

**Data Technician**

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| Course Date: 14/04/2025 |
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# Day 1: Task 1

Please complete the below boxes on commons laws and regulations that must be followed when working with customers data, use the below bulleted list to support your answers.

* What is it
* Why is it important
* Provide a real-world example of how you can follow it
* How does it impact working with data
* What could happen if you breached it

|  |  |
| --- | --- |
| Data Protection Act | Data protection legislation controls how personal information is used by organisations, businesses and government departments. The data protection act 2018 makes provision about the processing of personal data. This act protects individuals’ privacy and rights over their personal data. For example date of birth. We can protect private data by using password and can share some data who need to know. For example, flight booking information everyone can know the flight’s arrival and departure time, however, passengers personal data such as booking number or date of birth will not be accessible by everyone. If necessary to access any personal data to process the task it must be needed consent from the person. Data must be accurate, up to date and store securely, and necessary to handle data breaches promptly. Because, consequence of data breaching could be legal action or damage the reputation of the organisation. Employee may face disciplinary or dismissal. |
| GDPR | The General Data Protection Regulation (GDPR) is a European Union data protection law that came into effect in May 2018 and has been adopted in the UK as UK GDBR. This law strengthens individuals' rights over their personal data and imposes obligations on organizations that process or control the processing of such data. For, example, an online shop must keep the customer data safe such as names, addresses, card details. Only the necessary data can be collected after getting the consent and must be ensure these are secured. If there any data breaches need to report promptly within 72 hours. Because it could cause heavy fines, legal action, loss of customer trust, bad reputation of business, disciplinary of employee or dismissal. |
| Freedom of Information Act | The Freedom of Information Act 2000 (FOIA) is a UK law that grants the public a right of access to recorded information held by most public authorities, such as councils, schools, and the NHS. It promotes transparency and accountability in public services. This act allows people to find out how public money is spending, and encourages honesty, transparency, and better decision-making in public bodies. For example, Telephone conversations, CCTV recordings, and audio or video recordings. However, information that could identify individuals, like names, addresses, date of birth are exempt from disclosure. It is important to know what information can be shared and what must be kept confidential. For example, personal data should not be disclose. If the breach of confidential data occur it could lead to investigate or enforcement action. |
| Computer Misuse Act | The Computer Misuse Act 1990 is a UK law that criminalizes unauthorized access to computer systems and data, as well as actions that damage or impair their operation. It makes it illegal to access or modify data on a computer without permission, even if no damage is done. This act prevent hacking, virus software, cyber-attacks and protects personal, financial, and business data. User should only log in using own username and password. Also, need to oversee any suspicious emails or software that could be malware. Organizations must protect systems from unauthorized use or tampering and employees must follow IT security rules and avoid unauthorized access. |

# Day 2: Task 1

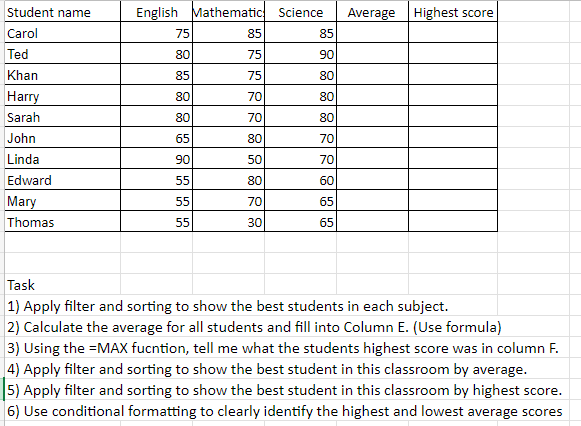
Please research and complete the following tasks within the retail-sales\_dataset.xlsx document, paste a print screen into the provided boxes below:

1. In the sheet ‘retail\_sales\_dataset’ add all available data between columns A –J into a ‘table’
2. Using the ‘sort’ function, sort ‘Age’ to ‘largest to smallest’
3. Using the ‘SUM’ function, show me the commission total in cell ‘L10’
4. Using the ‘AVERAGE’ function, show me the average commission in cell ‘L11’

|  |  |
| --- | --- |
| Print screen 1 |  |
| Print screen 2 |  |
| Print screen 3 |  |
|  |  |
| Print screen 4 |  |

# Day 2: Task 2

Please research and complete the following tasks within the retail-sales\_dataset.xlsx document, paste print screens into the provided box below:



|  |  |
| --- | --- |
| Print screen 1 |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1) Apply filter and sorting to show the best students in each subject. | | | | | |
|  |  |  |  |  |  |
| **Student name** | **English** | **Mathematics** | **Science** | **Average** | **Highest score** |
| Linda | 90 | 50 | 70 |  |  |
| Khan | 85 | 75 | 80 |  |  |
| Ted | 80 | 75 | 90 |  |  |
| Harry | 80 | 70 | 80 |  |  |
| Sarah | 80 | 70 | 80 |  |  |
| Carol | 75 | 85 | 85 |  |  |
| John | 65 | 80 | 70 |  |  |
| Edward | 55 | 80 | 60 |  |  |
| Mary | 55 | 70 | 65 |  |  |
| Thomas | 55 | 30 | 65 |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **Student name** | **English** | **Mathematics** | **Science** | **Average** | **Highest score** |
| Carol | 75 | 85 | 85 |  |  |
| John | 65 | 80 | 70 |  |  |
| Edward | 55 | 80 | 60 |  |  |
| Khan | 85 | 75 | 80 |  |  |
| Ted | 80 | 75 | 90 |  |  |
| Harry | 80 | 70 | 80 |  |  |
| Sarah | 80 | 70 | 80 |  |  |
| Mary | 55 | 70 | 65 |  |  |
| Linda | 90 | 50 | 70 |  |  |
| Thomas | 55 | 30 | 65 |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **Student name** | **English** | **Mathematics** | **Science** | **Average** | **Highest score** |
| Ted | 80 | 75 | 90 |  |  |
| Carol | 75 | 85 | 85 |  |  |
| Khan | 85 | 75 | 80 |  |  |
| Harry | 80 | 70 | 80 |  |  |
| Sarah | 80 | 70 | 80 |  |  |
| John | 65 | 80 | 70 |  |  |
| Linda | 90 | 50 | 70 |  |  |
| Mary | 55 | 70 | 65 |  |  |
| Thomas | 55 | 30 | 65 |  |  |
| Edward | 55 | 80 | 60 |  |  |
|  |  |  |  |  |  |
| 2) Calculate the average for all students and fill into Column E. (Use formula) | | | | | |
| 3) Using the =MAX fucntion, tell me what the students highest score was in column F. | | | | | |
| 4) Apply filter and sorting to show the best student in this classroom by average. | | | | | |
|  |  |  |  |  |  |
| **Student name** | **English** | **Mathematics** | **Science** | **Average** | **Highest score** |
| Carol | 75 | 85 | 85 | 81.67 | 85 |
| Ted | 80 | 75 | 90 | 81.67 | 90 |
| Khan | 85 | 75 | 80 | 80.00 | 85 |
| Harry | 80 | 70 | 80 | 76.67 | 80 |
| Sarah | 80 | 70 | 80 | 76.67 | 80 |
| John | 65 | 80 | 70 | 71.67 | 80 |
| Linda | 90 | 50 | 70 | 70.00 | 90 |
| Edward | 55 | 80 | 60 | 65.00 | 80 |
| Mary | 55 | 70 | 65 | 63.33 | 70 |
| Thomas | 55 | 30 | 65 | 50.00 | 65 |
|  |  |  |  | Max | 90 |
|  |  |  |  |  |  |
| 5) Apply filter and sorting to show the best student in this classroom by highest score. | | | | | |
| 6) Use conditional formatting to clearly identify the highest and lowest average scores | | | | | |
|  |  |  |  |  |  |
| **Student name** | **English** | **Mathematics** | **Science** | **Average** | **Highest score** |
| Ted | 80 | 75 | 90 | 81.67 | **90** |
| Linda | 90 | 50 | 70 | 70.00 | **90** |
| Carol | 75 | 85 | 85 | 81.67 | 85 |
| Khan | 85 | 75 | 80 | 80.00 | 85 |
| Harry | 80 | 70 | 80 | 76.67 | 80 |
| Sarah | 80 | 70 | 80 | 76.67 | 80 |
| John | 65 | 80 | 70 | 71.67 | 80 |
| Edward | 55 | 80 | 60 | 65.00 | 80 |
| Mary | 55 | 70 | 65 | 63.33 | 70 |
| Thomas | 55 | 30 | 65 | 50.00 | **65** |
|  |  |  |  | Max | 90 |

# Day 2: Task 3

Using the skills developed today, have some fun with the data set you have imported. Paste your work below and enjoy!

|  |  |
| --- | --- |
| Print screen 1 |  |

Syntax:

=VLOOKUP(lookup\_value, table\_array, col\_index\_num, [range\_lookup])

Example:

|  |  |  |
| --- | --- | --- |
| **Transaction ID** | **Total Sales** | **Product category** |
| 10 | 200 | Clothing |
| 15 | 2000 | Electronics |
| 25 | 50 | Beauty |
| 30 | 900 | Beauty |
| 54 | 1500 | Electronics |
| 55 | 120 | Beauty |
| 67 | 1200 | Beauty |
| 89 | 2000 | Electronics |
| 100 | 30 | Electronics |

Syntax:

=XLOOKUP(lookup\_value, lookup\_array, return\_array, [if\_not\_found], [match\_mode], [search\_mode])

Example:

|  |  |  |
| --- | --- | --- |
| **Transaction ID** | **Total Sales** | **Product category** |
| 10 | 200 | Clothing |
| 15 | 2000 | Electronics |
| 25 | 50 | Beauty |
| 30 | 900 | Beauty |
| 54 | 1500 | Electronics |
| 55 | 120 | Beauty |
| 67 | 1200 | Beauty |
| 89 | 2000 | Electronics |
| 100 | 30 | Electronics |

# 

# Day 3: Task 1

Please download the dataset ‘Day\_3\_Task\_1\_Bike\_Sales\_Pivot\_Lab.xlsx’ from [here](https://justit831-my.sharepoint.com/:x:/g/personal/danpe_justit_co_uk/Eb73L6LixCJHtafDJ4AOh-ABR9CVF0n9sdEgB4foSh261g?e=jh493A).

The lab instructions can be found [here](https://justit831-my.sharepoint.com/:b:/g/personal/danpe_justit_co_uk/EVySAtWQiEVDmrtCufrqTgwBuLVxX6mEKYqEAe0Mgl6b9Q?e=i05yOa). Do not worry if you do not complete the lab, just working with data and playing with the pivot table will be good experience.

Please paste your final pivot table below and complete the reflection questions:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Print screen 1 | |  |  |  |  | | --- | --- | --- | --- | | Part 1: Step 1 |  |  |  | |  |  |  |  | | **Age\_Group** | **Country** | **Sum of Year** | **Sum of Order\_Quantity** | | **Adults (35-64)** | Australia | 28294 | 32 | |  | Germany | 12126 | 13 | |  | United States | 2021 | 2 | |  | United Kingdom | 8084 | 4 | |  | United States | 42441 | 47 | |  | United States | 2021 | 1 | | **Adults (35-64) Total** |  | **94987** | **99** | | **Young Adults (25-34)** | Australia | 18189 | 20 | |  | Canada | 12126 | 11 | |  | France | 10105 | 10 | |  | United Kingdom | 4042 | 4 | |  | United States | 18189 | 16 | | **Young Adults (25-34) Total** |  | **62651** | **61** | | **Youth (<25)** | Australia | 8084 | 11 | |  | France | 6063 | 10 | |  | United Kingdom | 6063 | 6 | | **Youth (<25) Total** |  | **20210** | **27** | | **Grand Total** |  | **177848** | **187** |  |  |  |  | | --- | --- | --- | | Part 1: Step 2 |  |  | |  |  |  | | **Age\_Group** | **Country** | **Sum of Order\_Quantity** | | **Adults (35-64)** | Australia | 32 | |  | Germany | 13 | |  | United States | 2 | |  | United Kingdom | 4 | |  | United States | 47 | |  | United States | 1 | | **Adults (35-64) Total** |  | **99** | | **Young Adults (25-34)** | Australia | 20 | |  | Canada | 11 | |  | France | 10 | |  | United Kingdom | 4 | |  | United States | 16 | | **Young Adults (25-34) Total** |  | **61** | | **Youth (<25)** | Australia | 11 | |  | France | 10 | |  | United Kingdom | 6 | | **Youth (<25) Total** |  | **27** | | **Grand Total** |  | **187** |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Part 1: Step 3 and 4 |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  | | **Sum of Order\_Quantity** | **Country** |  |  |  |  |  |  |  |  | | **Age\_Group** | **Australia** | **Canada** | **France** | **Germany** | **United States** | **United Kingdom** | **United States** | **United States** | **Grand Total** | | Adults (35-64) | 32 | 0 | 0 | 13 | 2 | 4 | 47 | 1 | 99 | | Young Adults (25-34) | 20 | 11 | 10 | 0 | 0 | 4 | 16 | 0 | 61 | | Youth (<25) | 11 | 0 | 10 | 0 | 0 | 6 | 0 | 0 | 27 | | **Grand Total** | **63** | **11** | **20** | **13** | **2** | **14** | **63** | **1** | **187** |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Part 1: Step 5 |  | |  | |  |  |  |  |  |  | |  |  | |  | |  |  |  |  |  |  | | **Sum of Order\_Quantity** |  | **Country** |  | |  |  |  |  |  |  | | **Age\_Group** | **Customer\_Gender** | **Australia** | **Canada** | **France** | **Germany** | **United States** | **United Kingdom** | **United States** | **United States** | **Grand Total** | | **Adults (35-64)** | F | 17 | 0 | 0 | 8 | 2 | 1 | 27 | 0 | 55 | |  | M | 15 | 0 | 0 | 5 | 0 | 3 | 20 | 1 | 44 | | **Adults (35-64) Total** |  | **32** | **0** | **0** | **13** | **2** | **4** | **47** | **1** | **99** | | **Young Adults (25-34)** | F | 16 | 6 | 1 | 0 | 0 | 3 | 10 | 0 | 36 | |  | M | 3 | 5 | 9 | 0 | 0 | 1 | 6 | 0 | 24 | |  | (blank) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | **Young Adults (25-34) Total** |  | **20** | **11** | **10** | **0** | **0** | **4** | **16** | **0** | **61** | | **Youth (<25)** | F | 9 | 0 | 6 | 0 | 0 | 1 | 0 | 0 | 16 | |  | M | 2 | 0 | 4 | 0 | 0 | 5 | 0 | 0 | 11 | | **Youth (<25) Total** |  | **11** | **0** | **10** | **0** | **0** | **6** | **0** | **0** | **27** | | **Grand Total** |  | **63** | **11** | **20** | **13** | **2** | **14** | **63** | **1** | **187** |   C:\Users\Bob\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\562CE239.tmp   |  | | --- | | Part 2: Step 2 | |
| In which markets does Germany have customers? | The yellow bar segments in the graph shows the customers of Germany. There are only two yellow bars that states Germany only has customers among adult (35-64) females and males where female customers is almost 40% higher than male customers. |
| What country has sales in all markets? | The light blue bar segments in the graph shows the customers of Australia and these are appears in every segments includes adult (35-64), Young adults (25-34) and Youth (9<25). So, Australia is the only country with sales all markets covering all age groups and genders. |
| What are the most profitable markets by country, age group, and gender? | According to the graph profitability correlates with order quantity where the highest bars direct the most profitable markets.  In the top segment the markets are dominated by United States and then by Australia, where female customers are slightly higher than male customers.  Also, in the second segment Australia receive strong order from male young adults that is almost double compare to United States and Germany. However, female young adults have moderate impact on this market where France sales almost double compare to Australia and United States.  At last in the segment of youth, decent orders from Australia and Canada. However, this segment has significantly low orders that suggest less impact on the overall market.  In conclusion, The most profitable market is United States in the segment of female adults (35-64). |
| Any other findings? | Firstly, there is a blank gender category, likely some customers are not considered those are out of the age range or lack of data cleaning, data validation and data verification.  Secondly, the overall female demographic looks to place more orders than males, particularly in the adults group.  Thirdly, Australia appears among all markets, however Canada appear only in the young adults segment. So, need to focus on the regional marketing focus and environmental factors.  I believe bike sales depend on the weather condition of country and the landscape rather the population density. |

# Day 3: Task 2

The dataset below tracks the sales performance of different products in various counties in England. Please paste the dataset into a blank Excel workbook. Your task is to:

* **Create a Pivot Table** to summarise the data by county and product.
* **Use the SWITCH function** to categorise products based on their sales volume.

#### **Dataset:**

|  |  |  |
| --- | --- | --- |
| **County** | **Product** | **Sales Volume** |
| Yorkshire | Laptops | 500 |
| Yorkshire | Smartphones | 200 |
| Cornwall | Laptops | 700 |
| Cornwall | Printers | 400 |
| Lancashire | Smartphones | 150 |
| Lancashire | Laptops | 600 |
| Essex | Printers | 800 |
| Essex | Smartphones | 300 |
| Durham | Laptops | 250 |
| Durham | Printers | 300 |
| Greater Manchester | Smartphones | 600 |
| Greater Manchester | Laptops | 400 |

#### **Step 1: Create a Pivot Table**

* Select the dataset (columns A to C).
* Insert a Pivot Table to summarise the data by **County** in the rows and **Products** in the columns. Use **Sales Volume** as the value to be summarised.

#### **Step 2: Use the SWITCH Function**

In a new column next to your data, use the SWITCH function to categorise products based on **Sales Volume** as follows:

* + For sales greater than 600: **"High"**
  + For sales between 300 and 600: **"Medium"**
  + For sales less than 300: **"Low"**

**SWITCH Function Example**:

=SWITCH(TRUE, C2 > 600, "High", C2 >= 300, "Medium", "Low")

* Apply this formula to each row, and check if the products are categorised correctly.

#### **Submission:**

* A completed Pivot Table summarising sales by county and product.
* A new column in the dataset categorising products by sales volume using the SWITCH function.
  + Please paste your completed work below

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Print screen 1 | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Sum of Sales Volume** | **Column Labels** |  |  |  |  | | **Row Labels** | **Laptops** | **Printers** | **Smartphones** | **Grand Total** | **Sales Volume** | | Cornwall | 700 | 400 |  | 1100 | High | | Durham | 250 | 300 |  | 550 | Medium | | Essex |  | 800 | 300 | 1100 | High | | Greater Manchester | 400 |  | 600 | 1000 | High | | Lancashire | 600 |  | 150 | 750 | High | | Yorkshire | 500 |  | 200 | 700 | High | | **Grand Total** | **2450** | **1500** | **1250** | **5200** |  | |

# Day 3: Task 3

Please download the dataset ‘Day\_3\_Task\_3\_Bike\_Sales\_Visualisations\_Lab.xlsx’ from [here](https://justit831-my.sharepoint.com/:x:/g/personal/danpe_justit_co_uk/ESeJLtyZhYxIpZXluVywvvkBxgx2EtpPUzmxLCzQBGTKNQ?e=naSu4B).

The lab instructions can be found [here.](https://justit831-my.sharepoint.com/:b:/g/personal/danpe_justit_co_uk/Ec1IWsNPl_ZMuaSbNcaLyVcByy3JcZaQgoG1FeFwO9neRQ?e=6lsJG1) Do not worry if you do not complete the lab, just working with data and playing with the charts will be good experience.

Please paste your results below:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Print screen 1 | Revenue and Profit by Year   |  |  |  | | --- | --- | --- | | **Year** | **12-month Profit** | **12-month Revenue** | | 2017 | 4065680 | 10289670 | | 2018 | 7747551 | 17028380 | | 2019 | 7417353 | 15705990 | | 2020 | 9909624 | 22405052 | | 2021 | 12986202 | 29747226 | | **Grand Total** | **42126410** | **95176318** |   Product Revenue by County   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Sum of Revenue** | **Product\_Category** |  |  |  | | **Country** | **Accessories** | **Bikes** | **Clothing** | **Grand Total** | | Australia | 3284787 | 20231486 | 1911313 | 25427586 | | Canada | 2305298 | 4317696 | 1391542 | 8014536 | | France | 1627689 | 7378349 | 841175 | 9847213 | | Germany | 1724549 | 7544500 | 713154 | 9982203 | | United Kingdom | 1951000 | 8184668 | 954338 | 11090006 | | United States | 5819323 | 21551497 | 3443954 | 30814774 | | **Grand Total** | **16712646** | **69208196** | **9255476** | **95176318** |   Revenue by Group   |  |  | | --- | --- | | **Age\_Group** | **Sum of Revenue** | | Adults (35-64) | 49.72% | | Seniors (64+) | 0.36% | | Young Adults (25-34) | 36.05% | | Youth (<25) | 13.87% | | **Grand Total** | **100.00%** | |

# Day 4: Task 1

You have been asked to deliver your analysis findings to the board of directors, with your analysis you have identified that customers are leaving your company at the 12-month point, this is typically when they receive their renewal price.

Conduct research and complete the below questions:

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| How would you prepare for the delivery? | Here the audience is board of directors. Firstly, I will summarise the overview of the findings base on the supporting evidence. Secondly, I will proposed the possible solutions of the findings including the alternative and prospective advantages. In addition, I will prepare an attractive presentation and will deliver confidently. |
| What tools would you use for the delivery? | I will use Microsoft PowerPoint for presentation, and will use Microsoft Excel for data analysis, data visualisation with interactive dashboard. |
| What is prospecting and why would you complete this before your delivery? | I will do some research about my audience and their interest. I will prepare expected questioners and answers in relation to the objectives. Also, prior to do these I will ensure the data are cleaned, accurate and validated for visualisation. |
| Tell me best practices for public speaking and providing updates to senior leaders | I will concisely describe scenario and stick to key points as the audience are senior member and prime interest holder. To maintain good presentation I will be sincere about effective communication, be confident on my voice, thought and body language, and will maintain eye contact. I will practise many times and will take feedback from our colleagues. |
| What will you show the board in your delivery? | I will visualise data about the customers leaving company at the 12 months point and will illustrate the survey reports on customer’s dissatisfaction with the renewal price including the pricing of competitors. I will show the negative correlation between increasing price versus decreasing customers and the negative impact on the revenue.  In conclusion, I may recommend to increase customer service, standardise the pricing in respect to the competitors, and inducing the loyalty packages for the customers to enhance customer retention. |
| How will you articulate the changes that are needed? | In the light of findings and evidence, I will illustrate how the proposed system contribute significantly to mitigate the potential challenge. For example, enhancing customer satisfaction will help to retain existing customer including attracting new customers as well as increasing revenue. |
| Provide a list of online resources and videos that will support your preparation for public speaking | I will follow these online resources and videos to support my preparation for public speaking skills.  1. Communication coach academy <https://www.alexanderlyon.com/>  2. [How to Communicate Clearly and Concisely](D:\\JustIT_DataTec\\Week1\\Excel_completed_task\\How to Communicate Clearly and Conciselyhttps:\\www.youtube.com\\watch?v=YJXUOJKtn8o)  [https://www.youtube.com/watch?v=YJXUOJKtn8o](D:\\JustIT_DataTec\\Week1\\Excel_completed_task\\How to Communicate Clearly and Conciselyhttps:\\www.youtube.com\\watch?v=YJXUOJKtn8o)  3. [Communicate With Confidence - Speak Confidently at Work](https://www.google.com/aclk?sa=l&ai=DChcSEwjevqmozOKMAxU-kVAGHbZDCuAYABACGgJkZw&co=1&gclid=CjwKCAjw8IfABhBXEiwAxRHlsHoQo4zhgcwCNO-JCH7bvIsygGL-ioquFOZ4PUfR49U5FTQS0A0eqRoCQa4QAvD_BwE&sig=AOD64_024IIXhXeqzc7LD88fcouF9Sqf0g&q&adurl&ved=2ahUKEwjelKSozOKMAxVBUkEAHXjzCvkQ0Qx6BAgMEAE&nis=7) |
| Evaluate tools that provide visualisation.  Tell me what they are.  Tell me what you would choose when delivering your presentation and why | During this week I have successfully completed Excel and I prefer to use this tool for data visualisations. I found Excel is very powerful tool for many reasons:  Firstly, it is user friendly, we can easily get facilities to create chart according to the demand of processed data. For example, we can use bar chart to show the sales figures for each category, line chart to show correlation, and pie chart to represent values as labels. On the other hand, pivot charts allow summarisation and visualisation of data.  Secondly, we can perform statistical calculation to prepared data for visualisation, for instance, mean (=average()), mode(=mode.sngl()), median(=median())and standard deviation (=stdev.s()).  Thirdly, this tool provide customise menu bar and ribbon, use of conditional formatting, and facilitates data manipulations, filtering and slicing data. For example, we can customise menu called “Data Analysis” to show correlation and error.  Finally, we can export, import and transform data. Accessing facilities database file from other tools, for example we can use access database in excel. Moreover, it facilitate for creating dashboard.  In conclusion, at present I would like to use excel for data visualisation and will use PowerPoint for presentation. |

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| **Course Notes** |

It is recommended to take notes from the course, use the space below to do so, or use the revision guide shared with the class:

I extend my sincere gratitude to my teacher, Dr. Alaa Mostafa, for his exceptional teaching techniques and thoughtful understanding of the subject, which he presents in an easily comprehensible manner. Through his remarkable guidance, I have acquired knowledge of various aspects of Excel, some of which are detailed below:

Functions:

SUM(), SUMIF(), SUMIFS(), COUNT(), COUNTA(), COUNTBLANK(), COUNTIF(), COUNTIFS(), IF(), IFS(), AVERAGE(), AVERAGEIF(), AVERAGEIFS(), UNIQUE(), SWITCH(), VLOOKUP(), XLOOKUP(), DATE(), DATEVALUE(), DAY(), MONTH(), YEAR(), MODE.SNGL(), MEDIAN(), STDEV.S(), CONCATENATE()

Some of my further learning are outlined below:

Data manipulation, Data validation, Data visualisation:

* Familiarise and use of mathematical and logical operators
* Sorting and searching data
* Various charts and Pivot Table
* Creating macro
* Importin external data
* Data validation
* Goal Seek and Scenario Manager
* Customise Menu and Ribbon
* Correlation and Descriptive Statistics
* Protect file, worksheet, Work book, Specific cells

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| **Additional Information** |

We have included a range of additional links to further resources and information that you may find useful, these can be found within your revision guide.

**END OF WORKBOOK**

**Please check through your work thoroughly before submitting and update the table of contents if required.**

**Please send your completed work booklet to your trainer.**