EMPLOYEE DATA ANALYSIS

PSYLIQ DATA ANALYST INTERNSHIP

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TASK 3

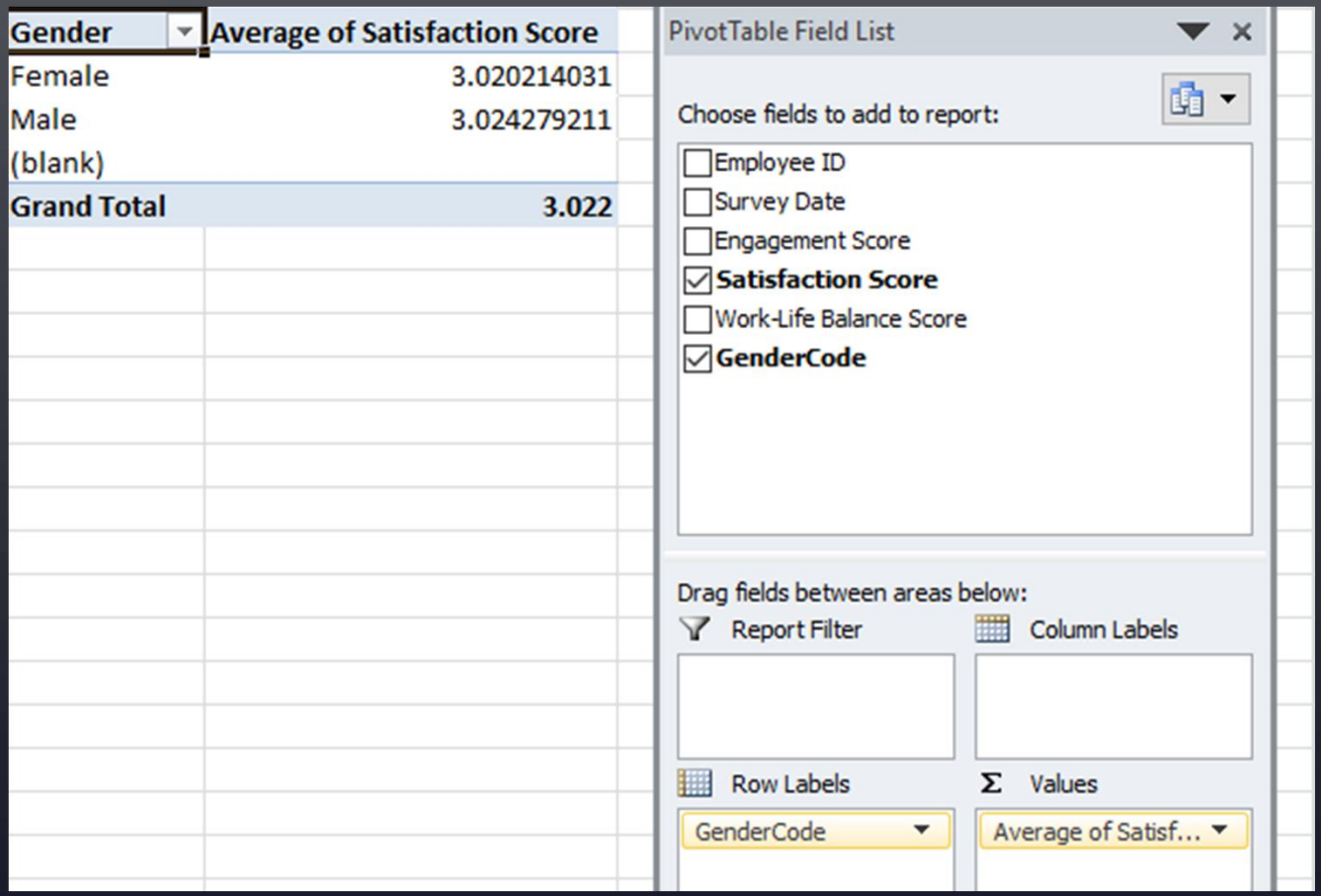
1. Can you create a pivot table to summarize the total number of employees in each department?

Department	Count of Employee ID
Admin Offices	80
Executive Office	24
IT/IS	430
Production	2020
Sales	331
Software Engineering	115
Grand Total	**3000**

2. Apply conditional formatting to highlight employees with a "Performance Score" below 3 in red.

W	X	Y	Z
RaceDesc	MaritalDesc	Performance Score	Current Employee Rating
White	Widowed	Fully Meets	4
Hispanic	Widowed	Fully Meets	3
Hispanic	Widowed	Fully Meets	4
Other	Single	Fully Meets	2
Other	Married	Fully Meets	3
Black	Married	Fully Meets	3
Hispanic	Divorced	Exceeds	4
White	Divorced	Fully Meets	2
Black	Widowed	Exceeds	3
Asian	Widowed	Fully Meets	5
Other	Single	Fully Meets	5
Asian	Married	Fully Meets	3
Other	Single	Fully Meets	3
White	Divorced	Fully Meets	3
Asian	Widowed	Exceeds	4
Black	Single	Exceeds	2
Asian	Widowed	Fully Meets	3
Other	Widowed	Fully Meets	3
Other	Married	Exceeds	4
White	Divorced	Exceeds	2
Asian	Widowed	Fully Meets	3
Asian	Widowed	Fully Meets	3
Black	Single	Fully Meets	5

3. Calculate the average "Satisfaction Score" for male and female employees separately using a pivot table.



Gender	Average of Satisfaction Score
Female	3.020214031
Male	3.024279211
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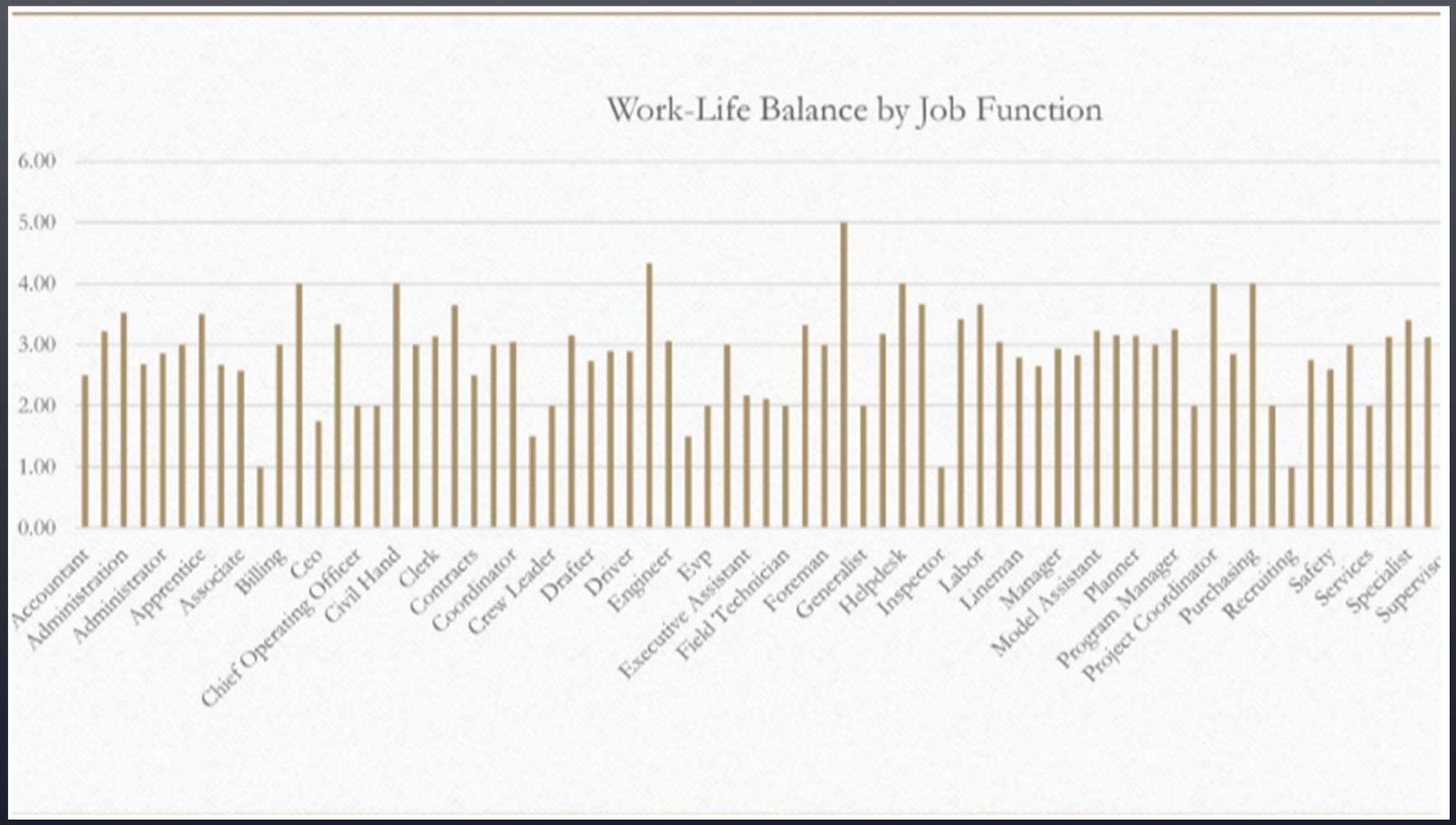
Grand Total	**3.022**

4. Create a chart to visualize the distribution of "Work-Life Balance Score" for different job functions.



5. Filter the data to display only terminated employees and find out the most common "Termination Type.

Row Labels	Count of Employee ID
Involuntary	388
Resignation	380
Retirement	377
Voluntary	388
Grand Total	**1533**

6. Calculate the average "Engagement Score" for each department using a pivot table

DepartmentType	Average of Engagement Score
Admin Offices	3
Executive Office	2.875
IT/IS	2.934883721
Production	2.95049505
Sales	2.876132931
Software Engineering	2.92173913
(blank)	
Grand Total	**2.939666667**

8. Can you identify the department with the highest average "Employee Rating?"

Department	Average of Current Employee Rating
Admin Offices	3.025
Executive Office	2.791666667
IT/IS	2.969767442
Production	2.982178218
Sales	2.909365559
Software Engineering	2.904347826
Grand Total	**2.969**

9. Create a scatter plot to explore the relationship between "Training Duration (Days)" and "Training Cost."

Training D	Training Cost
4	510.83
2	582.37
4	777.06
2	824.3
4	145.99
2	838.07
2	667.32
2	758.18
2	101.21
5	332.25
1	803.98
3	887.08
2	657.85
2	895.49
1	539
2	606.68
3	265.73
2	673.29
5	436.98
4	578.58
1	647.16
1	664.23

10. Build a pivot table that shows the count of employees by "RaceDesc" and "GenderCode."

Count of Employee ID	Column Labels		
RaceDesc	Female	Male	Grand Total
Asian	346	283	629
Black	346	272	618
Hispanic	325	247	572
Other	318	264	582
White	347	252	599
Grand Total	**1682**	**1318**	**3000**

11. Use INDEX and MATCH functions to find the "Training Program Name" for an employee with a specific ID.

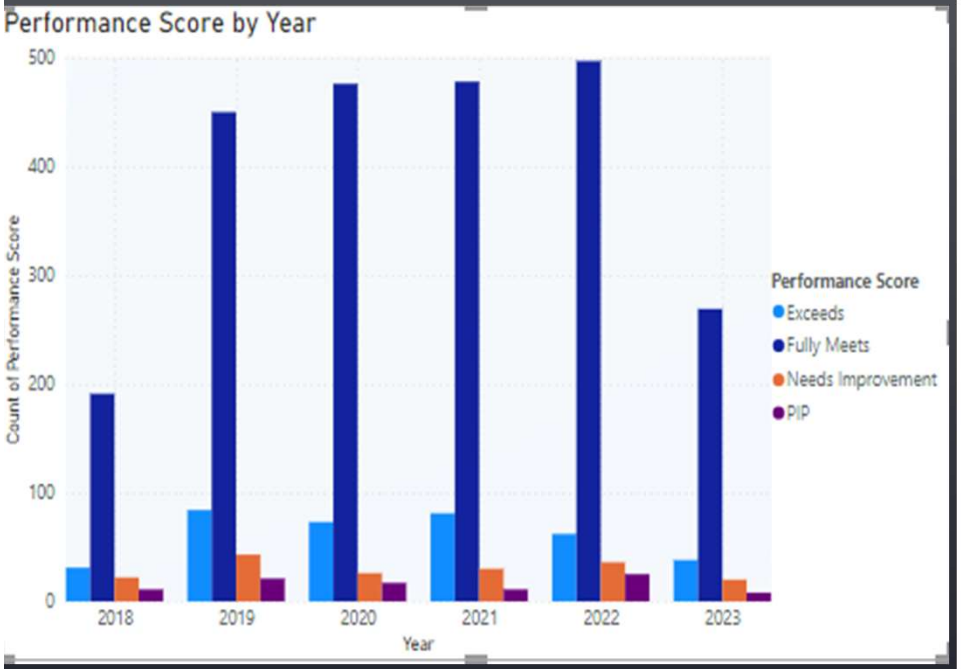
```
=INDEX(training[Training Program Name], MATCH([@[Employee ID]], training[Employee ID], 0))
```

Employee ID	FirstName	LastName	StartDate	ExitDate	Title	Training Program
3427	Uriah	Bridges	20-sep-19		Production Technician I	Leadership Development
3428	Paula	Small	11-feb-23		Production Technician I	Customer Service
3429	Edward	Buck	10-dic-18		Area Sales Manager	Leadership Development
3430	Michael	Riordan	21-jun-21		Area Sales Manager	Project Management
3431	Jasmine	Onque	29-jun-19		Area Sales Manager	Technical Skills
3432	Maruk	Fraval	17-ene-20		Area Sales Manager	Project Management
3433	Latia	Costa	06-abr-22	03-jul-23	Area Sales Manager	Customer Service
3434	Sharlene	Terry	06-nov-20	29-ene-23	Area Sales Manager	Leadership Development
3435	Jac	McKinzie	18-ago-18		Area Sales Manager	Customer Service
3436	Joseph	Martins	21-ene-22	29-jun-23	Area Sales Manager	Leadership Development
3437	Myriam	Givens	04-ago-23		Area Sales Manager	Technical Skills
3438	Dheepa	Nguyen	10-ago-18	04-nov-19	Area Sales Manager	Technical Skills
3439	Bartholemew	Khemmich	25-may-22	27-nov-22	Area Sales Manager	Technical Skills
3440	Xana	Potts	05-dic-19	17-feb-23	Area Sales Manager	Communication Skills

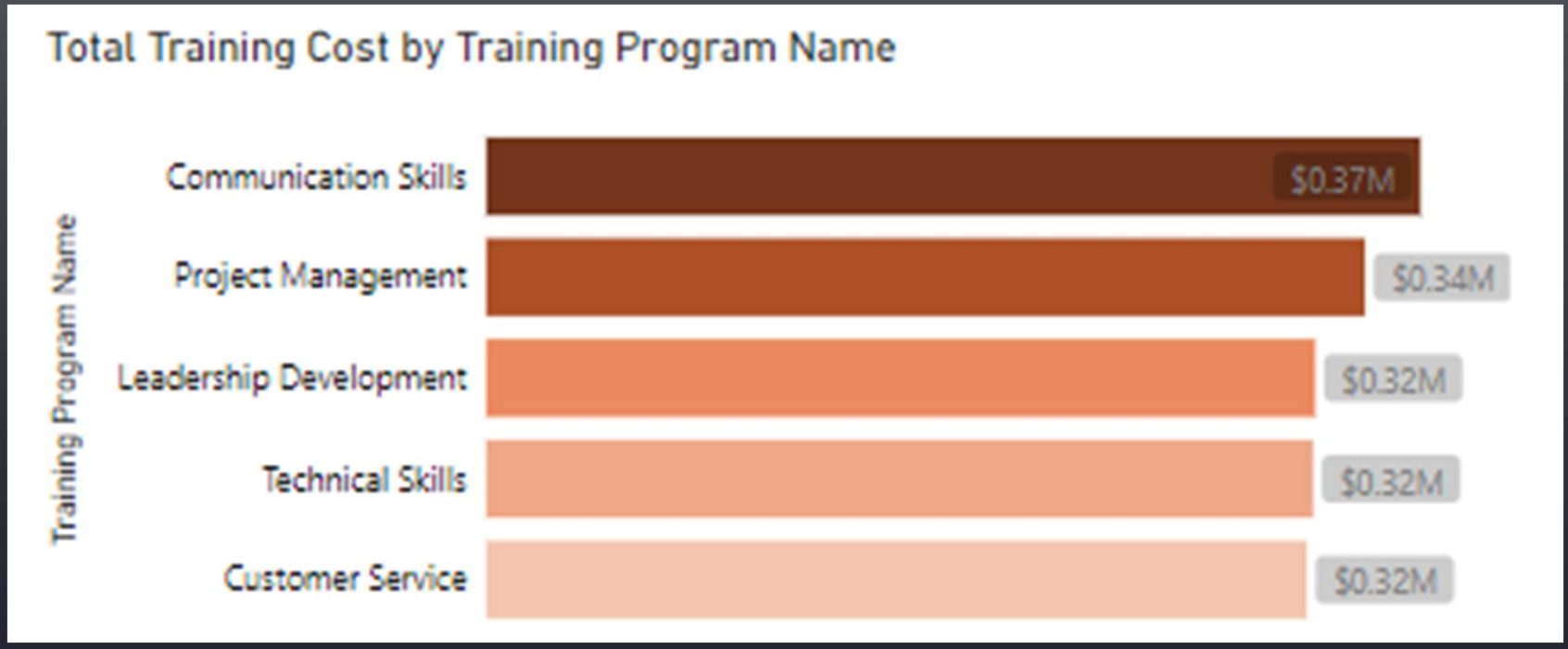
12. Create a multi-level pivot table to analyze the "Performance Score" by "BusinessUnit" and "JobFunctionDescription."

Buisness unit/Jobfunction Desc	Count of Performance Score
BPC	303.00
Administration	3.00
Administrative	7.00
Administrator	9.00
Assistant	1.00
Associate	3.00
Billing	2.00
Ceo	1.00
Cio	1.00
Clerk	1.00
Construction Manager	1.00
Controller	1.00
Coordinator	5.00
Director	6.00
Driller	3.00
Driver	4.00
Electrician	1.00
Engineer	41.00
Executive Assistant	1.00
Field Project Manager	3.00
Flagger	2.00
Foreman	24.00
Groundman	4.00
Helper	1.00

13. Design a dynamic chart that allows users to select and visualize the performance of any employee over time.



14. Calculate the total training cost for each "Training Program Name" and display it in a bar chart.



15. Apply advanced conditional formatting to highlight the top 10% and bottom 10% of employees based on "Current Employee Rating."

MaritalDesc	Performance Sc	Current Employee Rating
Widowed	Fully Meets	4
Widowed	Fully Meets	3
Widowed	Fully Meets	4
Single	Fully Meets	2
Married	Fully Meets	3
Married	Fully Meets	3
Divorced	Exceeds	4
Divorced	Fully Meets	2
Widowed	Exceeds	3
Widowed	Fully Meets	5
Single	Fully Meets	5
Married	Fully Meets	3
Single	Fully Meets	3
Divorced	Fully Meets	3
Widowed	Exceeds	4
Single	Exceeds	2
Widowed	Fully Meets	3
Widowed	Fully Meets	3
Married	Exceeds	4
Divorced	Exceeds	2
Widowed	Fully Meets	3
Widowed	Fully Meets	3
Single	Fully Meets	5
Single	Exceeds	2

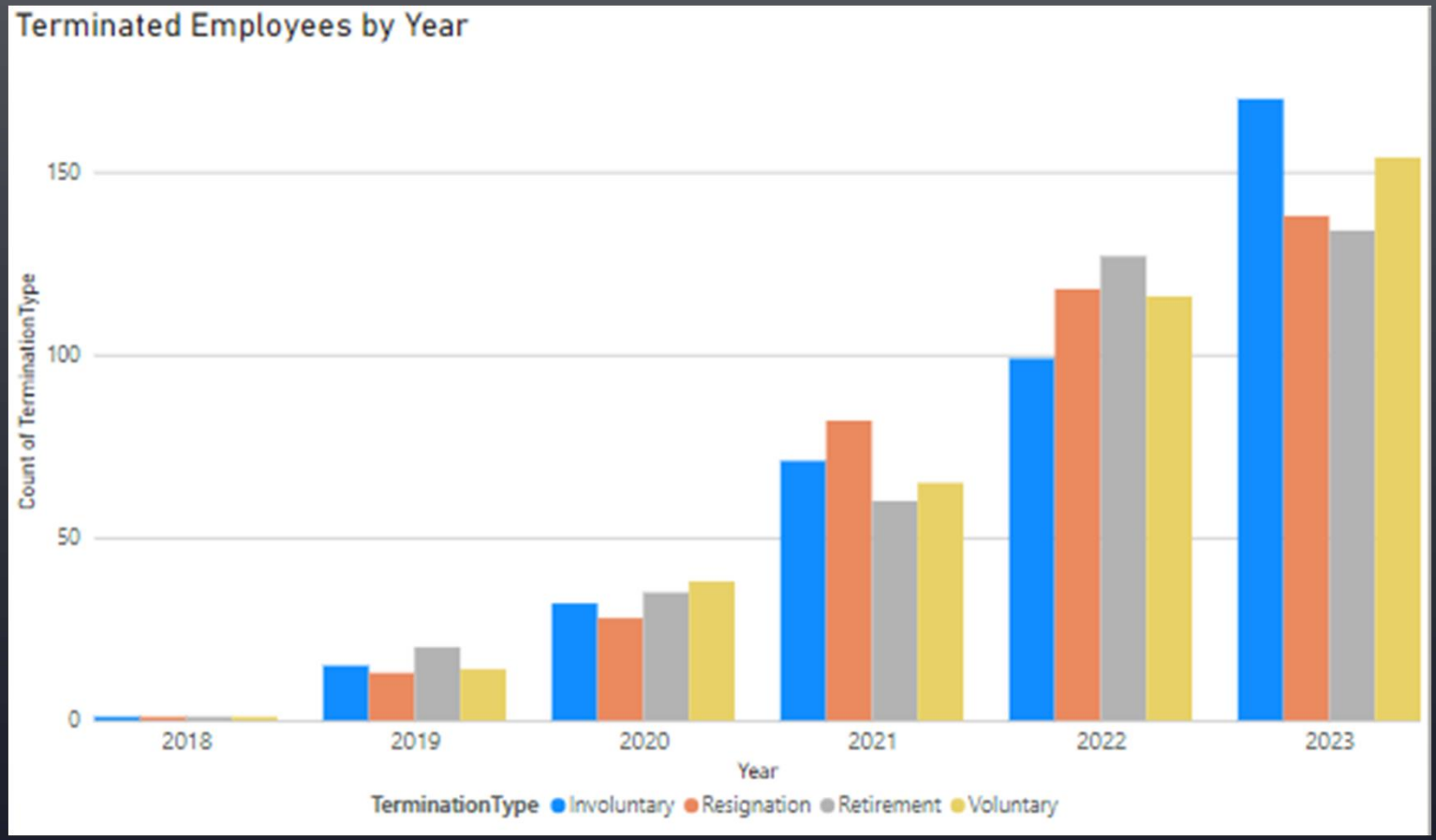
16. Use a calculated field in a pivot table to determine the average "Engagement Score" per year.

Row Labels	Average of Engagement Score
13-01-2023	2.933333333
13-02-2023	2
13-03-2023	2.666666667
13-04-2023	3.4
13-05-2023	3.333333333
13-06-2023	3.6
13-07-2023	3.533333333
13-08-2022	2.888888889
13-09-2022	3.125
13-10-2022	2.833333333
13-11-2022	2.5
13-12-2022	3.625
14-01-2023	2.6
14-02-2023	3.571428571

17. Can you build a macro that automates the process of updating and refreshing all pivot tables in the workbook?

- Press Alt + F11 to open the Visual Basic for Applications (VBA) editor.
- Go to Insert > Module to create a new module.
- Type in macro code VBA code into the module.
- Close the VBA editor.
- Execute macro by alt+f8 and select refresh pivot table

18. Create a histogram to understand the distribution of "ExitDate" for terminated employees



19. Utilize the SUMPRODUCT function to calculate the total training cost for employees in a specific location.

Location	Sum of Training Cost
Aaronborough	$841.22
Aaronburgh	$633.96
Aaronstad	$939.02
Abbottton	$609.01
Acevedoshire	$443.55
Adamborough	$444.22
Adammouth	$1,248.77
Adamsberg	$962.45
Adamsmouth	$367.34
Aguirreland	$881.71
Alexanderberg	$494.29
Alexanderchester	$346.93
Alexandraview	$450.64
Alexandriachester	$778.25
Alexishaven	$127.93
Alfredmouth	$328.74
Aliciaburgh	$966.19
Aliciahaven	$373.87
Allenborough	$115.06
Allenhaven	$643.63
Allenside	$278.33
Allentown	$444.40

20. Develop a dashboard that provides an overview of key HR metrics, including headcount, performance, and training costs, using charts and pivot tables.