

Unit I - Challenges 1 and 2

1. Implement the recursive function to calculate the factorial of a given number

```
def factorial(n):  
    if n == 0:  
        return 1  
    else:  
        return n * factorial(n - 1)  
  
# Example usage  
num = 5  
result = factorial(num)  
print(f"The factorial of {num} is {result}")
```

2. Write the program that determines the whether a year enter by the user is a leap year or not using if elif else statements

```
# Get input from user  
year = int(input("Enter a year: "))  
  
# Check if it's a leap year  
if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):  
    print(f"{year} is a leap year.")  
else:  
    print(f"{year} is not a leap year.")
```