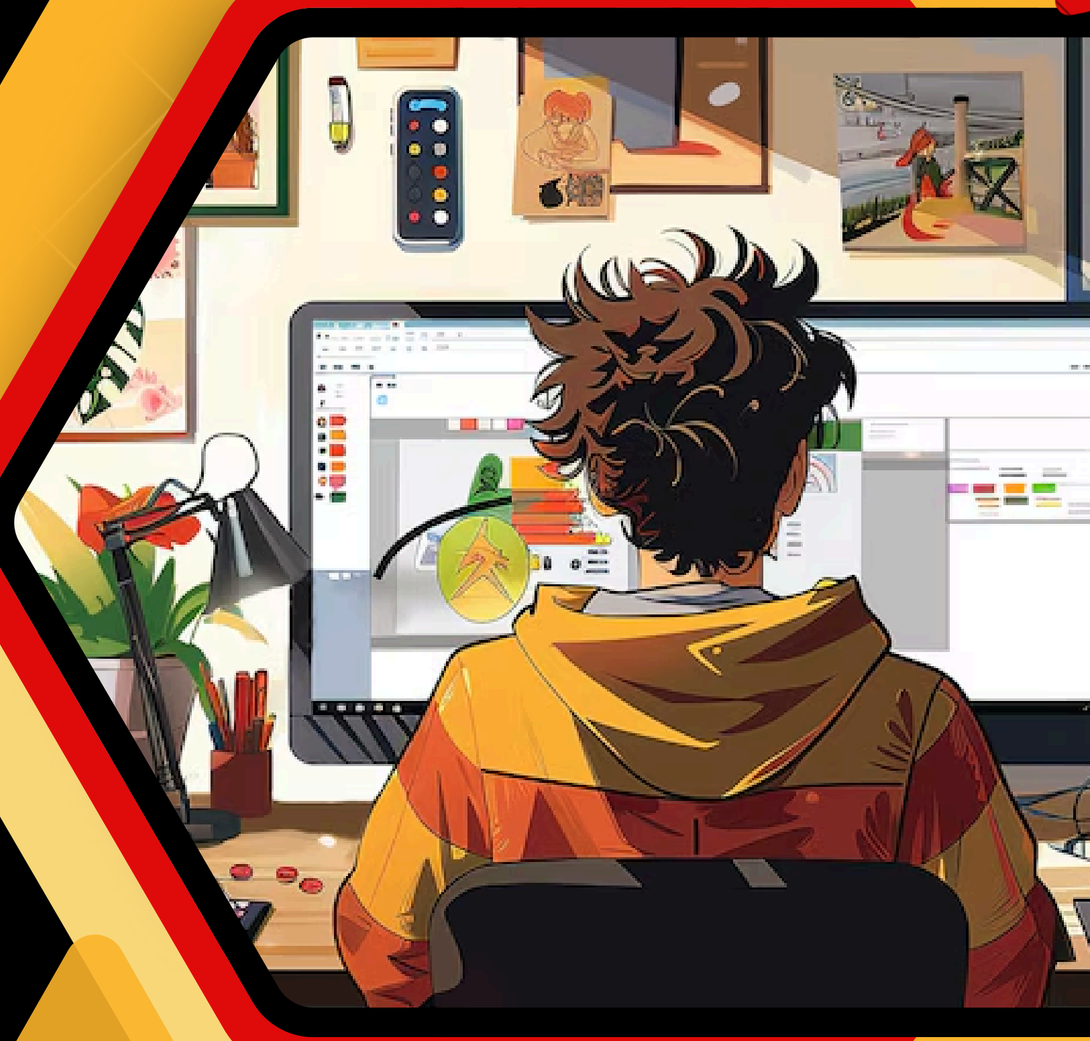
AI AND DATA SCIENCE

Task 1



Date: 3-12-2025

Instructor: Ahmed Diab

Hw - Week 1

- Introduction
- Python Basics

instructions

- Write structure files .py not notebook .ipynb
- Write this how in Zag-Eng-AI\HW\Wee1\basics_hw\{filename}.py
- In all hw use try except handle if needed

PYTHON BASICS

•Questions:

- Create variables to store your name, age, height, and whether you are a student. Print their types.

- Ask the user for two numbers and print their sum, difference, product, and division.

- Take an intger input and check if it’s positive, negative, or zero

- Print all even numbers between 1 and 20.

PYTHON BASICS

•Questions:

- Ask the user to guess a number (secret = 7) until they get it right.
- Create a text file named data.txt, write a few lines, then read and print its content.
- Create a list of 5 numbers, print the sum, maximum, and reverse it.
- Create a tuple of city names, and print the first and last city.

- **Questions:**
  - Given two sets of student names, find those who are in both groups.
  - Handle division by zero using try and except.

PYTHON BASICS

- Write a Python program with the following functions:
- celsius_to_fahrenheit(c): Converts a temperature in Celsius to Fahrenheit.
- fahrenheit_to_celsius(f): Converts a temperature in Fahrenheit to Celsius.
- average_temperature(temp_list, scale): Accepts a list of temperatures and a scale ('C' or 'F'), and returns the average temperature in that scale.
- highest_temperature(temp_list, scale): Returns the highest temperature in the given scale.

Requirements:

- Use functions to structure your code.
- Ask the user to input a list of temperatures in Celsius (comma-separated).
- Display the average and highest temperature in both Celsius and Fahrenheit.
- Use error handling to validate numeric input.

دمتم سالمين