ASSIGNMENT 2

1. <u>Basic Math Operations (Data: Shopping List Budget)</u>

Task:

- o Add a new column named "S/N", this column will number the items bought.
- o Insert a column between 'Unit Price' and ''Budget' and in the column, use a formula to calculate the total price of the items.
- o Insert a column at the end of the table and Title it 'Remaining budget', use a formula to calculate the difference between the 'total price' and ''Budget'.
- o Use a built-in function to show the total amount spent in this shopping adventure.
- o Apply conditional formatting in the 'Remaining budget' column to highlight items that are in the negative.
- o Apply borders and appropriate Title to the work, print in PDF and submit.

Item	Category	Quantity	Unit Price ($)	Budget ($)
Apples	Fruits	8	1.50	10
Chicken Breasts	Meat	2	5.00	20
Bread	Bakery	3	2.00	15
Milk	Dairy	2	3.00	10
Eggs	Dairy	1	2.50	5
Pasta	Pantry	10	1.50	8
Rice	Pantry	1	4.00	10
Tomatoes	Vegetables	3	1.00	7
Onions	Vegetables	2	0.75	5

Item	Category	Quantity	Unit Price ($)	Budget ($)
Yogurt	Dairy	4	1.50	12
Cheese	Dairy	1	3.50	8
Bananas	Fruits	6	1.00	5
Cereal	Breakfast	1	4.00	10
Spinach	Vegetables	1	2.00	5
Coffee	Beverages	1	6.00	15

2. <u>Relative and Absolute Cell Referencing (Data: Movie Ratings)</u>

Task:

- o Use a built-in function to calculate the highest and lowest rated movies
- o Sort the table by Release year from lowest to highest.
- o Use a built-in function to make the 'Genre' column uppercase.
- o Create a new column '10%' at the end of the table and let the content of the column be a reduction of the 'View count' column by 10%.

    Note: You must make use of the Absolute and relative cell referencing.

Movie Title	Genre	Release Year	Rating (Out of 10)	Viewer Count
Inception	Sci-Fi	2010	8.7	1500
The Shawshank Redemption	Drama	1994	9.3	2000
The Dark Knight	Action	2008	9.0	1800
Pulp Fiction	Crime	1994	8.9	1700
Forrest Gump	Drama	1994	8.8	1900
The Matrix	Sci-Fi	1999	8.5	1600
Titanic	Romance	1997	7.8	2200

Movie Title	Genre	Release Year	Rating (Out of 10)	Viewer Count
Avatar	Action	2009	7.9	2100
Interstellar	Sci-Fi	2014	8.6	1800
The Godfather	Crime	1972	9.2	1900
The Lord of the Rings: The Return of the King	Fantasy	2003	8.9	2000
Fight Club	Drama	1999	8.8	1700
The Silence of the Lambs	Thriller	1991	8.6	1800
Goodfellas	Crime	1990	8.7	1600
The Green Mile	Drama	1999	8.6	1700

3. Basic Functions (Data: Sales Report):

Task:

- What is the total quantity of products sold?
- What is the average unit price of products sold?
- Calculate the commission for each salesperson, assuming a 5% commission rate based on the total revenue of each order.
- Calculate the tax amount for each order, assuming a 10% tax rate applied to the total revenue.
- Use built-in functions to find the highest and lowest unit prices among all orders.
- Use a built-in function to count the number of orders placed.

Order Number	Product	Quantity Sold	Unit Price ($)	Total Revenue ($)	Date
ORD001	Laptop	5	800	4000	2023-01-05

Order Number	Product	Quantity Sold	Unit Price ($)	Total Revenue ($)	Date
ORD002	Smartphone	10	500	5000	2023-01-10
ORD003	Headphones	20	50	1000	2023-01-15
ORD004	Tablet	8	300	2400	2023-01-20
ORD005	Smartwatch	15	200	3000	2023-01-25
ORD006	Camera	3	700	2100	2023-02-01
ORD007	Speaker	12	100	1200	2023-02-05
ORD008	Printer	6	150	900	2023-02-10
ORD009	External Drive	4	80	320	2023-02-15
ORD010	Mouse	25	20	500	2023-02-20
ORD011	Keyboard	15	30	450	2023-03-01
ORD012	Monitor	7	400	2800	2023-03-05
ORD013	Router	10	90	900	2023-03-10
ORD014	Software	5	150	750	2023-03-15

Order Number	Product	Quantity Sold	Unit Price ($)	Total Revenue ($)	Date
ORD015	Earbuds	18	40	720	2023-03-20

4. Data: Health

Task:

- What is the average age of the patients?
- How many male patients are there in the dataset?
- Calculate the average BMI of female patients.
- Create a new column 'Blood pressure(systolic)', this will be the upper part of the Blood pressure column.
- Apply a formula using absolute referencing to convert blood pressure(systolic) from mmHg to kPa.
  Note: kPa = mmHg * 0.133322
- Using relative referencing, calculate the weight difference between each patient and the average weight of all patients.
- Use a built-in function to find the total cholesterol level in the dataset.
- Use a built-in function to calculate the average blood pressure (systolic) of all patients.
- Apply a built-in function to find the highest BMI among all patients.
- Utilize a built-in function to count the number of patients with blood pressure (systolic) higher than 130.

Patient ID	Age	Gender	Height (cm)	Weight (kg)	Blood Pressure (mmHg)	Cholesterol Level (mg/dL)	Blood Sugar Level (mg/dL)	BMI
101	45	Male	175	80	120/80	200	90	26
102	32	Female	160	55	110/70	180	95	21
103	60	Male	180	85	140/90	220	100	26
104	28	Female	165	60	115/75	160	85	22
105	50	Male	170	75	130/85	240	110	26
106	35	Female	155	50	105/65	180	95	21
107	55	Male	178	82	125/80	210	100	26
108	40	Female	163	65	120/75	190	90	24
109	48	Male	172	78	135/85	230	105	26
110	30	Female	158	52	110/70	170	85	21
111	58	Male	176	84	130/80	220	105	27
112	42	Female	168	70	125/80	200	95	25
113	52	Male	178	80	135/85	240	110	25
114	33	Female	160	58	115/75	170	90	23
115	47	Male	174	79	128/82	210	100	26

5. <u>Real-World Challenge (Choose your own data):</u>

- **Task:** Find a real-world dataset you're interested in (budget tracking, fitness data, etc.) and apply your learned skills to analyze, and organize the data.

- **Data:** Choose your own (examples: personal finance data, student grades, social media analytics)

- **Challenge:** Use a combination of basic math operations, relative and absolute referencing, and functions to gain insights from your chosen data.