

**Data Technician**

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| Course Date: 16/12/2024 |
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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 controls what organisations, businesses and the government can do with your personal data. It means that everyone responsible for using personal data must follow strict rules about the information such as making such the information is used fairly, used for specific limited purposes, is kept up to date, is kept no longer than needed and is handled in a way that ensures appropriate security. There is stronger protection for more sensitive information such as religion, race and health. It also gives people the right to know what information is being stored about them and if they want that data to be deleted. * This is important as it means organisation cannot misuse people’s personal data as they can only use it for a limited purposes and for a limited time frame. It also gives people more transparency in what information is being stored about them and allows them to make requests about that information if they want such as if they want it to be deleted. * If I am interested in the diversity of a business I run, one way I could see how diverse my company is to have employees fill out a survey. This survey would probably include some sensitive information such as race, religion, sexual orientation etc. Hence, I would have to make clear first via an agreement before the survey that I would only be using this information to see the diversity of the company and I am not going to give this information to anyone else without explicit consent. I would also have to show or delete any of the information that I get from this survey if someone requests it. * It means that you are more limited with what you can do with the data you have. You must only use the data for the explicit purpose that was given when the data was taken, and you must get rid of the information after a certain amount of time. It also means that people may lose information in the future as people may request to have it deleted. * The Information Commissioner can issue fines for breaking this law. The amount of the fine can vary but the maximum fine is 20 million Euros or 4% of the total annual worldwide turnover of the organisation in the proceeding financial year, whichever is higher.   Sources Accessed 16/12/2024: [Data protection: The Data Protection Act - GOV.UK](https://www.gov.uk/data-protection)  [Data Protection Act 2018 - Wikipedia](https://en.wikipedia.org/wiki/Data_Protection_Act_2018)  [What is the Punishment for Breaking the Data Protection Act?](https://www.hutsix.io/what-is-the-punishment-for-breaking-the-data-protection-act/) |
| GDPR | * The GDPR is a European Union regulation that governs information privacy in the European union (EU) and the European Economic Area (EEA) and the transfer of personal data outside of those areas. It lists seven protection and accountability principles for processing data, it states that you are required to handle data securely which can involve two-fact authentication or end-to-end encryption, and it lists the instances where it’s legal to process personal data among many things. * This is important for businesses and companies as they must follow these rules if they want to collect or process data from the EU or the EEA. It also means that they must meet data security standards if they want to keep that data. It is also important for users in the EU or EEA as it ensures that their personal data is secure and gives them more rights as to what companies do with their data or if they want to give their data to other companies. * As an example, let us consider an online retailer that allows users to create an account on their website and some of their users are from the EU or the EEA. If that company has a data leak where people’s unencrypted personal information is leaked such as passwords, addresses, banking information etc, then the company is required to tell a supervisory authority within 72 hours of the leak. Since this leak has a high risk of affecting the individuals whose data get leaked then the online retailer also needs to inform those individuals. They would also need to keep a record of this data leak. Failure to do this could result in a fine. * If you want to collect or store data from people in the EU or the EEA, you would be restricted in how you can do this as the GDPR has set number of purposes when you can. You would need to make sure that your reason for doing this falls in line with the GDPR. It also means that if you want to store this data you need to make sure that this data is adequately secure according to the security standards set in the GDPR. * There are two tiers of fines for violating the GDPR. The first tier of violations involves not adhering to data protection rules, unlawful basis for processing data and not following procedure for handling complaints around data and can result in fines of up to 10 million euros. The second tier of violations involve unsafeguarded transfer of data, not upholding the people’s right to privacy and right to be forgotten and failure to comply with a supervisory authority and can result in fines of up to 20 million euros.   Sources Accessed 17/12/2024 - [General Data Protection Regulation - Wikipedia](https://en.wikipedia.org/wiki/General_Data_Protection_Regulation)  [What is GDPR, the EU’s new data protection law? - GDPR.eu](https://gdpr.eu/what-is-gdpr/)  [Personal data breaches: a guide | ICO](https://ico.org.uk/for-organisations/report-a-breach/personal-data-breach/personal-data-breaches-a-guide/)  [What are the GDPR Fines? - GDPR.eu](https://gdpr.eu/fines/) |
| Freedom of Information Act | * The Freedom of Information act is an act of UK parliament that gives members of the public the right to access to information held by public authorities and obliges public authorities to publish certain information about their activities. Public authorities include government departments, NHS, state schools and police forces and the information may include printed documents, computer files, emails, letters or videos. * This is important as it gives people the right to know what information public authorities are keeping about them. This allows for more transparency between the people and public organisations and will build more trust between them. Since these public authorities can make decisions that will affect many people’s live, it is important that they are held accountable which this act help do. * Let us consider a state school in the UK. The school will have records of the students at their school including personal data. This means that if a student’s parents requests to see the data the school holds about the child, by law the school is required to obliged and satisfy the request. * If I was gathering information about people in the UK, I must be willing to provide information about the data I hold if someone requests it. * The penalty for violating this act is a fine.   Sources Accessed 17/12/2024 - [Freedom of Information Act 2000 - Wikipedia](https://en.wikipedia.org/wiki/Freedom_of_Information_Act_2000)  [What is the FOI Act and are we covered? | ICO](https://ico.org.uk/for-organisations/foi/what-is-the-foi-act-and-are-we-covered/)  [FOI complaints and ICO enforcement powers | ICO](https://ico.org.uk/for-organisations/foi/foi-complaints-and-ico-enforcement-powers/) |
| Computer Misuse Act | * The Computer Misuse Act is an act of UK parliament that was passed to protect personal data held by organisations and to define what was lawful or unlawful access to computers and data. It made it illegal to enter a computer without permission (hacking), make unauthorized modifications to data, deleting data without permission and using a computer to steal data among other things. * The act was introduced as a response to the 1988 court case Regina v Gold and Schifreen. This case saw two hackers overturn their guilty conviction for forgery and counterfeiting as they did not commit the hacking for profit. To stop this from setting a precedent for recreational hacking this act was introduced to update the UK laws. Hence, it is important as it prevents improper use of data and computers such as to harm other people. * If I had developed a computer program that modified data on their computer it ran, before I could let it run on someone else’s device, I would need to get their permission first. Not getting their permission would be unauthorised modification of someone’s data which is illegal under this act. * It means that to collect data from people you must get their permission, you cannot collect their data without them knowing. * Penalties for violating this law varies but can include fines and prison time. The penalty can be up to 10 years in prison and/or an unlimited fine.   Sources Accessed 17/12/2024 - [Computer Misuse Act 1990 - Wikipedia](https://en.wikipedia.org/wiki/Computer_Misuse_Act_1990)  [Computer Misuse Act (1990) - Ethical, legal and environmental impact - CCEA - GCSE Digital Technology (CCEA) Revision - BBC Bitesize](https://www.bbc.co.uk/bitesize/guides/z8m36yc/revision/5)  [What is the Computer Misuse Act? | ITPro](https://www.itpro.com/it-legislation/28174/what-is-the-computer-misuse-act) |

# 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 ‘filter’ function, filter ‘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’

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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, paste print screens into the provided box below:



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| Print screen 1 | 1. Linda is the best English student, Carol is the best Mathematics student and Ted is the best Science student.         2)    3)    4) Carol is the best student by average.    5) Ted and Linda are tied for the top student by highest score.    6) |
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# 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!

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| Print screen 1 | I imported the data from shopping\_trends.csv file. I did data validation on W3 and made it so you can only pick from the entries in the “Items Purchased” column. I then did Xlookup on the three cells below so that it found the correspond category, first purchase amount and first location.  I entered the formula =SUM(shopping\_trends[Purchase Amount (USD)]) into W8 to give the total purchase amount, entered =AVERAGE(shopping\_trends[Review Rating]) into W9 to give the average review rating, entered =COUNTIF(shopping\_trends[Item Purchased],"Sweater") into W10 to count the number of sweaters purchased and entered =COUNTIFS(shopping\_trends[Payment Method],"Credit Card",shopping\_trends[Purchase Amount (USD)],">50.00") to count the number of purchases made with a credit card that were greater than $50.  I added a new column in the table for experience rating based on the review score. I entered the formula =IFS(K2>4,"Great",K2>3,"Good",K2>2,"Average",TRUE,"Bad") into T2 and continued the formula in the below columns. This means that if the review rating the great than 4 the experience was great, greater than 3 the experience was good, greater than 2 the experience was average and below 2 the experience was bad. |

# 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 does Germany have customers? | Adults 35-64. |
| What country has sales in all markets? | United Kingdom. |
| What are the most profitable markets by country, age group, and gender? | United States. |
| Any other findings? |  |

# 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

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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 |  |

# Day 4: Task 1

You have been asked to deliver your analysis findings to the board of directors, within 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? | I would prepare a presentation that summarises my findings such that it is understandable and not too complicated. This can be done by data visualisation such as charts and graphs. I would remember the key points for each slide in my presentation and them practise performing by recording myself or doing the presentation to a friend and asking for feedback. |
| What tools would you use for the delivery? | I would use PowerPoint to create the presentation and use programs that help with data visualisation such as excel and Power BI. |
| What is prospecting and why would you complete this before your delivery? | Prospecting is what your aim is for the presentation. So, what information to want to get across and why. In this example, prospecting would be to get across your findings to the board of directors. This is important as it gives the purpose for your presentation and will give you more motivation to do well. |
| Tell me best practices for public speaking and providing updates to senior leaders | * Make sure you are prepared, this can involve checking your notes, recording a trial run of the presentation or presenting to a friend and asking for feedback. * Make sure you have good visuals, this means you will have to spend less time explaining the information. * Make sure you are watching the audience’s reaction to your presentation and are changing if the audience are not engaged. * Don’t speak like a robot, make sure you are adding personality when your talk. * Try and make the introduction engaging. |
| What will you show the board in your delivery? | I will try and convey my findings in a way that is not too complicated and will convey the main points of the findings. I will do this through a presentation that includes visual representations of data such as charts that will back up my claims and my findings. |
| How will you articulate the changes that are needed? | I will provide some urgency to make the changes as this could cause a lot of money loss but also be positive that this is a good change to make to make it seem appealing to the board. |
| Provide a list of online resources and videos that will support your preparation for public speaking | [10 Tips for Improving Your Public Speaking Skills - Professional & Executive Development | Harvard DCE](https://professional.dce.harvard.edu/blog/10-tips-for-improving-your-public-speaking-skills/)  [How To Prepare for Public Speaking and Different Events | Indeed.com](https://www.indeed.com/career-advice/career-development/how-to-prepare-for-public-speaking)  [What To Do Before A Speech - Public Words](https://publicwords.com/2019/02/26/what-to-do-before-a-speech/)  [7 Public Speaking Tips for Beginners](https://www.youtube.com/watch?v=Ns_z4wEtdRM) |
| Evaluate tools that provide visualisation.  Tell me what they are.  Tell me what you would choose when delivering your presentation and why | Tools that provide visualisation include PowerPoint, Excel and Power BI. I would choose a combination of the three by having a presentation made in powerpoint that includes charts and data visualisations from excel and Power BI. |

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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.**