Tutorial 8 – Dynamic Programming

Python Functions

Define functions in Python to

- Calculate the factorial of a number n
- Calculate the value function for the 'Minimal Studying' problem
- Determine the optimal solution for the 'Minimal Studying' problem
- Solve the 'Chess Strategy' problem

Knapsack Problem

We have a container of size 20 units, and want to pack it with the following valuable items:

Item j	Size v_j	Value t_j
1	7	25
2	4	12
3	3	8

How many of each item should we pack in order to maximize the total value?

Fibonacci Sequence

Define a function in Python to calculate the nth number in the Fibonacci sequence.