Laboratory Activity 4B: Set and Dictionary
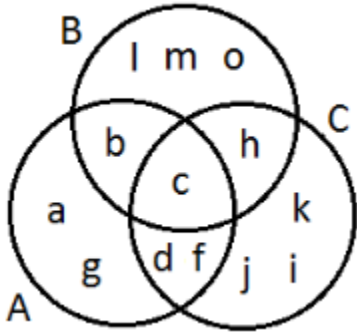
1.Use set operations to write the equivalent syntax that will show the needed output as given from the following statements given the figure below.

a. How many elements are there in set A and B

b. How many elements are there in B that is not part of A and C

c. Show the following using set operations

i. [h, i, j, k]

ii. [c, d, f]

iii. [b, c, h]

iv. [d, f]

v. [c]

vi. [l, m, o]

SOURCE CODE:

```python
A = {'a', 'g', 'd', 'f', 'b', 'c'}
B = {'b', 'l', 'm', 'o', 'c', 'h'}
C = {'h', 'i', 'j', 'k', 'c', 'd', 'f'}

print("a. How many elements are there in set A and B:", len(A | B))
print("b. How many elements are there in B that is not part of A and C:", len(B -
(A | C)))

print("i.", list((C - (A | B)) | ((C & B) - A)))
print("ii.", list(C & A))
print("iii.", list((A & B) | (B & C)))
print("iv.", list((A & C) - B))
print("v.", list(A & B & C))
print("vi.", list(B - (A | C)))
```

OUTPUT:

```
a. How many elements are there in set A and B: 10
b. How many elements are there in B that is not part of A and C: 3
i. ['i', 'h', 'j', 'k']
ii. ['d', 'c', 'f']
iii. ['c', 'b', 'h']
iv. ['d', 'f']
v. ['c']
vi. ['o', 'l', 'm']
PS C:\Users\User\Desktop\codes>
```

2. given the file currency.csv (currency exchange from 1 USD), create a program that will convert a certain input currency given the dollar to be converted.

Example Output

How much dollar do you have? 100

What currency you want to have? PHP

Dollar: 100 USD

Philippine Peso: 5481.472580697

SOURCE CODE:

```python
file = open("currency.csv", "r")
lines = file.readlines()
file.close()

exchange_rates = {}

for line in lines[1:]:
    data = line.strip().split(",")
    currency = data[0]
    rate = float(data[2])
    exchange_rates[currency] = rate

dollars = float(input("How much dollar do you have? "))
currency = input("What currency you want to have? ").upper()

if currency in exchange_rates:
    converted_amount = dollars * exchange_rates[currency]
    print("\nDollar:", dollars, "USD")
    print(currency + ":", converted_amount)
else:
    print("Currency not found in the exchange rates.")
```

OUTPUT:

```
How much dollar do you have? 100
What currency you want to have? php

Dollar: 100.0 USD
PHP: 5481.4725806971
PS C:\Users\User\Desktop\codes>
```