



Unit 1 challenge



```
1 def factorial(n):
2     if n == 0:
3         return 1
4     else:
5         return n * factorial(n - 1)
6
7 # Test the function
8 num = int(input("Enter a number: "))
9 if num < 0:
10     print("Factorial is not defined
    for negative numbers.")
11 else:
12     result = factorial(num)
13     print(f"The factorial of {num}
    is {result}")
```



```
1 ▾ def is_leap_year(year):  
2 ▾     if (year % 4 == 0 and year % 100  
   != 0) or (year % 400 == 0):  
3     return True  
4 ▾     else:  
5     return False  
6  
7     # Input year from the user  
8     year = int(input("Enter a year: "))  
9  
10    # Check if it's a leap year and  
    display the result  
11 ▾ if is_leap_year(year):  
12     print(f"{year} is a leap year.")  
13 ▾ else:  
14     print(f"{year} is not a leap  
    year.")  
15
```

