**Module 13: Date and Time**

Python provides a built-in module called datetime for handling date and time.

Example1(Get the current date and time)

import datetime

# Current date and time

now = datetime.datetime.now()

print("Current date and time:", now)

Example2 (Get only the date)

import datetime

today = datetime.date.today()

print("Today's date:", today)

Example3(Get only the time)

import datetime

now = datetime.datetime.now()

current\_time = now.time()

print("Current time:", current\_time)

Example4(Format date and time)

import datetime

from datetime import timedelta

# define today

today = datetime.date.today()

# Add 5 days to today

future\_date = today + timedelta(days=5)

print("Date after 5 days:", future\_date)

# Subtract 3 days from today

past\_date = today - timedelta(days=3)

print("Date 3 days ago:", past\_date)

* **sleep**

pausing execution in Python, usually to wait for a certain amount of time.

Example1

import time

print("Start")

time.sleep(3) # Pause for 3 seconds

print("End after 3 seconds")

Example2(**current time updating every second**, like a digital clock.)

import datetime

import time

while True:

now = datetime.datetime.now()

print(now.strftime("%H:%M:%S"), end="\r") # "\r" overwrites the same line

time.sleep(1) # Wait for 1 second

Example3

import time

for i in range(5, 0, -1):

print(i)

time.sleep(1) # Wait 1 second between numbers

print("Go!")

* **Program execution time**

To **measure the execution time of a Python program** (how long it takes to run).

import time

start\_time = time.time() # record start time

# --- your program code here ---

for i in range(1, 6):

print(i)

time.sleep(1) # simulate work

end\_time = time.time() # record end time

execution\_time = end\_time - start\_time

print("Execution time:", execution\_time, "seconds")

* **more methods on date/time**

Example1

import datetime

now = datetime.datetime.now()

print("Year:", now.year)

print("Month:", now.month)

print("Day:", now.day)

print("Hour:", now.hour)

print("Minute:", now.minute)

print("Second:", now.second)

Example2(Replace parts of a date)

import datetime

now = datetime.datetime.now()

new\_date = now.replace(year=2030, month=5, day=10)

print("Replaced date:", new\_date)

Example3(Difference between two dates)

import datetime

from datetime import timedelta

d1 = datetime.date(2025, 1, 1)

d2 = datetime.date(2025, 12, 31)

diff = d2 - d1

print("Days difference:", diff.days)