24BIT167 - Vandita Nawani

Aim : To implement various operations in Python, including concatenation, checking emptiness, frequency counting and computing totals

Hardware and Software Requirements : Hardware-16GB RAM, Intel processor, Python (Version 3.x.), Google colab

System Configration : Operating System - Windows 11, Google Colab

Theory : Dictionaries in Python store key-value pair and allow efficient lookup, insertion and modification. Used for various operations in python

Write a program to create three dictionaries and concatenate them to create a new dictionary

```
d1 = {"a":1, "b":2, "c":3}
d2 = {"aa":10, "bb":20, "cc":30}
d3 = {"aaa": 100, "bbb":200, "ccc":300}
conc = {**d1, **d2, **d3}
print(conc)
```

> {'a': 1, 'b': 2, 'c': 3, 'aa': 10, 'bb': 20, 'cc': 30, 'aaa': 100, 'bbb': 200, 'ccc': 300}

Write a program to check whether a dictionary is empty or not

```
d = {}
if not d:
  print("Dictionary is empty")
else:
  print("Dictionary is not empty")
```

> Dictionary is empty

Create a dictionary with titles dept no., employee no, rollno and salary. Find out dept wise maximum and minimum salary

```
dept = {"HR" : {"H001": 20000, "H002": 30000, "H003": 40000}, "ACCOUNTS": {"A001": 50000, "A002": 60000, "A003":70000}, "TECH":{"T001":80000
for dept, empl, in dept.items():
  sal = list(empl.values())
  print("DEPT NAME:", dept, "MIN SALARY:",min(sal), "MAX SALARY:", max(sal))
```

> DEPT NAME: HR MIN SALARY: 20000 MAX SALARY: 40000
> DEPT NAME: ACCOUNTS MIN SALARY: 50000 MAX SALARY: 70000
> DEPT NAME: TECH MIN SALARY: 80000 MAX SALARY: 100000

Write a program that reads a string from the keywords and create dictionary containg frequency of each character occuring in the string

```
str = "VANDITA"
fre = {}
for char in str:
  if char in fre:
    fre[char]+=1
  else:
    fre[char]=1
print(fre)
```

> {'V': 1, 'A': 2, 'N': 1, 'D': 1, 'I': 1, 'T': 1}

Create two dictionaries - one containing grocery items and their prices and other grocery items and quantity. By using values from these 2 dictionary

```
price = {"rice": 100, "dal": 120, "chocolate":150}
qty = {"rice": 2, "dal": 3, "chocolate": 4}
total = 0
for i in price:
  total+=price[i]*qty.get(i,0)
print("TOTAL :", total)
```

> TOTAL : 1160