

# Satinder Singh Sall

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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("Odd Numbers: ", odd_numbers)
```

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

```
In [3]: students = ["Vaibhav", "Satinder", "Pujan", "Satinder", "Dixit", "Pujan"]
unique_students = set(students)
print("Unique Students:", unique_students)
print("Unique Students:", len(unique_students))
```

Unique Students: {'Pujan', 'Vaibhav', 'Dixit', 'Satinder'}  
 Unique Students: 4

```
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)
```

```

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)

```

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)

```

{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]

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:
```

```
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 [ ]: