OOP – Lab #2 – Part 2

Aim: Getting Familiar with the ELIF Clause in IF-ELIF-ELSE Statement, MATCH-CASE Statement

Topics:

1. ELIF Clause
2. **IF-ELIF-ELSE** Statement
3. **MATCH-CASE** Statement

Lab Questions –

Q1 – Write a program that asks the user to **enter three float numbers** and outputs the smallest number.

```
a = float(input("Enter first number: "))
b = float(input("Enter second number: "))
c = float(input("Enter third number: "))

if (a <= b and b <= c):
    print("The smallest number is", a)
elif (b <= a and b <= c):
    print("The smallest number is", b)
else:
    print("The smallest number is", c)
```

Q2 – Write a program that asks the user to enter a country name. If the country name is among the names in the following table, it prints out its capital city.

- Use **IF-ELIF-ELSE** Statement
- Use **MATCH-CASE** Statement

Country	Capital
Netherlands	Amsterdam
France	Paris
UK	London
Germany	Berlin

Using IF-ELIF-ELSE

```
country = input("Enter a country name: ")


if (country == 'Netherlands'):
    capital = 'Amsterdam'
elif (country == 'France'):
    capital = 'Paris'
elif (country == 'UK'):
    capital = 'London'
elif (country == 'Germany'):
    capital = 'Berlin'
else:
    capital = 'Unknown'


print("The capital of", country, 'is', capital)
```

Using MATCH-CASE

```
country = input("Enter a country name: ")

match country:
    case 'Netherlands':
        capital = 'Amsterdam'
    case 'France':
        capital = 'Paris'
    case 'UK':
        capital = 'London'
    case 'Germany':
        capital = 'Berlin'
    case _:
        capital = 'Unknown'

print("The capital of", country, 'is', capital)
```

Q3 – Write a program that asks the user to **enter their age.** Then the program prints the age category according to the table below.

Age Range	Age Category
0 <= Age <=30	"Young"
30 < Age < 60	"Middle-Aged"
60 <= Age <= 150	"Old"

Using IF-ELIF-ELSE

```
age = int(input("Enter a country name: "))

if (0 <= age <=30):
    print('You are young!')
elif (30 < age < 60):
    print('You are middle-aged!')
elif (60 <= age <=150):
    print('You are old!')
else:
    print("The entered age value is NOT valid!")
```

Using MATCH-CASE

```
age = int(input("Enter a country name: "))

match age:
    case a if (0 <= a <= 30):
        print('You are young!')
    case a if (30 < a < 60):
        print('You are middle-aged!')
    case a if (60 <= a <= 150):
        print('You are old!')
    case _:
        print("The entered age value is NOT valid!")
```

Students' Task

Write a program that asks the user to enter a traffic signal from these signals **(red, stop, yellow, caution, green, go)**. Then the program will print a suitable action. Write the code in two ways and compare them in terms of **readability**.

- Use **IF-ELIF-ELSE** Statement.
- Use **MATCH-CASE** Statement.

Using IF-ELIF-ELSE

```
signal = input("Enter a traffic signal: ").lower()

if (signal == 'red' or signal == 'stop'):
    print('You have to Stop!')
elif (signal == 'yellow' or signal == 'caution'):
    print('Drive Slower! You have to stop after a while!')
elif (signal == 'green' or signal == 'go'):
    print('Go!')
else:
    print("The entered signal is NOT a valid traffic signal!")
```

Using MATCH-CASE

```
signal = input("Enter a traffic signal: ").lower()

match signal:
    case 'red' | 'stop':
        print('You have to Stop!')
    case 'yellow' | 'caution':
        print('Drive Slower! You have to stop after a while!')
    case 'green' | 'go':
        print('Go!')
    case _:
        print("The entered signal is NOT a valid traffic signal!")
```