

Day 1 Task 2

1. The factorial of a non-negative integer N , denoted by $N!$, is the product of all positive integers less than or equal to N .

$$5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$$

2. Write a program that takes two numbers as input and finds out the GCD (greatest common divisor) of the two numbers using the Euclidean algorithm.
3. Create a program for "Car Racing" with the following functionalities:

- a. The initial state of the car is in the "stop" state.
- b. Display a help message to the user explaining the available commands:

start -> start the car

stop -> stop the car

exit -> exit the program

- c. Users are not allowed to enter the same command if the car is already in the same state. For example:

If the car is in the "start" state and the user enters the start command again, display "Car is already in start state."

Similarly, if the car is in the "stop" state and the user enters the stop command again, display "Car is already in stop state."

- d. When the user enters exit, prompt them with "Are you sure you want to exit?"
If the user inputs "yes," the program should stop. If the user inputs anything else, the program should continue.