



# CRACK THE NUMBERS SEGMENT

## HACKATHON CASE



**WALTON**  
Computer



**career  
edge**



## EXCEL HACKATHON CASE



# HACKATHON CASE

## CASE 1: BASIC SALES ANALYSIS

**Objective:** Perform basic and intermediate sales analysis using the Walton Computer Data Dump file. The goal is to analyze total sales for specific conditions, categorize data by regions, and perform calculations to provide insights into sales performance.

## A) Calculate: (Intermediate)

a) Sum of amounts; multiple conditions (**SUMIFS**) -

1. Shipping region - Chattogram;
2. Stock > 1000;
3. Sub Category 2 - Routers

b) Average Selling\_price of Products Shipping Region 1 Wise. (AVERAGEIFS)

C) Count of order\_item\_ids; multiple conditions-  
**(COUNTIFS)**

1. shipping\_region3\_name - Mirpur 1;
2. delivery\_company= dex

Case 1.A.a	
SUMIFS (Amount)	
Sum of amounts; multiple conditions- 1. shipping region - Chattogram; 2. stock > 1000; 3. Sub Category 2 - Routers	
Case 1.A.b	
Shipping Region 1	AVERAGEIFS ( Amount)
Sylhet	
Dhaka	
Rangpur	
Chattogram	
Khulna	
Mymensingh	
Barishal	
Rajshahi	
Case 1.A.c	
COUNTIFS (Items Sold)	Count of order_item_ids; multiple conditions- 1. shipping_region3_name - Mirpur 1; 2. delivery_company= dex

## B) Calculate:

a) Extract the year, month and day from the order\_date column using the TEXT and CONCAT functions. Example: **2024-January-29 (Monday)**.

**(Basic)**

b) Use IF/S to define the stock category. **(Basic)**

1. Stock level < 500 = Low
2. Stock level < 2000 = Medium
3. Else High.

X	Y	Z	AA	AB	AC	AD	AE	AF	AG
device_platform	order_status_desc	item_status_desc	order_date	Year	Month	Day	Stock Category		<- Date 1.8
androidApp	delivered	delivered	1/2/2024						
mobile	delivered	delivered	1/3/2024						
iosApp	delivered	delivered	1/3/2024						
androidApp	delivered	delivered	1/3/2024						
androidApp	delivered	delivered	4/4/2024						
androidApp	delivered	delivered	1/5/2024						
androidApp	delivered	delivered	1/5/2024						
androidApp	delivered	delivered	1/5/2024						
androidApp	delivered	delivered	1/5/2024						
desktop	delivered	delivered	1/5/2024						
androidApp	delivered	delivered	1/5/2024						
androidApp	delivered	delivered	1/5/2024						
androidApp	delivered	delivered	1/5/2024						
androidApp	delivered	delivered	1/5/2024						
androidApp	delivered	delivered	1/5/2024						
iosApp	delivered	delivered	1/5/2024						
androidApp	delivered	delivered	1/5/2024						
mobile	delivered	delivered	4/6/2024						
androidApp	delivered	delivered	1/6/2024						
androidApp	delivered	delivered	1/6/2024						
androidApp	delivered	delivered	1/6/2024						
androidApp	delivered	delivered	1/6/2024						
androidApp	delivered	delivered	1/6/2024						
iosApp	delivered	delivered	1/6/2024						
androidApp	delivered	delivered	1/6/2024						
mobile	return_denied	return_refunded	1/12/2024						
androidApp	delivered	return_refunded	1/8/2024						
androidApp	delivered	delivered	1/9/2024						
androidApp	delivered	delivered	1/10/2024						
mobile	return_denied	return_refunded	1/11/2024						
androidApp	delivered	delivered	1/12/2024						
androidApp	delivered	delivered	1/13/2024						

# c) Use NESTEDIFS to calculate the results of the students based on their Grades. (Advanced)

Case 1.C	
Grade	Result
A+	Outstanding
A	Very Good
B+	Good
B	Need Improvement
C	Exit

  

Students	Grade Attained	Result
Xavi	B	
Marven	A	
Samuel	A+	
Adam	C	

## Expected Outputs:

- Total sales amount for specific conditions.
- Average selling price of products by region.
- Count of items sold based on given conditions.
- Extract the year, month, and day from the order date.
- Evaluate student performance using grade-based results with nested logic.

# CASE 2: SALES PERFORMANCE OPTIMIZATION

**Objective:** Analyze Walton Computer's sales performance across categories and regions to determine the Average Revenue Per User (ARPU) and visualize performance trends effectively.

# A) Use Walton Computer Data Dump File to solve the below: (Intermediate)

1. Calculate the **Average Revenue Per User(ARPU)**  
 $= \text{Sum of Amount} / \text{Distinct Buyers}$  for each main category and find out which Main Category has the highest ARPU.
2. Write the name of the category in the box. **(Use the Pivot table and keep the pivot data as it is after calculating it, like in the screenshot below.)**

Main Category	amount	of buyer_id	ARPU
Computers & Accessories	21	47	23
Entertainment & Wearables	14	9	10
Furniture & Style	05	53	79
Home & Living	28	39	20
Kitchen Essentials	01	1	01
Phones & Tablets	08	16	29
Tools & Outdoors	90	1	90
Toys & Entertainment	45	50	75
Travel & Luggage	68	3	56
Grand Total	80	22	82

Main Category - Highest ARPU

## B) Create a Dashboard to display: (Advanced):

- Identify the most revenue-generating products in this region to focus on inventory and marketing strategies.
  - Prepare a bar chart with the Top 10 Products Sold by Sales Amount In Faridpur Shipping\_Region2. **(Bar Chart)**.
- Analyze trends in distinct orders, total sales, and unique buyers over time to track growth and spot seasonal patterns.
  - Prepare a Month-on-month Sales Performance Table View - Distinct Orders, Sum Amount, and Distinct Buyers. **(Table View)**
- Understand customer preferences by device to improve user experience and marketing efforts.
  - Prepare a Pie Chart of buyer count by device type. **(Pie Chart)**

**\*\*Bonus for any insightful views you can come up with using the dataset.**

## Expected Outputs:

- Identification of the category with the highest ARPU.
- Visualizations summarizing sales performance by product and region.
- Comprehensive view of Month-over-Month (MoM) sales performance and buyer distribution.

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## POWERBI HACKATHON CASE



# CASE 1: BASIC LEVEL

## Scenario:

A Bangladeshi company named Walton wants to analyze basic sales performance to understand customer behavior and product demand. One of their sales team is looking for some clear charts with simple metrics.

**Objective:** Visualize Walton Computer's sales data and overall performance.

1. Import **Sales Data** and **Product Data** into Power BI.

2. Transform:

- Remove duplicates.
- Remove blank rows.
- Change column names for readability.

3. Create a relationship between product\_id in **Sales Data** and **Product Data**.

4. **Visualizations:**

- 3 Cards displaying **Total Sales**, **Total Orders** and **Total Items** sold
- A tree map showing sales distribution by **Main Category**.
- A bar chart showing items sold for each **Main Category** and **sub category 1**
- Provide proper data levels and color to make the visuals readable

## Expected Outputs:

1. All Case 1 visuals in 1 page named “Case 1”
2. Cleaned dataset
3. Sales performance overview with basic visualizations

# CASE 2: INTERMEDIATE LEVEL

## Scenario:

A top management team of Walton wants a comprehensive performance dashboard focusing on customer purchasing patterns, devices, delivery platform

## Task:

Develop a Power BI report covering the following:

- **Customer Insights**

- Add **Customer data(Buyer Information)** with proper relation
- Create column named Age(Date difference in years), and A DAX measure to calculate **Average Revenue Per Buyer(ARPB)**
- Create a bar chart to see the ARPB in different age group
- Create a pie chart to see the number of buyers for the different occupation

- **Platform Analysis**

- Create 2 DAX measures **AIV(Average sales per item/average Item Value)** and **AOV (Average sales per order/average Order Value)**
- Create a Line chart to see the trend of product sold (**count product\_id**) in different months, days, quarters

- **Campaign Suggestion**

- For an upcoming Sales campaign in January. In brief, suggest some groups of buyers which should get more focus based on the above analysis (**Provide proper justification**)

## Expected Outcome:

1. All charts should be in 1 page named “Case 2”
2. Age groups and their purchasing trends.
3. Occupation wise buyer distribution.
4. Product sold trend in different days,months, quarter
5. Write the campaign suggestion in a Text file.

# CASE 3: ADVANCE LEVEL

## Scenario:

A logistics team wants insights into delivery and product stocks. They suggest the below requirements to make a dashboard.

## Task:

Create a Power BI report with the following features:

- **Order Delivery Analysis:**

- Create a column in Sales dataset named “Delivery Status”. **The values will be Yes/No**
- Create a Bar chart showing orders by Delivery Status and Shipping Region 1

- **Stock Overview:**

- Create a column in Product dataset named “Stock Status” according to below logic
  - i. Stock > 1000 is Enough
  - ii. Stock > 500 and Stock < 1000 is Good
  - iii. Stock > 200 and Stock < 500 is Moderate
  - iv. Stock < 200 is Low
- Create a scatter plot to see price vs item sold

- **Product Stock Info**

- Create a table showing **product name** and their **Stock, Stock Status** along with **price**.
- Make a **conditional format** to show the **Stock Status** in 4 different color(Green, Yellow, Orange, Red)
- Make a **conditional format** to show the **price** and **stock** in **gradient color** and **data bar**

- **Insights and Ideas**

- Suggest few changes on the visuals or approaches to the logistics team so that the team get better idea of the scenario

## Expected Outcome:

1. All charts should be in 1 page named “Case 3”
2. 1 measure about Delivery status, 1 measure about Stock
3. A Bar chart on **Delivery status**, A Line and Clustered column chart about stock status
4. A table with conditional formatting
5. Write the suggestion(for example, if we can use other type of visuals, or measures ) in a Text file
6. Hints for **Stock Status** column logic (use switch logic in 4 lines, default line would be “**Low**”, and the expression would be **True**)