stock 5.Exit
```

```
1.Add 2.Update 3.Delete 4.Low Stock 5.Exit
```

```
In [13]: numbers = list(map(int, input("Enter numbers separated by space: ").split()))
primes = []
non_primes = []
for num in numbers:
    if num > 1:
        for i in range(2, int(num**0.5)+1):
            if num % i == 0:
                non_primes.append(num)
                break
        else:
            primes.append(num)
    else:
        non_primes.append(num)
print("Prime numbers:", primes)
print("Non-prime numbers:", non_primes)
```

```
Prime numbers: [2, 3, 5, 7, 11, 13]
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```
Non-prime numbers: [4, 6, 8, 9, 57]
```

```
In [14]: # Create matrix
matrix = [
    [1, 2, 3],
    [4, 5, 6],
    [7, 8, 9]
]
total = 0
maximum = matrix[0][0]
for row in matrix:
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    for elem in row:
        total += elem
        if elem > maximum:
            maximum = elem
print("Sum of all elements:", total)
print("Maximum element:", maximum)
```

Sum of all elements: 45

Maximum element: 9

In []: