Session 03: Intermediate Excel Techniques – Level 2

- ## Basic Formulas:
    - ### SUM: Adds up values in a range of cells.
        - **Formula: =SUM(range)**
        - **Example: =SUM(A1:A10)** adds up the values in cells A1 to A10.
    - ### AVERAGE: Calculates the average of values in a range of cells.
        - **Formula: =AVERAGE(range)**
        - **Example: =AVERAGE(B1:B20)** calculates the average of values in cells B1 to B20.
    - ### MAX: Finds the highest value in a range of cells.
        - **Formula: =MAX(range)**
        - **Example: =MAX(C1:C15)** finds the highest value in cells C1 to C15.
    - ### MIN: Finds the lowest value in a range of cells.
        - **Formula: =MIN(range)**
        - **Example: =MIN(D1:D12)** finds the lowest value in cells D1 to D12.
    - ### COUNT: Counts the number of cells containing numbers.
        - **Formula: =COUNT(range)**
        - **Example: =COUNT(E1:E25)** counts the number of cells in the range E1 to E25 that contain numerical values.

- ## Cell References:
    - **Absolute:** Fixed reference that doesn't change when copied.
    - **Relative:** Adjusts automatically when copied to new locations.
    - **Mixed:** Combination of absolute and relative references.

- ## Advanced Functions:
    - **SUBTOTAL:**

Performs a specified function (e.g., SUM, AVERAGE) on filtered data.

Formula: =SUBTOTAL(function_num, ref1, [ref2], ...)

Explanation: The SUBTOTAL function calculates a specified function (such as SUM, AVERAGE, MAX, MIN, etc.) on a range of data. It differs from regular functions like SUM or AVERAGE in that it ignores any cells that are hidden or filtered out. The **function_num** argument specifies which function to apply (e.g., 1 for AVERAGE, 9 for SUM, etc.), and **ref1**, **[ref2]**, etc., are references to the cells or ranges where the calculation should be performed.

Example: =SUBTOTAL(9, B2:B10) calculates the sum of values in cells B2 to B10, ignoring any hidden or filtered out cells.

- **TODAY:** Inserts the current date into a cell.

Formula: =TODAY()

Explanation: The TODAY function returns the current date as a serial number. When used without any arguments, it automatically updates to display the current date whenever the worksheet is opened or recalculated.

Example: =TODAY() inserts the current date into the cell where the formula is entered.