Assignment 1

❖ For each code snippet below Identify Error, Rewrite and Explain code.

1)
```
def add_num(a,b)
        return a+b
print(add_num(5,10))
```

Identify : In this code the SyntaxError: expected ':' error is accure.

Rewrite :
```
def add_num(a,b):
        return a+b
print(add_num(5,10))
```

Explain : The code works for to perform addition of two number using add_num() function that has two argument. The error is arise because of (:) colon. That is use to define the next code is in indentation.

2)
```
name= 'Alice
print("Hello, "+name)
```

Identify : Missing Closing Quote in name= 'Alice

Rewrite :
```
name= 'Alice'

print("Hello, "+name)
```

Explain : String literals in Python must begin and end with the same quote character. By adding the missing (') after Alice, the code compiles. Then string concatenation with + produces the output Hello, Alice.

3)
```
for i in range(5):
        print("Number:", i)
```

Identify : No Error

Rewrite : Same Code

Explain : In the given code we print number from 0 to 4 using for loop.

Number: 0

Number: 1

Number: 2

Number: 3

Number: 4

4) my_list = [1, 2, 3, 4, 5]

print("The fifth element is: " + my_list[5])

Identify : IndexError: list index out of range

Rewrite :   my_list = [1, 2, 3, 4, 5]

print("The fifth element is: " + str(my_list[4]))

Explain : Lists in Python use 0-based indexing, so the fifth element is at index 4, not 5. Also, concatenating an integer directly to a string causes a type error, so str() is used for conversion.

5)
```python
def greet(name):
    print("Hello " + name)
greet("Bob")
```

Identify : No Error

Rewrite : Same Code

Explain : The function is properly defined and called with "Bob" as the argument. It prints the greeting as intended.

6)
```python
age = input("Enter your age: ")
if age >= 18:
    print("You are eligible to vote.")
else:
    print("You are not eligible to vote.")
```

Identify : **Error:** TypeError: '>=' not supported between instances of 'str' and 'int'

Rewrite :   age = int(input("Enter your age: "))

```python
if age >= 18:
    print("You are eligible to vote.")
else:
    print("You are not eligible to vote.")
```

Explain : The input() function returns a string, so you must convert it to an integer with int() before comparing it to 18.

7)
```python
def multiply(a, b):
        result = a * b
return result
print(multiply(4, 5))
```

Identify : No Error

Rewrite : Same Code

Explain : This function multiplies two numbers and returns the result, which is   q
correctly printed.

8)
```python
count = 10
while count > 0
   print(count)
   count -= 1
print("Countdown complete!")
```

Identify : SyntaxError: expected ':'

Rewrite :
```python
count = 10
while count > 0:
        print(count)
        count -= 1
print("Countdown complete!")
```

Explain : while count > 0: keeps looping as long as count remains positive.