# TASK – WEEK 4

# TASK: Using different loop constructs and control flow tools in Python

## 1. Currency conversion with unpacking and f-strings

- You are given a list of tuples in the following format:  
 (amount, currency, target\_currency, exchange\_rate)  
  
- Example:  
 data = [  
 (100, 'USD', 'EUR', 0.83),  
 (100, 'USD', 'CAD', 1.27),  
 (100, 'CAD', 'EUR', 0.65)  
 ]  
- Write code that unpacks each tuple and prints a converted amount using f-string formatting.  
- Example output: '100 USD = 83 EUR'

## 2. Sum of odd numbers (using a for loop)

- Write a Python script that prints the sum of all odd numbers from 1 to 100.

## 3. Number guessing game (using while loop)

- Write a program that asks the user to guess a secret number (hardcode it to e.g. 7).  
- Stop the loop immediately once the correct number is guessed and print the message.   
- If the user doesn't guess the number within the allowed number of attempts (e.g. 3), display a message at the end.

## 4. Enumerate list items with index

- You are given a list of fruits:  
fruits = ['apple', 'banana', 'cherry', 'date']

- Print each fruit with:

1. Its index - starting from index 1  
2. Its name  
3. and the number of letters in the fruit name

- Format the output like this:

1: apple (5 letters)  
2: banana (6 letters)  
3: cherry (6 letters)  
4: date (4 letters)

## 5. Mutate the data

- Each list in the data has 3 columns: date, stop, and start

data = (  
 ['2021-01-01', 20, 10],  
    ['2021-01-02', 20, 18],  
    ['2021-01-03', 10, 10],  
    ['2021-01-04', 102, 100],  
    ['2021-01-05', 45, 25]  
)  
  
1. Mutate the lists in the data to add one more element indicating the difference between the two integer numbers (stop - start) and add it at index 1.   
2. Determine on which date this newly calculated value was the largest.  
3. Print that date

## Note

- Tasks are not mandatory; they are voluntary.  
- Tasks are not time-limited when they need to be done – ideally, they should follow up on a weekly presentation, but not necessarily.  
- Saved .py files send to emails:  
 [bosko.nikolic@endava.com](mailto:bosko.nikolic@endava.com)  
 [djordje.munizaba@endava.com](mailto:djordje.munizaba@endava.com)