



Just IT



Apprenticeships | Training | Recruitment

Data Technician

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Course Date: 16/12/24

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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

1. The Data Protection Act 2018 is a UK law that sets out how personal data must be collected, handled, and stored to protect individuals' privacy.
2. The DPA is crucial because it ensures they are fit for the digital age and giving individuals more control over their personal data.



	<p>3. A real-world example of following the act is a company implementing strong security measures like encryption and access controls to safeguard customer information and regularly reviewing these measures.</p> <p>4. It strengthens the rules around how organizations handle personal information, promoting transparency, security, and accountability in data processing.</p> <p>5. A breach of the Data Protection Act 2018 can lead to various consequences, including fines, enforcement notices, and even criminal prosecution in severe cases.</p>
GDPR	<p>1. General Data Protection Regulation is a European Union law that regulates how organizations handle the personal data of individuals within the EU.</p> <p>2. It is crucial because it empowers individuals with greater control over their personal data and enhances transparency and accountability for organizations handling that data.</p> <p>3. A good GDPR example to follow is ensuring explicit and informed consent before processing personal data. This means obtaining clear, affirmative consent from individuals before collecting and using their data and providing them with transparent information about how their data will be used. For example, a website should not pre-check boxes on a registration form indicating consent to marketing emails; instead, users should actively choose to opt-in.</p> <p>4. They must gather data in a legal way and process it without misuse or exploitation – or face large penalties.</p> <p>5. A GDPR breach can lead to significant consequences, including substantial fines, legal action, and reputational damage. The Information Commissioner's Office (ICO) can impose fines of up to €20 million or 4% of a company's annual global turnover, whichever is higher.</p>
Freedom of Information Act	<p>1. The Freedom of Information Act (FOIA) allows individuals to request information from public authorities.</p> <p>2. It is important because it promotes transparency and accountability in government by allowing citizens to see what information public authorities hold and how they operate.</p> <p>3. One real-world example is the use of FOIA to uncover detail FOIA-based surveys have explored the pressures on hospital A&E departments, providing valuable insights for improving healthcare services.</p> <p>4. The Freedom of Information Act (FOIA) impacts how public authorities handle data by requiring them to disclose information to the public, unless exemptions apply.</p> <p>5. If the Freedom of Information Act (FOIA) is breached, the Information Commissioner's Office (ICO) can take enforcement</p>



	<p>action, which may include issuing decision notices or enforcement notices. In serious cases, failure to comply with a notice can lead to contempt of court.</p>
Computer Misuse Act	<ol style="list-style-type: none"> 1. The Computer Misuse Act 1990 is the primary piece of UK legislation that criminalizes unauthorized access to computer systems and data. It aims to protect the integrity and security of computer systems by making it illegal to access, modify, or damage computer material without authorization. 2. The Computer Misuse Act protects personal data held by organisations from unauthorised access and modification). 3. Real-World Example of CMA- A company IT technician only accesses files and systems they are authorized to. Even if they <i>can</i> access confidential HR records, they don't unless they have permission, ensuring compliance with the Act. 4. This impacts Data access controls and authority how employees access data. This ensures Security protocols where Organizations implement passwords, encryption, and firewalls to prevent unauthorized access. Audit Trails are implemented and monitored to detect misuse. 5. If Computer Misuse Act is breached, it will result in Legal Consequences, Disciplinary actions and reputation damage.

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

AutoSave Home Insert Draw Page Layout Formulas Data Review View Automate Table

Cut Copy Paste Calibri (Body) 12 A A Wrap Text Number Conditional Formatting Format as Table Cell Styles Insert Delete Format Auto-sum Fill Clear Sort & Filter Find & Select Add-ins

G8 fx 2

1	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Revenue	Commission	K	L	M	N	O	P	Q	R	S
2	1	24/11/2023	CUST001	Male	34	Beauty	3	£50.00	£150.00	£ 2.25									
3	2	27/12/2023	CUST002	Female	26	Clothing	2	£50.00	£100.00	£ 15.00									
4	3	13/01/2023	CUST003	Male	50	Electronics	1	£30.00	£30.00	£ 0.45									
5	4	21/05/2023	CUST004	Male	37	Clothing	1	£50.00	£50.00	£ 7.50									
6	5	06/07/2023	CUST005	Male	30	Beauty	2	£50.00	£100.00	£ 1.50									
7	6	25/04/2023	CUST006	Female	45	Beauty	1	£30.00	£30.00	£ 0.45									
8	7	13/03/2023	CUST007	Male	46	Clothing	2	£25.00	£50.00	£ 0.75									
9	8	22/02/2023	CUST008	Male	30	Electronics	4	£25.00	£100.00	£ 1.50									
10	9	13/12/2023	CUST009	Male	63	Electronics	2	£80.00	£600.00	£ 9.00									
11	10	07/10/2023	CUST010	Female	52	Clothing	4	£50.00	£200.00	£ 3.00									
12	11	14/02/2023	CUST011	Male	23	Clothing	2	£50.00	£100.00	£ 1.50									
13	12	30/01/2023	CUST012	Male	35	Beauty	3	£50.00	£150.00	£ 2.25									
14	13	05/08/2023	CUST013	Male	22	Electronics	3	£50.00	£150.00	£ 2.25									
15	14	17/01/2023	CUST014	Male	64	Clothing	4	£30.00	£120.00	£ 1.80									
16	15	16/01/2023	CUST015	Female	42	Electronics	4	£50.00	£200.00	£ 3.00									
17	16	17/02/2023	CUST016	Male	19	Clothing	3	£50.00	£150.00	£ 2.25									
18	17	22/04/2023	CUST017	Female	27	Clothing	4	£25.00	£100.00	£ 1.50									
19	18	30/04/2023	CUST018	Female	47	Electronics	2	£25.00	£50.00	£ 0.75									
20	19	10/05/2023	CUST019	Male	50	Beauty	2	£50.00	£100.00	£ 1.50									
21	20	05/11/2023	CUST020	Male	22	Clothing	3	£50.00	£150.00	£ 2.25									
22	21	14/01/2023	CUST021	Female	50	Beauty	1	£50.00	£50.00	£ 7.50									
23	22	15/10/2023	CUST022	Male	18	Clothing	2	£50.00	£100.00	£ 1.50									
24	23	12/04/2023	CUST023	Female	35	Clothing	4	£30.00	£120.00	£ 1.80									
25	24	29/11/2023	CUST024	Female	49	Clothing	1	£50.00	£300.00	£ 4.50									
26	25	26/12/2023	CUST025	Female	64	Beauty	1	£50.00	£50.00	£ 0.75									
27	26	07/01/2023	CUST026	Female	28	Electronics	2	£50.00	£100.00	£ 1.50									
28	27	03/08/2023	CUST027	Female	38	Beauty	2	£25.00	£50.00	£ 0.75									
29	28	23/04/2023	CUST028	Female	43	Beauty	1	£50.00	£50.00	£ 7.50									
30	29	18/08/2023	CUST029	Female	42	Electronics	1	£30.00	£30.00	£ 0.45									
31	30	29/10/2023	CUST030	Female	39	Beauty	3	£50.00	£900.00	£ 13.50									
32	31	23/05/2023	CUST031	Male	44	Electronics	4	£50.00	£200.00	£ 3.00									
33	32	04/01/2023	CUST032	Male	30	Beauty	3	£50.00	£90.00	£ 1.35									
34	33	23/07/2023	CUST033	Female	50	Electronics	2	£50.00	£100.00	£ 1.50									
35	34	24/12/2023	CUST034	Male	51	Clothing	3	£50.00	£150.00	£ 2.25									
36	35	05/08/2023	CUST035	Female	58	Beauty	3	£50.00	£900.00	£ 13.50									
37	36	24/06/2023	CUST036	Male	52	Beauty	3	£50.00	£900.00	£ 13.50									
38	37	23/05/2023	CUST037	Female	18	Beauty	3	£25.00	£75.00	£ 1.13									
39	38	21/03/2023	CUST038	Male	38	Beauty	4	£50.00	£200.00	£ 3.00									
40	39	21/04/2023	CUST039	Male	23	Clothing	4	£50.00	£200.00	£ 1.80									
41	40	23/01/2023	CUST040	Male	43	Beauty	1	£50.00	£50.00	£ 0.75									
42	41	29/03/2023	CUST041	Male	44	Clothing	2	£25.00	£50.00	£ 0.75									
43	42	17/02/2023	CUST042	Male	22	Clothing	3	£50.00	£150.00	£ 2.25									
44	43	14/07/2023	CUST043	Female	48	Clothing	1	£50.00	£300.00	£ 4.50									
45	44	19/02/2023	CUST044	Female	22	Clothing	1	£25.00	£25.00	£ 0.38									
46	45	03/07/2023	CUST045	Female	55	Electronics	1	£50.00	£30.00	£ 0.45									
47	46	26/06/2023	CUST046	Female	20	Electronics	4	£50.00	£200.00	£ 18.00									
48	47	07/03/2023	CUST047	Female	54	Beauty	3	£50.00	£150.00	£ 2.25									
49	48	16/05/2023	CUST048	Male	54	Electronics	3	£50.00	£150.00	£ 13.50									
50	49	23/01/2023	CUST049	Female	54	Electronics	2	£50.00	£1000.00	£ 15.00									

Print screen 2

AutoSave Home Insert Draw Page Layout Formulas Data Review View Automate Table

Get Data (Power Query) From Picture Refresh All Workbook Links Stocks Currencies Geography Sort Filter Advanced Text to Columns Flash-fill Remove Duplicates Data Validation What-if Analysis Group Ungroup Subtotal

E2 fx 64

1	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Revenue	Commission	K	L	M	N	O	P	Q	R	S
2	1	17/01/2023	CUST001	Male	64	Clothing	4	£30.00	£120.00	£ 1.80									
3	2	26/12/2023	CUST002	Female	64	Beauty	1	£50.00	£50.00	£ 7.50									
4	3	10/12/2023	CUST003	Female	64	Clothing	1	£50.00	£50.00	£ 7.50									
5	4	03/10/2023	CUST004	Male	64	Electronics	1	£50.00	£50.00	£ 7.50									
6	5	22/03/2023	CUST005	Male	64	Clothing	1	£50.00	£50.00	£ 7.50									
7	6	02/01/2023	CUST006	Female	64	Clothing	1	£50.00	£50.00	£ 7.50									
8	7	08/11/2023	CUST007	Male	64	Electronics	1	£50.00	£50.00	£ 7.50									
9	8	18/06/2023	CUST008	Female	64	Clothing	1	£50.00	£50.00	£ 7.50									
10	9	18/10/2023	CUST009	Male	64	Beauty	1	£50.00	£50.00	£ 7.50									
11	10	22/09/2023	CUST010	Male	64	Beauty	1	£50.00	£50.00	£ 7.50									
12	11	03/03/2023	CUST011	Male	64	Beauty	1	£50.00	£50.00	£ 7.50									
13	12	02/02/2023	CUST012	Female	64	Clothing	1	£50.00	£50.00	£ 7.50									
14	13	25/08/2023	CUST013	Male	64	Clothing	1	£50.00	£50.00	£ 7.50									
15	14	03/06/2023	CUST014	Male	64	Beauty	1	£50.00	£50.00	£ 7.50									
16	15	17/07/2023	CUST015	Female	64	Clothing	1	£50.00	£50.00	£ 7.50									
17	16	09/03/2023	CUST016	Male	64	Electronics	1	£50.00	£50.00	£ 7.50									
18	17	01/03/2023	CUST017	Female	64	Clothing	1	£50.00	£50.00	£ 7.50									
19	18	15/04/2023	CUST018	Male	64	Electronics	1	£50.00	£50.00	£ 7.50									
20	19	28/12/2023	CUST019	Male	64	Clothing	1	£50.00	£50.00	£ 7.50									
21	20	03/10/2023	CUST020	Male	64	Electronics	1	£50.00	£50.00	£ 7.50									
22	21	26/02/2023	CUST021	Female	64	Clothing	1	£50.00	£50.00	£ 7.50									
23	22	10/01/2023	CUST022	Male	64	Electronics	1	£50.00	£50.00	£ 7.50									
24	23	19/07/2023	CUST023	Male	64	Clothing	1	£50.00	£50.00	£ 7.50									
25	24	02/12/2023	CUST024	Female	64	Electronics	1	£50.00	£50.00	£ 7.50									
26	25	07/02/2023	CUST025	Male	64	Clothing	2	£50.00	£100.00	£ 1.50									
27	26	09/07/2023	CUST0																

Print screen n 4

Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Revenue	Commission	
17/10/2023	CUST001	Male	64	Clothing	4	£50.00	£200.00	£ 1.00	
26/12/2023	CUST025	Female	64	Beauty	1	£50.00	£ 50.00	£ 0.75	
10/12/2023	CUST080	Female	64	Clothing	2	£30.00	£ 60.00	£ 0.90	
03/10/2023	CUST122	Male	64	Electronics	4	£30.00	£ 120.00	£ 1.80	
22/03/2023	CUST161	Male	64	Beauty	2	£50.00	£ 1,000.00	£ 15.00	
02/01/2023	CUST163	Female	64	Clothing	3	£50.00	£ 150.00	£ 2.25	
08/11/2023	CUST173	Male	64	Electronics	4	£30.00	£ 120.00	£ 1.80	
07/06/2023	CUST187	Female	64	Clothing	2	£50.00	£ 100.00	£ 1.50	
10/04/2023	CUST190	Male	64	Beauty	1	£50.00	£ 50.00	£ 0.75	
22/09/2023	CUST191	Male	64	Beauty	3	£30.00	£ 90.00	£ 1.35	
04/03/2023	CUST220	Male	64	Beauty	1	£50.00	£ 500.00	£ 7.50	
02/02/2023	CUST223	Female	64	Clothing	1	£25.00	£ 25.00	£ 0.38	
25/08/2023	CUST282	Female	64	Electronics	4	£50.00	£ 200.00	£ 3.00	
03/06/2023	CUST363	Male	64	Beauty	1	£25.00	£ 25.00	£ 0.38	
16/05/2023	CUST376	Female	64	Beauty	1	£30.00	£ 30.00	£ 0.45	
01/03/2023	CUST399	Female	64	Beauty	2	£30.00	£ 60.00	£ 0.90	
18/03/2023	CUST401	Female	64	Beauty	1	£50.00	£ 500.00	£ 7.50	
28/12/2023	CUST429	Male	64	Electronics	2	£25.00	£ 50.00	£ 0.75	
26/10/2023	CUST440	Male	64	Clothing	2	£30.00	£ 60.00	£ 0.90	
25/02/2023	CUST473	Male	64	Beauty	1	£50.00	£ 50.00	£ 0.75	
19/06/2023	CUST532	Female	64	Clothing	4	£30.00	£ 120.00	£ 1.80	
27/05/2023	CUST561	Female	64	Clothing	4	£50.00	£ 2,000.00	£ 30.00	
02/12/2023	CUST566	Female	64	Clothing	1	£30.00	£ 30.00	£ 0.45	
25/07/2023	CUST594	Female	64	Electronics	1	£50.00	£ 50.00	£ 0.75	
07/09/2023	CUST595	Female	64	Clothing	2	£30.00	£ 60.00	£ 1.80	
19/07/2023	CUST598	Female	64	Electronics	1	£300.00	£ 300.00	£ 4.50	
04/10/2023	CUST735	Female	64	Clothing	4	£50.00	£ 2,000.00	£ 30.00	
12/05/2023	CUST758	Male	64	Clothing	4	£25.00	£ 100.00	£ 1.50	
22/06/2023	CUST830	Female	64	Clothing	3	£50.00	£ 150.00	£ 2.25	
06/06/2023	CUST882	Female	64	Electronics	2	£25.00	£ 50.00	£ 0.75	
26/09/2023	CUST897	Female	64	Electronics	2	£50.00	£ 100.00	£ 1.50	
11/07/2023	CUST900	Male	63	Electronics	2	£50.00	£ 60.00	£ 0.90	
18/11/2023	CUST957	Female	63	Beauty	1	£30.00	£ 30.00	£ 0.45	
16/12/2023	CUST113	Male	63	Electronics	2	£50.00	£ 1,000.00	£ 15.00	
30/01/2023	CUST189	Male	63	Beauty	1	£50.00	£ 50.00	£ 0.75	
15/10/2023	CUST141	Male	63	Electronics	4	£300.00	£ 1,200.00	£ 18.00	
01/04/2023	CUST142	Male	63	Electronics	4	£300.00	£ 1,200.00	£ 18.00	
20/06/2023	CUST146	Male	63	Electronics	4	£25.00	£ 100.00	£ 1.50	
07/03/2023	CUST1547	Male	63	Clothing	4	£50.00	£ 2,000.00	£ 30.00	
31/03/2023	CUST1574	Female	63	Clothing	2	£25.00	£ 50.00	£ 0.75	
08/05/2023	CUST1603	Male	63	Electronics	3	£25.00	£ 75.00	£ 1.13	
17/08/2023	CUST1635	Female	63	Electronics	3	£300.00	£ 900.00	£ 13.50	
19/07/2023	CUST1676	Male	63	Electronics	3	£500.00	£ 1,500.00	£ 22.50	
05/05/2023	CUST1824	Male	63	Clothing	4	£30.00	£ 120.00	£ 1.80	
13/02/2023	CUST1848	Female	63	Clothing	3	£25.00	£ 75.00	£ 1.13	
09/01/2023	CUST1860	Male	63	Clothing	4	£50.00	£ 200.00	£ 3.00	
11/10/2023	CUST1872	Female	63	Beauty	3	£25.00	£ 75.00	£ 1.13	
28/05/2023	CUST1888	Female	63	Clothing	3	£25.00	£ 75.00	£ 1.13	
16/09/2023	CUST1919	Female	62	Clothing	2	£25.00	£ 50.00	£ 0.75	



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:

Student name	English	Mathematic	Science	Average	Highest score
Carol	75	85	85		
Ted	80	75	90		
Khan	85	75	80		
Harry	80	70	80		
Sarah	80	70	80		
John	65	80	70		
Linda	90	50	70		
Edward	55	80	60		
Mary	55	70	65		
Thomas	55	30	65		

Task

- 1) Apply filter and sorting to show the best students in each subject.
- 2) Calculate the average for all students and fill into Column E. (Use formula)
- 3) Using the =MAX function, 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.
- 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



Print screen 1

The screenshot shows a Microsoft Excel spreadsheet titled "retail_sales_dataset_Master copy - Saved". The spreadsheet contains a table of student scores across four subjects: English, Mathematics, Science, and History. A formula has been applied to calculate the average score in column E, and conditional formatting highlights the highest score in each subject (Mathematics, Science, and History). The table includes columns for Student name, English, Mathematics, Science, History, Average, and Highest score.

Student name	English	Mathematics	Science	History	Average	Highest score
Ted	80	75	90	81.666667	80	90
Linda	90	50	70	70	90	90
Carroll	75	85	85	81.666667	85	85
Khan	85	75	80	80	85	85
Harry	80	70	80	76.666667	80	80
John	80	70	80	76.666667	80	80
Edward	65	80	70	71.666667	80	80
Mary	55	80	60	65	80	80
Thomas	55	70	65	63.333333	70	70

Task

- 1) Apply filter and sorting to show the best students in each subject.
- 2) Calculate the average for all students and fill into Column E. (Use formula)
- 3) Using the =MAX function, 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.
- 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



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

The screenshot shows a Microsoft Excel spreadsheet titled "salaries copy". The data consists of 50 rows of employee information across columns A through R. The columns represent: work_year, experience_level, employment_type, job_title, salary, salary_currency, salary_in_usd, employee_residence, remote_ratio, company_location, and company_size. Several formulas are visible in the cells:

- Row 11: COUNT, COUNTA, COUNTBLAN, COUNTIF, COUNTIFS.
- Row 26: SUM, SUMIF.
- Row 27: A formula starting with =SUMIF.

The "Formulas" tab is selected in the ribbon, and the formula bar shows "fx".

work_year	experience_level	employment_type	job_title	salary	salary_currency	salary_in_usd	employee_residence	remote_ratio	company_location	company_size
2025 EN	FT	Data Quality Analyst	60000 GBP	75949	GB	0 GB	M			
2025 EN	FT	Data Quality Analyst	48000 GBP	60759	GB	0 GB	M			
2025 SE	FT	Applied Scientist	286000 USD	266000	US	0 US	M			
2025 SE	FT	Applied Scientist	254000 USD	204000	US	0 US	M			
2025 SE	FT	Data Scientist	350000 USD	293000	US	0 US	M			
2025 SE	FT	Data Scientist	187000 USD	197000	US	0 US	M			
2025 SE	FT	Data Scientist	349000 USD	349000	US	0 US	M			
2025 SE	FT	Data Scientist	248000 USD	248000	US	0 US	M			
2025 SE	FT	Data Scientist	279400 USD	279400	US	100 US	M			
2025 SE	FT	Data Scientist	211582 USD	211582	US	100 US	M			
2025 SE	FT	Data Scientist	250000 USD	250000	US	0 US	M			
2025 SE	FT	Data Scientist	212075 USD	212075	US	0 US	M			
2025 SE	FT	Data Scientist	244009 USD	244009	US	0 US	M			
2025 SE	FT	Data Scientist	166000 USD	166000	US	0 US	M			
2025 SE	FT	Data Scientist	244000 USD	244000	US	0 US	M	COUNT	141566	
2025 SE	FT	Data Scientist	166000 USD	166000	US	0 US	M	COUNTA	141566	
2025 SE	FT	Data Scientist	202000 USD	202000	US	0 US	M	COUNTBLAN	0	
2025 MI	FT	Data Scientist	141000 USD	141000	US	0 US	M	COUNTIF	17934	
2025 MI	FT	Data Scientist	172000 USD	172000	US	0 US	M	COUNTIFS	14902	
2025 SE	FT	Data Scientist	172000 USD	172000	US	0 US	M			
2025 SE	FT	Data Scientist	183000 USD	183000	US	0 US	M			
2025 SE	FT	Data Scientist	229000 USD	229000	US	0 US	M			
2025 SE	FT	Data Scientist	156000 USD	156000	US	0 US	M			
2025 SE	FT	Data Scientist	125000 USD	125000	CA	0 CA	M			
2025 SE	FT	Data Scientist	107200 USD	107200	CA	0 CA	M	SUM	2967750	
2025 SE	FT	Data Scientist	250000 USD	250000	US	0 US	M	SUMIF	1211965003	
2025 SE	FT	Data Scientist	119000 USD	119000	US	0 US	M			
2025 MI	FT	Data Scientist	123000 USD	123000	US	100 US	M			
2025 MI	FT	Data Scientist	96500 USD	96500	US	100 US	M			
2025 MI	FT	Manager	240800 USD	240800	US	0 US	M			
2025 MI	FT	Manager	193400 USD	193400	US	0 US	M			
2025 SE	FT	Software Engineer	202000 USD	202000	US	0 US	M			
2025 SE	FT	Software Engineer	141000 USD	141000	US	0 US	M			
2025 SE	FT	Software Engineer	202000 USD	202000	US	0 US	M			
2025 SE	FT	Software Engineer	141000 USD	141000	US	0 US	M			
2025 SE	FT	Software Engineer	202000 USD	202000	US	0 US	M			
2025 SE	FT	Software Engineer	141000 USD	141000	US	0 US	M			
2025 SE	FT	Software Engineer	202000 USD	202000	US	0 US	M			
2025 SE	FT	Software Engineer	141000 USD	141000	US	0 US	M			
2025 SE	FT	Software Engineer	141000 USD	141000	US	0 US	M			
2025 SE	FT	Software Engineer	250000 USD	250000	US	0 US	M			
2025 SE	FT	Software Engineer	187000 USD	187000	US	0 US	M			
2025 SE	FT	Software Engineer	349000 USD	349000	US	0 US	M			
2025 SE	FT	Software Engineer	248000 USD	248000	US	0 US	M			
2025 SE	FT	Machine Learning	277000 USD	277000	US	0 US	M			
2025 SE	FT	Machine Learning	170000 USD	170000	US	0 US	M			
2025 SE	FT	Machine Learning	195500 USD	195500	US	100 US	M			
2025 SE	FT	Machine Learning	122400 USD	122400	US	100 US	M			
2025 SE	FT	Machine Learning	250000 USD	250000	US	0 US	M			
2025 SE	FT	Machine Learning	188000 USD	188000	US	0 US	M			
2025 SE	FT	Software Engineer	202000 USD	202000	US	0 US	M			



AutoSave ... B retail_sales_dataset_Master copy — Saved Q Search (Cmd + Ctrl)

Home Insert Draw Page Layout **Formulas** Data Review View Automate fx

Insert Function Auto-sum Recently Used Financial Logical Text Date & Time Lookup & Reference Maths & Trig More Functions Name Manager Create from Selection Define Name Use in Formula Trace Precedents Trace Dependents Show Formulas Error-checking Watch Window Calculate Options Calculate Now

S27 fx

Age	Product Category	Quantity	Price per Unit	Revenue	Commission	Column A	Column B	Duration	day	month	year	
34	Beauty	3	£50.00	£150.00	2.25	young	young	19/07/2025	24	11	2023	
26	Clothing	2	£500.00	£1,000.00	15.00	old	young	19/07/2025	27	2	2023 Commission 2023 1.50%	
50	Electronics	1	£30.00	£30.00	0.45	young	young	19/07/2025	13	1	2023 Commission 2024 2.00%	
37	Clothing	1	£500.00	£500.00	7.50	young	young	19/07/2025	21	5	2023	
30	Beauty	2	£50.00	£100.00	1.50	old	young	19/07/2025	6	5	2023	
45	Beauty	1	£300.00	£300.00	0.45	young	young	19/07/2025	25	4	2023	
46	Clothing	2	£25.00	£50.00	0.75	young	young	19/07/2025	13	3	2023	
30	Electronics	4	£25.00	£100.00	1.50	old	young	19/07/2025	22	2	2023	
63	Electronics	2	£300.00	£600.00	9.00	young	young	19/07/2025	13	12	2023	
52	Clothing	4	£50.00	£200.00	3.00	young	young	19/07/2025	7	10	2023	
23	Clothing	2	£50.00	£100.00	1.50	old	young	19/07/2025	14	2	2023	
35	Beauty	3	£25.00	£75.00	1.25	young	young	19/07/2025	30	10	2023 SUM £ 6,840.00	
32	Electronics	3	£300.00	£900.00	22.50	old	young	19/07/2025	5	8	2023 AVERAGE 6.84	
64	Clothing	4	£30.00	£120.00	1.80	young	young	19/07/2025	17	1	2023	
42	Electronics	4	£500.00	£2,000.00	30.00	young	young	19/07/2025	16	1	2023	
19	Clothing	3	£500.00	£1,500.00	22.50	old	young	19/07/2025	17	2	2023 SUM 912000	
27	Clothing	4	£25.00	£100.00	1.50	old	young	19/07/2025	22	4	2023 SUMIFS 441	
47	Electronics	2	£25.00	£50.00	0.75	young	young	19/07/2025	30	4	2023 SUMIFS 155580	
20	Clothing	2	£25.00	£50.00	1.25	old	young	19/07/2025	6	9	2023	
21	Clothing	3	£300.00	£900.00	13.50	old	young	19/07/2025	5	11	2023	
22	Beauty	1	£500.00	£500.00	7.50	young	young	19/07/2025	14	1	2023	
18	Clothing	2	£50.00	£100.00	1.50	old	young	19/07/2025	15	10	2023	
35	Clothing	4	£30.00	£120.00	1.80	young	young	19/07/2025	12	4	2023	
49	Clothing	1	£300.00	£300.00	4.50	young	young	19/07/2025	29	11	2023	
64	Beauty	1	£50.00	£50.00	0.75	young	young	19/07/2025	26	12	2023	
28	Electronics	2	£500.00	£1,000.00	15.00	old	young	19/07/2025	7	10	2023	
38	Beauty	2	£25.00	£75.00	1.25	young	young	19/07/2025	3	8	2023	
39	Beauty	1	£500.00	£500.00	7.50	young	young	19/07/2025	23	4	2023	
30	42	Electronics	1	£30.00	£30.00	0.45	young	young	19/07/2025	18	8	2023
31	39	Beauty	3	£300.00	£900.00	13.50	young	young	19/07/2025	29	10	2023
32	44	Electronics	4	£300.00	£1,200.00	18.00	young	young	19/07/2025	23	5	2023
33	30	Beauty	3	£30.00	£90.00	1.35	old	young	19/07/2025	4	1	2023
34	50	Electronics	2	£500.00	£1,000.00	15.00	old	young	19/07/2025	23	3	2023
35	51	Clothing	3	£50.00	£150.00	2.25	young	young	19/07/2025	24	12	2023
36	58	Beauty	3	£300.00	£900.00	13.50	young	young	19/07/2025	5	8	2023
37	52	Beauty	3	£300.00	£900.00	13.50	young	young	19/07/2025	24	6	2023
38	18	Beauty	3	£25.00	£75.00	1.13	old	young	19/07/2025	23	5	2023
39	38	Beauty	4	£50.00	£200.00	3.00	young	young	19/07/2025	21	3	2023
40	23	Clothing	4	£30.00	£120.00	1.80	old	young	19/07/2025	21	4	2023
41	45	Beauty	1	£50.00	£50.00	0.75	young	young	19/07/2025	22	6	2023
42	34	Clothing	2	£25.00	£50.00	0.75	young	young	19/07/2025	22	2	2023
43	22	Clothing	3	£300.00	£900.00	13.50	old	young	19/07/2025	17	2	2023
44	48	Clothing	1	£300.00	£300.00	4.50	young	young	19/07/2025	14	7	2023
45	22	Clothing	1	£25.00	£25.00	0.38	old	young	19/07/2025	19	2	2023
46	55	Electronics	1	£30.00	£30.00	0.45	young	young	19/07/2025	3	7	2023
47	20	Electronics	4	£300.00	£1,200.00	18.00	old	young	19/07/2025	26	6	2023
48	54	Beauty	3	£500.00	£1,500.00	22.50	young	young	19/07/2025	6	11	2023
49	54	Electronics	3	£300.00	£900.00	13.50	young	young	19/07/2025	16	5	2023
50	54	Electronics	2	£500.00	£1,000.00	15.00	young	young	19/07/2025	23	1	2023

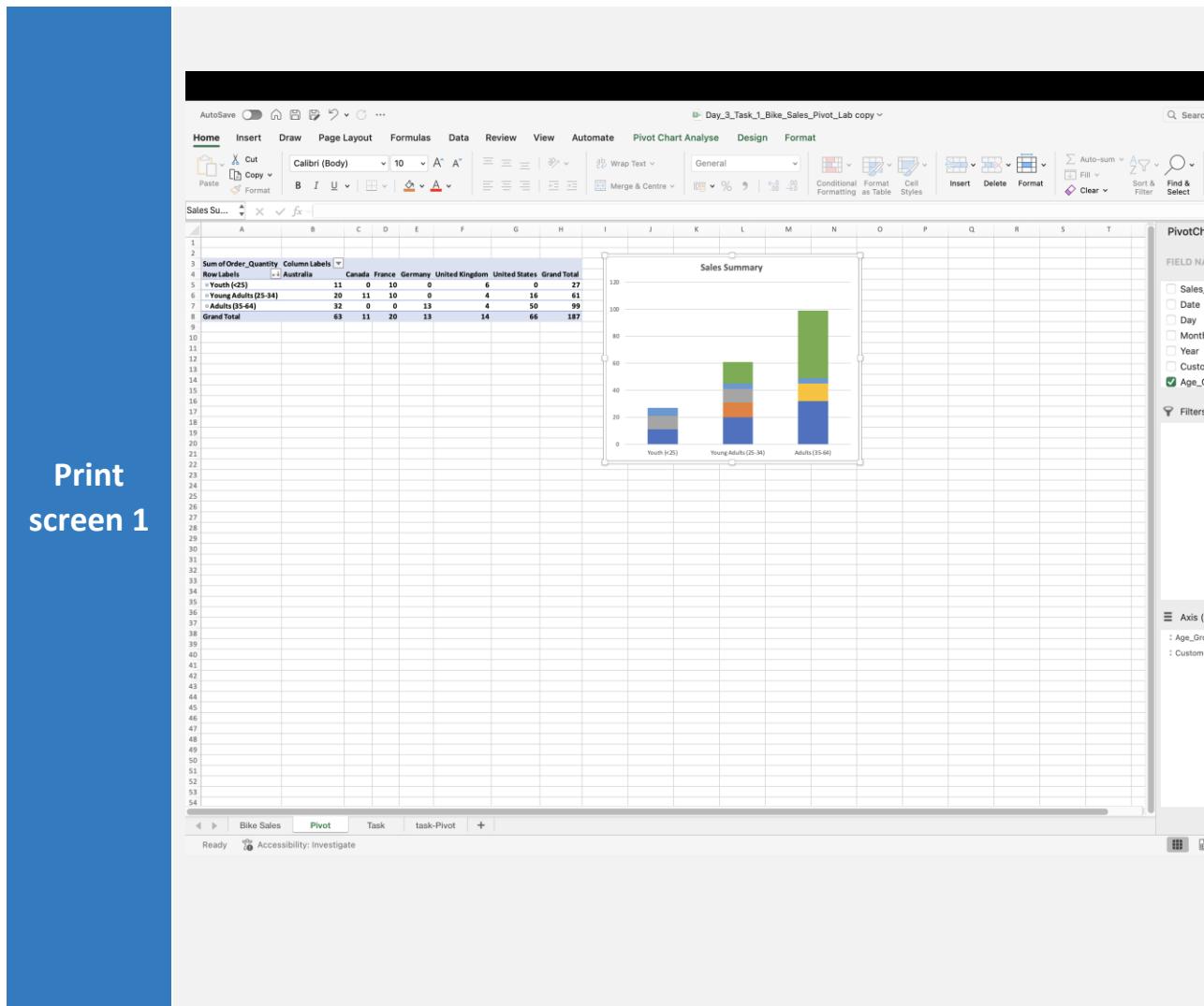


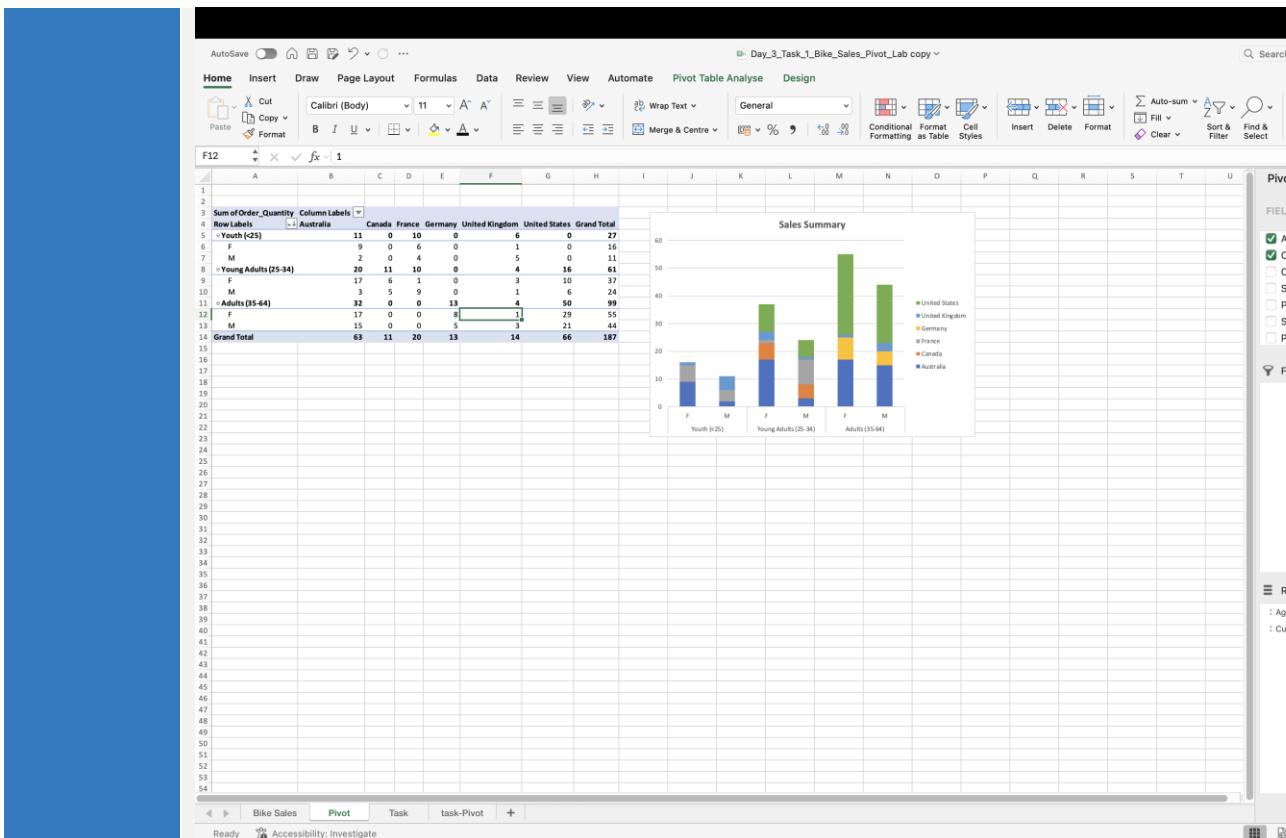
Day 3: Task 1

Please download the dataset 'Day_3_Task_1_Bike_Sales_Pivot_Lab.xlsx' from [here](#).

The lab instructions can be found [here](#). 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:





In which markets does Germany have customers?

Adults (35-64)

What country has sales in all markets?

Australia

What are the most profitable markets by country, age

- The most profitable market overall is the United States – Female Adults (35–64) with 29 orders.
- Adults (35–64) are the strongest age group across all top-performing countries.
- Females are the dominant purchasing group in every high-performing segment.



group,
and
gender?

Any
other
findings?

- Adults (35–64) are the top buyers (99 orders), especially in the US, Australia, and Germany.
- Females (108 orders) purchase more than males (79 orders) across all age groups.
- Youth (<25) is the lowest performing group (27 orders), with no sales in Canada, Germany, or the US.
- Australia is the best-balanced market, with sales in all age and gender groups.
- France and Canada have no adult sales – a key gap to explore.
- UK shows low performance across all segments.



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

The screenshot shows a Microsoft Excel spreadsheet titled "Day_3_Task_1_Bike_Sales_Pivot_Lab copy". The Pivot Table is located in the range A1:D13. It has four columns: County, Product, Sales Volume Figures, and Sales Volume Type. The data includes entries for Yorkshire, Lancashire, Essex, Durham, Cornwall, and Greater Manchester. The "Sales Volume Type" column uses a conditional formatting rule where "Low" is highlighted in blue, "Medium" in light blue, and "High" in yellow. The Pivot Table ribbon tab is selected. The status bar at the bottom indicates "Ready" and "Accessibility: Investigate".

County	Product	Sales Volume Figures	Sales Volume Type
Yorkshire	Laptops	500	Medium
Yorkshire	Smartphones	200	Low
Cornwall	Laptops	700	High
Cornwall	Printers	400	Medium
Lancashire	Smartphones	150	Low
Lancashire	Laptops	600	Medium
Essex	Printers	800	High
Essex	Smartphones	300	Medium
Durham	Laptops	250	Low
Durham	Printers	300	Medium
Greater Manchester	Smartphones	600	Medium
Greater Manchester	Laptops	400	Medium



The screenshot shows a Microsoft Excel spreadsheet titled "Day_3_Task_1_Bike_Sales_Pivot_Lab copy". The ribbon menu is visible at the top, showing tabs for Home, Insert, Draw, Page Layout, Formulas, Data, Review, View, and Automate. The Home tab is selected.

The main content area displays a PivotTable. The rows are labeled from 1 to 54, and the columns are labeled A through W. Row 1 contains column labels: "Sum of Sales Volume", "Laptops", "Printers", "Smartphones", and "Grand Total". Rows 2 through 10 show data for various locations: Cornwall, Durham, Essex, Greater Manchester, Lancashire, and Yorkshire. Each row has four entries corresponding to the columns in Row 1. Row 11 is a summary row labeled "Grand Total" with values 2450, 1500, 1250, and 5200 respectively.

The formula bar at the top shows the cell reference F4. The status bar at the bottom indicates "Ready" and "Accessibility: Investigate".

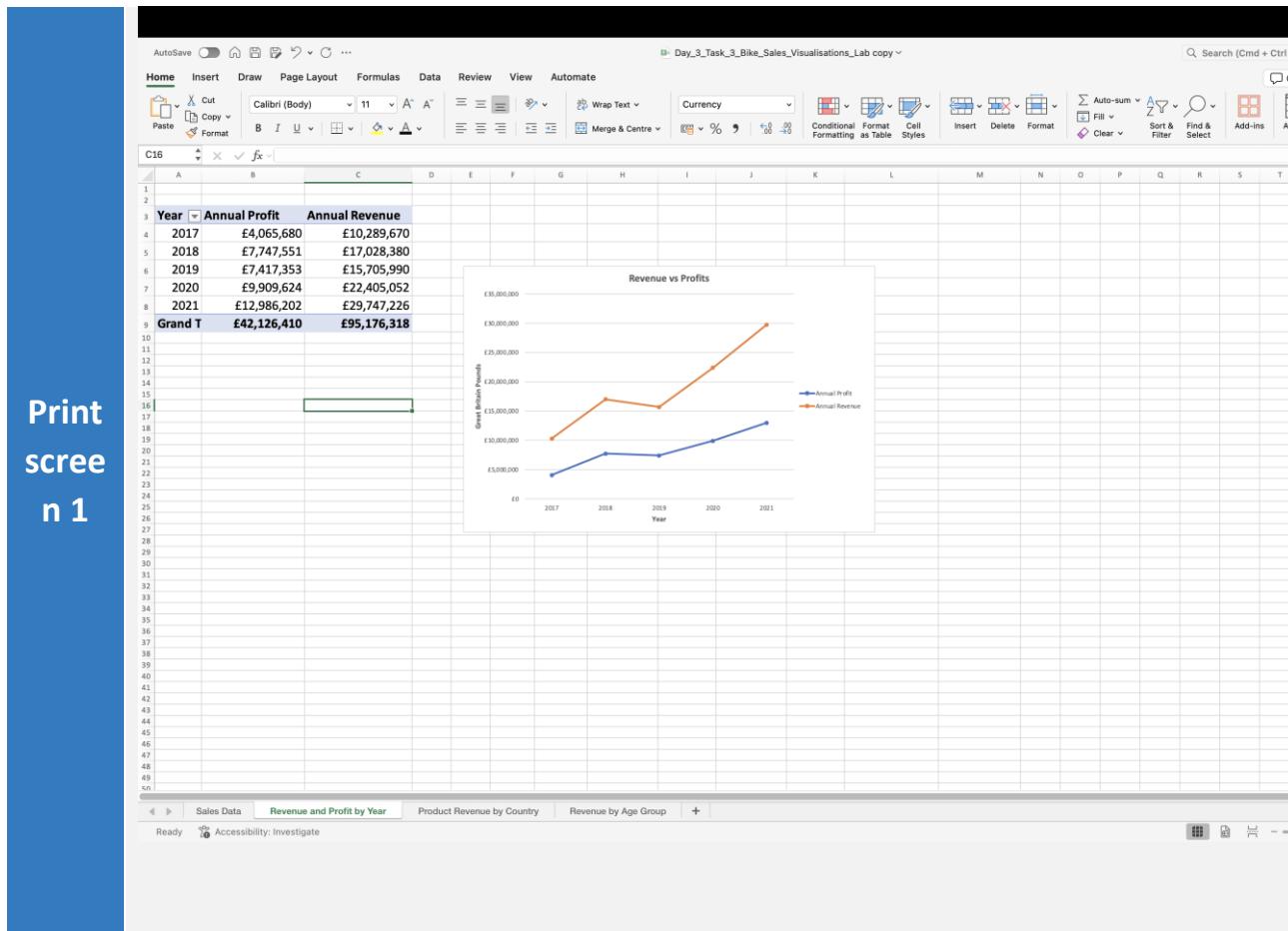


Day 3: Task 3

Please download the dataset 'Day_3_Task_3_Bike_Sales_Visualisations_Lab.xlsx' from [here](#).

The lab instructions can be found [here](#). 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:



Screenshot of Microsoft Excel showing a PivotTable and a stacked bar chart.

PivotTable Data:

Country	Sum of Revenue			Grand Total
	Accessories	Bikes	Clothing	
Australia	£3,284,787	£20,231,486	£1,911,313	£25,427,586
Canada	£2,305,298	£4,317,696	£1,391,542	£8,014,536
France	£1,627,689	£7,378,349	£841,175	£9,847,213
Germany	£1,724,549	£7,544,500	£713,154	£9,982,203
United Kingdom	£1,951,000	£8,184,668	£954,338	£11,090,006
United States	£5,819,323	£21,551,497	£3,443,954	£30,814,774
Grand Total	£16,712,646	£69,208,196	£9,255,476	£95,176,318

Stacked Bar Chart: Product revenue By Country

Chart Legend:

- Clothing
- Bikes
- Accessories

Screenshot of Microsoft Excel showing a PivotTable and a pie chart.

PivotTable Data:

Age_Group	Sum of Revenue		
	Adults (35-64)	Seniors (64+)	Young Adults (25-34)
Adults (35-64)	£47,323,876.00	£339,700.00	£34,310,905.00
Seniors (64+)	£339,700.00	£13,201,837.00	£0.00
Young Adults (25-34)	£34,310,905.00	£0.00	£13,201,837.00
Grand Total	£95,176,318.00	£0.00	£0.00

Pie Chart: Revenue Comparison By Age Group

Chart Legend:

- Adults (35-64)
- Seniors (64+)
- Young Adults (25-34)
- Youth (<25)





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:

How would you prepare for the delivery?	<ul style="list-style-type: none">• Understand the audience: Research the board members' roles and interests to tailor the delivery.• Clarify objectives: Focus on the key issue—customer churn at renewal—and structure findings clearly: problem → root cause → impact → solution.• Practice delivery: Rehearse the presentation to ensure clarity and timing. Prepare for possible questions from the board.• Create a data-driven story: Use visual aids like graphs to show churn trends and connect them to business outcomes.• Collaborate with teams: Confirm data accuracy with the analytics/CRM team and ensure alignment with marketing and sales.
What tools would you use for the delivery?	<ul style="list-style-type: none">• PowerPoint/ Canva – For clear, structured presentation• Power BI / Tableau – To visualise churn trends and metrics• Microsoft Excel – For analysis and backup data• CRM tools (e.g. Salesforce) – For customer behaviour insights
What is prospecting and why would you complete this before	<p>Prospecting is the process of identifying and researching potential clients or stakeholders before engaging with them.</p> <ul style="list-style-type: none">• Helps identify key stakeholder's (CFO, CEO, Marketing Director) priorities (e.g. revenue loss, cost implications, customer experience, customer retention)• Prepares you to handle objections and align solutions with business goals



<p>your delivery?</p>	
<p>Tell me best practices for public speaking and providing updates to senior leaders</p>	<ul style="list-style-type: none"> • Rehearse and time your delivery • Start with the executive summary – focus on outcomes • Be concise and focused • Maintain eye contact and confident posture • Practice active listening • Speak confidently and concisely • Use visuals effectively- Graphs, dashboards, and bullet points over paragraphs • Use facts and data – avoid assumptions • Pause for questions and engage with the audience
<p>What will you show the board in your delivery?</p>	<ul style="list-style-type: none"> • Churn Analysis Chart – Graph showing peak in cancellations at 12-month mark • Customer Feedback Summary – Common themes like dissatisfaction with price increases • Competitor pricing comparison- How is competitor renewal pricing • Revenue Impact – Financial loss from churned customers • Root Cause Analysis (e.g., 5 Whys)- Underlying factors behind churn • Proposed solutions (e.g. loyalty discounts, clearer communication, automatic renewal incentives, pre-renewal engagement)
<p>How will you articulate the changes that are needed?</p>	<ul style="list-style-type: none"> • Clearly state the issue and financial impact • Support solution with data/modelling (e.g. churn reduction from loyalty offer) • Show alignment with company goals (retention, revenue) • Recommend phased testing (e.g. A/B testing new renewal strategy)
<p>Provide a list of online resources and videos</p>	<ul style="list-style-type: none"> • TED Talks: <ul style="list-style-type: none"> • “The Trick to Powerful Public Speaking” by Lawrence Bernstein – https://www.youtube.com/watch?v=bsxJVgb6Kls



that will support your preparation on for public speaking

- “Your Body Language May Shape Who You Are” by Amy Cuddy-
https://www.ted.com/talks/amy_cuddy_your_body_language_may_shape_who_you_are?referrer=playlist-before_public_speaking&autoplay=true
- LinkedIn Learning Courses:
 - “Public Speaking for Non-Native English Speakers”
 - “Executive Presence on Video Conference Calls”
- YouTube Channels:
 - Alexander Lyon – 7 Public Speaking Tips for Beginners
 - Aaron W Beverly – Best Free Resources to Improve Your Public Speaking

Evaluate tools that provide visualisation.

- PowerPoint/ Canva – For clear, structured presentation delivery
- Power BI / Tableau – To visualise churn trends and metrics, Real-time dashboards, strong data integration
- Microsoft Excel – For analysis and backup data with simple, fast data charts

Tell me what they are.

I would use Power BI and Canva/PowerPoint together.
Power BI for interactive churn dashboards and segmentation analysis.
Canva/PowerPoint to frame the narrative, summarize insights, and guide the board through the data story in a structured way.

Tell me what you would choose when delivering your presentation and why



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:



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.

