

**Data Technician**

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| Name: |
| Course Date: |
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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

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| Data Protection Act | The Data Protection Act was established in 2018 and was designed to protect individuals' personal data and uphold their privacy rights. This law serves multiple purposes, especially for businesses such as coffee shops that frequently collect and handle customer information. Much of the Data Protection Act 2018 mirrors the GDPR, including rights like the right to access, the right to object, and the right to rectification. Some differences arose due to the UK’s departure from the EU, post Brexit. The UK is now considered a third country by the EU, and data transfers between the EU and UK are subject to additional safeguards. For example, in the case of a coffee shop, located in London, that is collecting data through a loyalty program, it must obtain explicit consent from customers before collecting their personal data. This ensures that the data is only used for the loyalty program and is securely stored or deleted when no longer needed. Customers must also have the right to access, correct, or delete their data at any time. The same situation applies when we sign up for the coffee shop newsletter online. Also, most of the time, before signing up for something, a 'Terms & Conditions' box needs to be ticked. This ensures that the customer is aware of and agrees to how the company stores and processes their private information. Since the coffee shop is in the UK, it must adhere to the DPA. However, if this coffee shop has an online platform selling coffee beans to the EU customers, it must comply with GDPR regulations when handling their data. |
| GDPR | The General Data Protection Regulation (GDPR) is a key data protection law in the European Union, which has become a global standard. Enforced since May 2018, it applies to all EU member states and organizations outside the EU that process personal data of EU residents. It provides a comprehensive framework for data collection, processing, and storage, ensuring privacy rights are protected. After Brexit, the UK adopted the UK General Data Protection Regulation (UK GDPR), alongside the Data Protection Act 2018 (DPA 2018). Under the UK GDPR and DPA, individuals have the right to access, correct, delete, and object to the processing of their personal data in certain situations. These rights give individuals control over their information and ensure organizations handle data responsibly.  The UK GDPR sets out key data processing principles, including the requirement for data to be processed lawfully, fairly, and transparently, collected for legitimate purposes, adequate and relevant, accurate, up to date, stored only as long as necessary, and processed securely. In the event of a data breach, organizations must notify the supervisory authority within 72 hours and inform affected individuals when their rights and freedoms are at high risk. Also, the penalties for non-compliance are quite strict, with fines as high as €20 million or 4% of global turnover, whichever is higher.  As mentioned earlier, if a UK-based coffee shop sells coffee beans to customers in the EU, they must comply with GDPR because they are processing personal data of EU residents. When collecting customer data, such as shipping addresses and payment details, the coffee shop must inform the EU customers about what data is being collected, why it's being collected, and how it will be used. Nonetheless, EU customers have the right to access their data, rectify any inaccuracies, or request that it be deleted. This information should be included in a Privacy Policy that customers can easily access before they make a purchase. Also, the coffee shop should only collect the necessary data for fulfilling the order. For example, they should not request unnecessary personal information like date of birth, immigration status, passport number unless it’s needed for the transaction. In case of a data breach, the coffee shop must notify the relevant data protection authority within 72 hours and inform affected customers if there is a high risk to their privacy. |
| Freedom of Information Act | The Freedom of Information Act (FOIA) is a law that gives the public the right to access records from federal government agencies. It always applies to government agencies and not to private businesses. However, if a coffee shop were involved in any public contracts or dealings with government agencies (government grant), information related to those dealings might be subject to FOIA requests. For instance, if this coffee shop receives a government grant to provide community services, such as offering discounted coffee to low-income individuals, NHS. A journalist or concerned citizen could submit a FOIA request to the relevant government agency to review the details of the grant, such as how much funding the coffee shop received, the terms of the grant, and how the money was spent. Citizens have a right to know how public funds are being used, especially if taxpayer money is involved. By requesting information about the grant, a citizen can ensure that the funds are being used for the intended purpose, outcome and shop was selected because of merit, or if other businesses were unfairly overlooked. |
| Computer Misuse Act | The Computer Misuse Act 1990 is a law in the United Kingdom designed to protect against unauthorized access to computer systems and data. It criminalizes activities such as hacking, spreading malware, and unauthorized access to data with the intent to commit crimes. The act covers three key offenses:   1. Unauthorized access to computer material. For instance, a staff member accessing the coffee shop's Point of Sale system without permission to view or alter customer transaction data. 2. Unauthorized access with the intent to commit or facilitate the commission of further offenses (e.g., stealing data or causing damage). A person hacking into the coffee shop's email system to steal customer details, such as email addresses and credit card information, to commit identity theft or fraud. 3. Unauthorized modification of computer material (e.g., introducing malware, deleting files, or altering data). A person hacking into the coffee shop's email system to steal customer details, such as email addresses and credit card information, to commit identity theft or fraud. |

# 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 – H** into a ‘table’
2. Using the ‘filter’ function, filter ‘Age’ to ‘largest to smallest’
3. Using the ‘SUM’ function, show me the commission total in cell ‘**P10’**
4. Using the ‘AVERAGE’ function, show me the average commission in cell **‘P11’**

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| 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 in Task 2 worksheet, paste print screens into the provided box below:



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| Print screen 1 | The above print screen is satisfying Task 2),3),4),6)  Task 5) The best students by highest score are Ted and Linda.  Task 1)  The best students for English are Linda, followed by Khan.    The best students for Maths are Carol, followed by John and Edward.    The best students for science are Ted, followed by Carol. |

# 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:

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| Print screen 1 |  |
| In which markets do Germany have customers? | Germany has customers in both the Adults male and female market. |
| What country has sales in all markets? | Australia and United Kingdom have sales in all markets. |
| What are the most profitable markets by country, age group, and gender? | The most profitable markets (by the number of orders) are the Female young adult (25-34) and the adults (35-64) groups in Australia and the Adult Females and Adult Male groups in the United States.  The most profitable age group are the adults (35-64).  By country the most profitable markets are in the United States and Australia. The most profitable gender is the Female one.    Firstly, the table contains a multitude of missing values.  When analysing each country’s profit margins, we can see that United States has the highest total sales but also a high profit margin. Thus, it may be the most profitable market overall.  Also, the female customers are the most profitable group due to higher profit margins, this suggests that the U.S. market is a strong performer in terms of profitability, particularly for older females (600.37%) and males (408.80%) and younger females (270.94%). Another strong market for the same gender/age groups is the Australian one.  Also, some other remarks:  -United Kingdom shows some promise in the Male Adults (35-64) age group with high profit margins (136.31%) and low order quantities. This indicates that more premium products are sold there. At the same time for the in the Female Young Adult age group, for the same quantity of products sold as before, the profit margin is almost 4 times smaller. This indicating that in these markets, the company may need to reconsider its pricing strategy, improve marketing efforts, or evaluate the type of bikes sold.  -France on the other hand has the same problem as UK, but in the male Youth age group, as profit margins are low compared to the number of items sold. This indicates that the items sold are lower priced. |
| Any other findings? | Youth (<25) groups have low quantities sold across many regions but varying profit margins. Australia has the highest profit margin in this group, with 136.34% for females and 45.37% for males, indicating better profitability for the Youth (<25) segment in this market. |

# 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:**

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| **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

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| Print screen 1 |  |

# 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 |  |

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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:

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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 by submitting in MS Teams Assignment page.**