EMPLOYEE DATA ANALYSIS

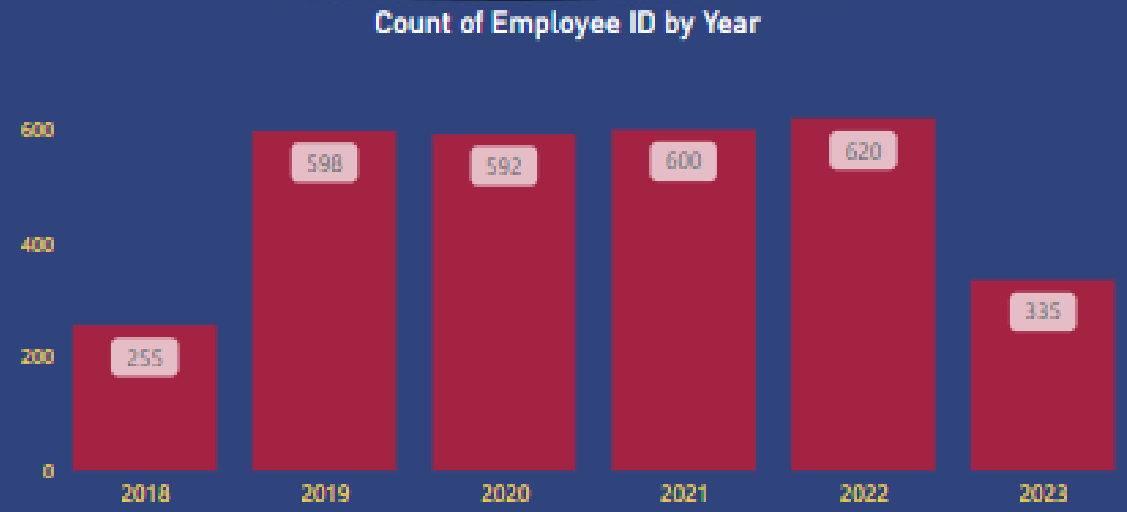
Using Excel & Power BI

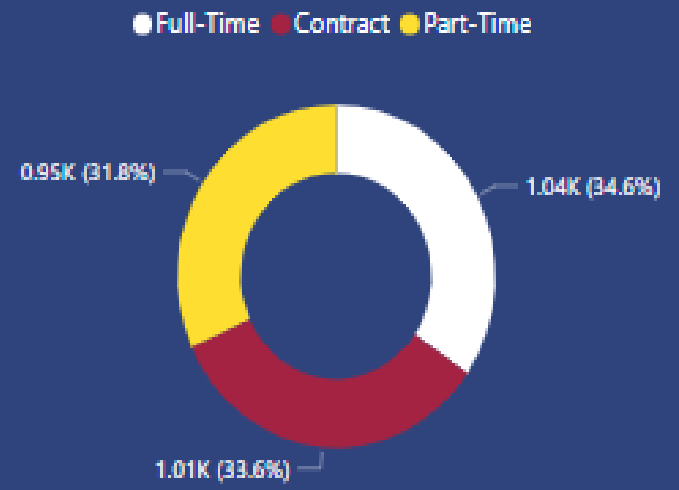
Mohamed Adel

Employee Dashboard

3000
Count of Employee

1.68M
Training_cost

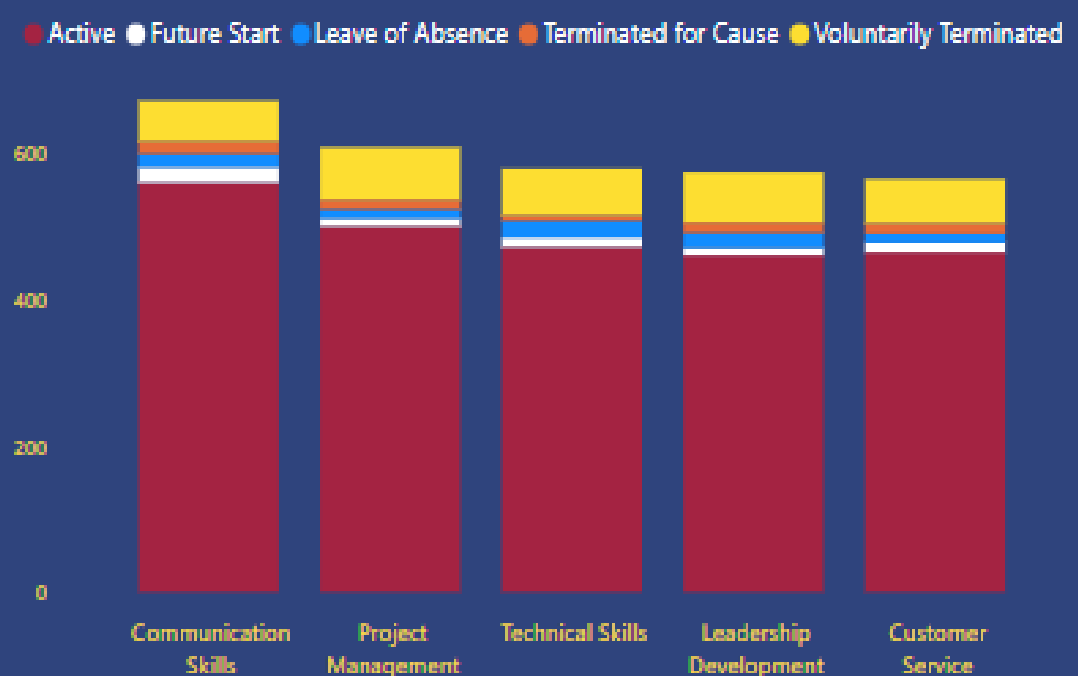




Traning program name	Sum of Training_cost
Communication Skills	365,023.24
Customer Service	320,575.04
Leadership Development	323,902.03
Project Management	343,313.17
Technical Skills	323,072.61

Admin Offices	IT/IS	Sales
Executive Office	Production	Software Engineering

Full Name	Performance Score
Aaden Mercer	Fully Meets
Aaliyah Watts	Fully Meets
Aarav Espinoza	Fully Meets
Aaron Tapia	Fully Meets
Aaron Weber	Exceeds
Abagail Banks	Fully Meets
Abagail Moran	Exceeds
Abagail Villanueva	Fully Meets
Abbigail Blanchard	Fully Meets
Abbigail Cameron	Fully Meets



1. CAN YOU CREATE A PIVOT TABLE TO SUMMARIZE THE TOTAL NUMBER OF EMPLOYEES IN EACH DEPARTMENT?

Row Labels	Count of Employee ID
Admin Offices	80
Executive Offi	24
IT/IS	430
Production	2020
Sales	331
Software Engir	115
Grand Total	3000

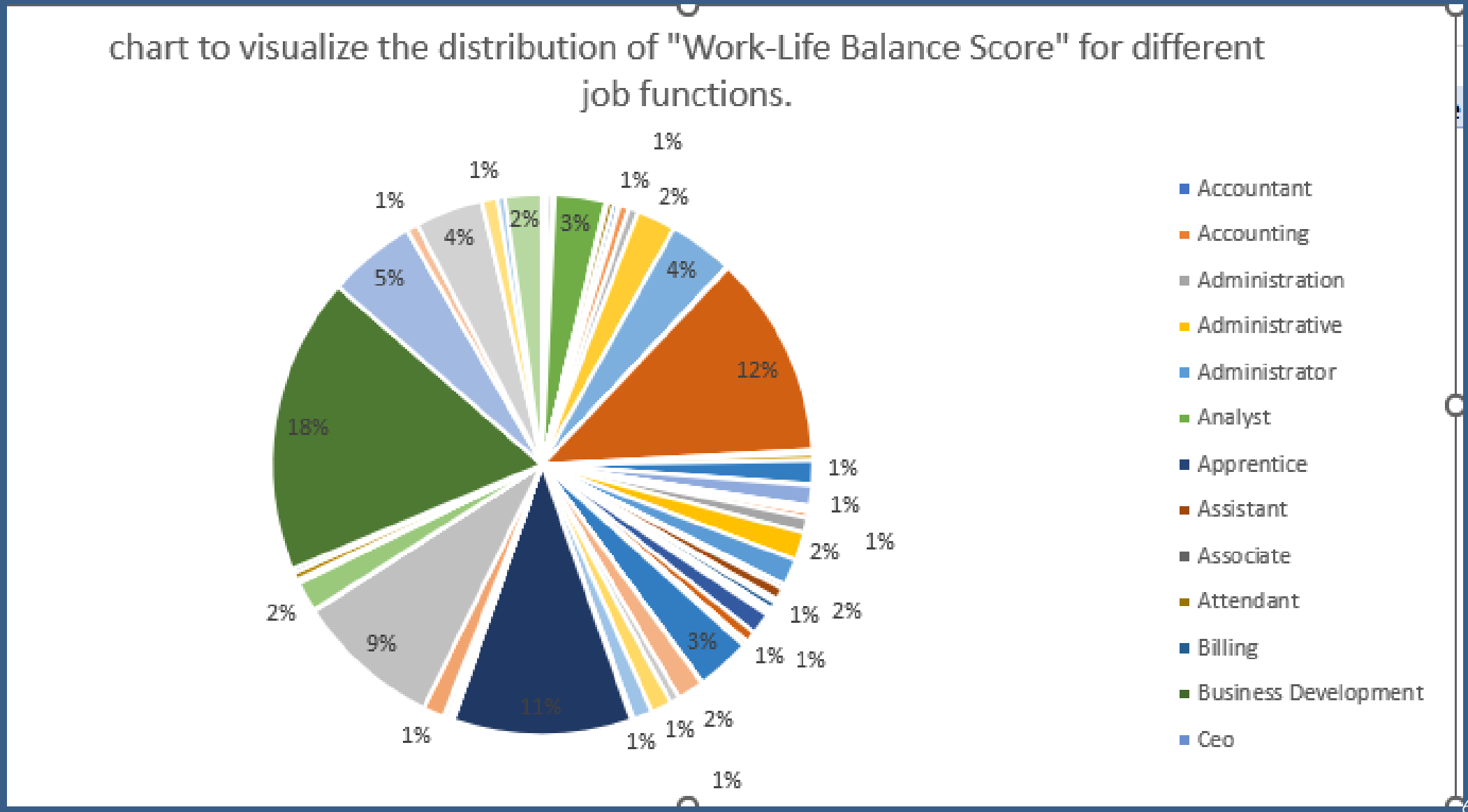
2. APPLY CONDITIONAL FORMATTING TO HIGHLIGHT EMPLOYEES WITH A "PERFORMANCE SCORE" BELOW 3 IN RED.

	A	B
1	Employee ID	Current Employee Rating
2	3427	4
3	3428	3
4	3429	4
5	3430	2
6	3431	3
7	3432	3
8	3433	4
9	3434	2
10	3435	3
11	3436	5
12	3437	5
13	3438	3
14	3439	3
15	3440	3
16	3441	4
17	3442	2
18	3443	3
19	3444	3
20	3445	4
21	3446	2
22	3447	3
23	3448	3

3. CALCULATE THE AVERAGE "SATISFACTION SCORE" FOR MALE AND FEMALE EMPLOYEES SEPARATELY USING A PIVOT TABLE.

Row Labels	Average of Satisfaction Score
Female	3.01
Male	3.04
Grand Total	3.02

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
Unk	1467
Voluntary	388
Grand Total	3000

6. CALCULATE THE AVERAGE "ENGAGEMENT SCORE" FOR EACH DEPARTMENT USING A PIVOT TABLE.

Row Labels	Average of Engagement Score
Admin Offices	2.93
Executive Office	3.38
IT/IS	3.03
Production	2.91
Sales	2.99
Software Engineering	2.97
Grand Total	**2.94**

7. USE VLOOKUP TO FIND THE SUPERVISOR'S EMAIL ADDRESS FOR A SPECIFIC EMPLOYEE

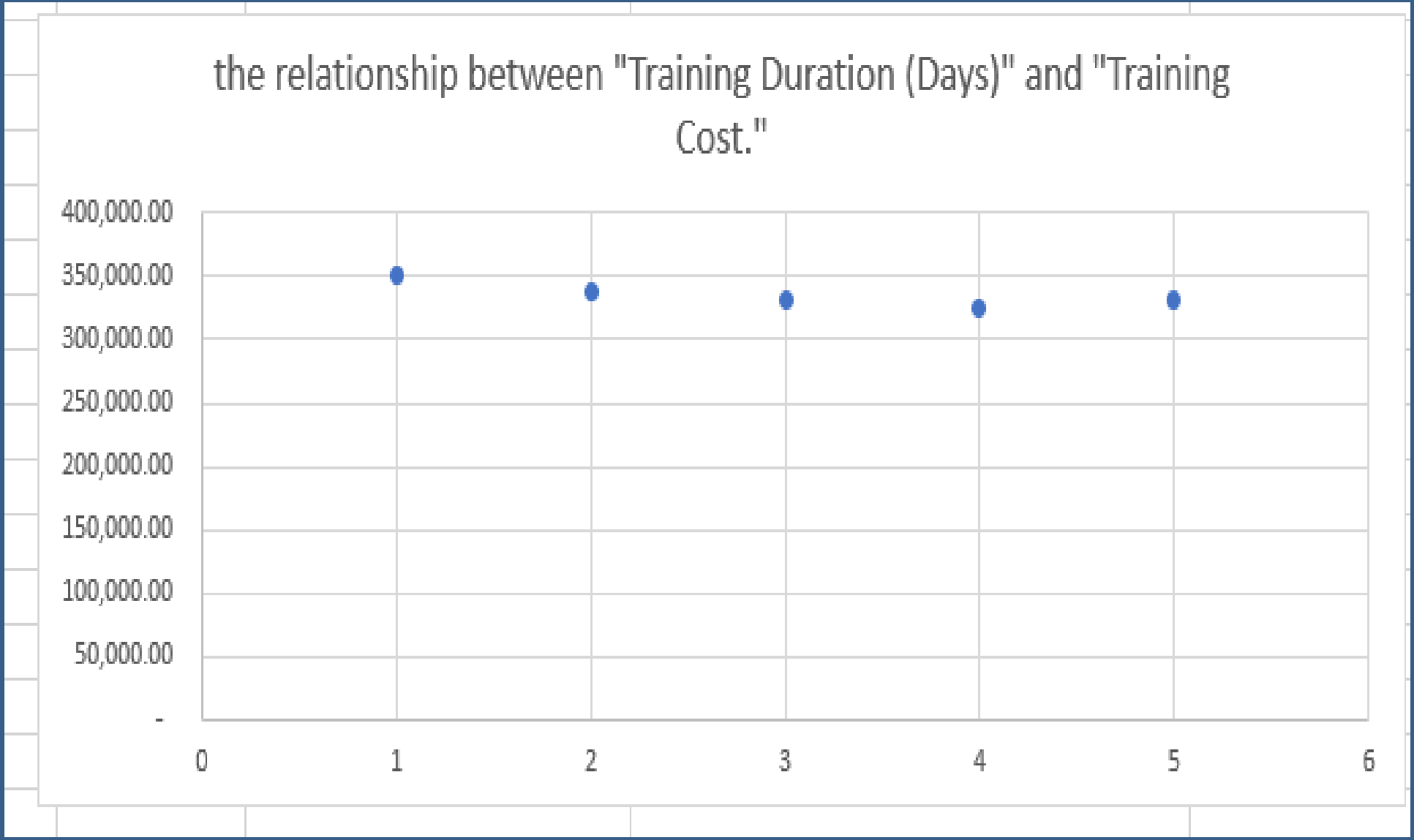
D2 =VLOOKUP(A2,A:I,8,FALSE)

	A	B	C	D
1	Employee ID	FirstName	LastName	Email
2	3427	Uriah	Bridges	Peter Oneill
3	3428	Paula	Small	Renee Mccormick
4	3429	Edward	Buck	Crystal Walker
5	3430	Michael	Riordan	Rebekah Wright
6	3431	Jasmine	Onque	Jason Kim
7	3432	Maruk	Fraval	Sheri Campos
8	3433	Latia	Costa	Jacob Braun
9	3434	Sharlene	Terry	Tracy Marquez
10	3435	Jac	McKinzie	Sharon Becker
11	3436	Joseph	Martins	George Jenkins
12	3437	Myriam	Givens	Troy White
13	3438	Dheepa	Nguyen	Brian Miller
14	3439	Bartholemew	Khemmich	Charles Parks
15	3440	Xana	Potts	Gregory Walker
16	3441	Prater	Jeremy	Tyler Lewis
17	3442	Kaylah	Moon	Ashley Scott
18	3443	Kristen	Tate	Lauren Jones
19	3444	Bobby	Rodgers	Matthew Jackson
20	3445	Reid	Park	Michelle Mitchell
21	3446	Hector	Dalton	Sydney French
22	3447	Mariela	Schultz	Michelle Evans MD
23	3448	Angela	Molina	Patricia Cook

8. CAN YOU IDENTIFY THE DEPARTMENT WITH THE HIGHEST AVERAGE "EMPLOYEE RATING?"

Row Labels	Average of Current Employee Rating
Admin Offices	3.03
Executive Office	2.79
IT/IS	2.97
Production	2.98
Sales	2.91
Software Engineering	2.90
Grand Total	**2.97**

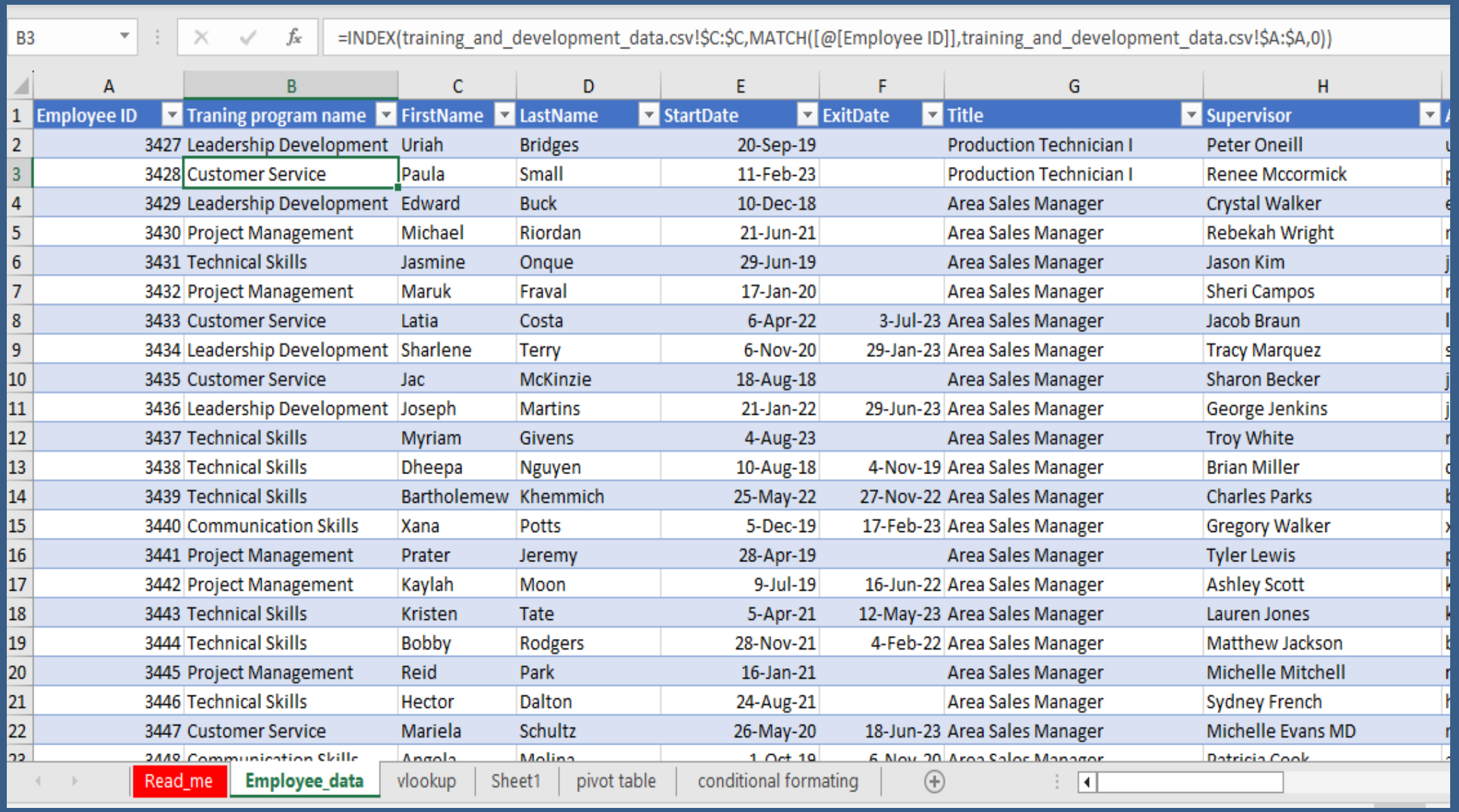
9. CREATE A SCATTER PLOT TO EXPLORE THE RELATIONSHIP BETWEEN "TRAINING DURATION (DAYS)" AND "TRAINING COST."



10. BUILD A PIVOT TABLE THAT SHOWS THE COUNT OF EMPLOYEES BY "RACEDESC" AND "GENDERCODE."

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

11. USE INDEX AND MATCH FUNCTIONS TO FIND THE "TRAINING PROGRAM NAME" FOR AN EMPLOYEE WITH A SPECIFIC ID.



B3

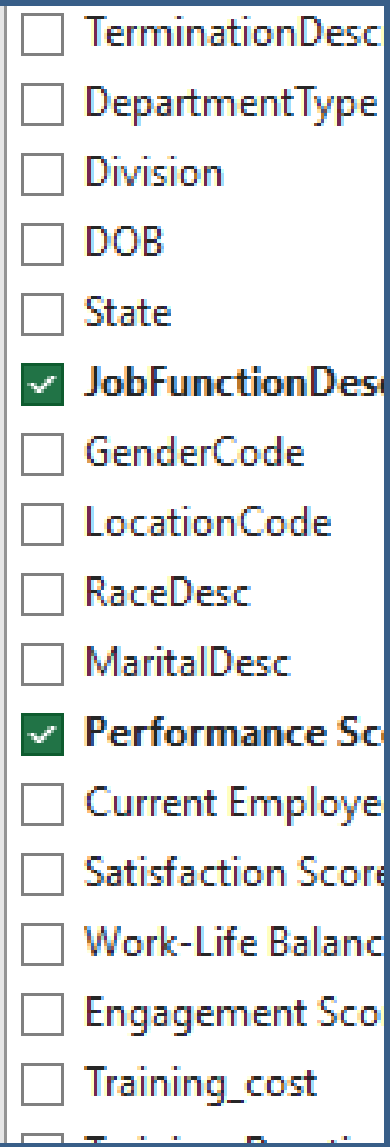
=INDEX(training_and_development_data.csv!$C:$C,MATCH([@[Employee ID]],training_and_development_data.csv!$A:$A,0))

	A	B	C	D	E	F	G	H
1	Employee ID	Traning program name	FirstName	LastName	StartDate	ExitDate	Title	Supervisor
2	3427	Leadership Development	Uriah	Bridges	20-Sep-19		Production Technician I	Peter Oneill
3	3428	Customer Service	Paula	Small	11-Feb-23		Production Technician I	Renee Mccormick
4	3429	Leadership Development	Edward	Buck	10-Dec-18		Area Sales Manager	Crystal Walker
5	3430	Project Management	Michael	Riordan	21-Jun-21		Area Sales Manager	Rebekah Wright
6	3431	Technical Skills	Jasmine	Onque	29-Jun-19		Area Sales Manager	Jason Kim
7	3432	Project Management	Maruk	Fraval	17-Jan-20		Area Sales Manager	Sheri Campos
8	3433	Customer Service	Latia	Costa	6-Apr-22	3-Jul-23	Area Sales Manager	Jacob Braun
9	3434	Leadership Development	Sharlene	Terry	6-Nov-20	29-Jan-23	Area Sales Manager	Tracy Marquez
10	3435	Customer Service	Jac	McKinzie	18-Aug-18		Area Sales Manager	Sharon Becker
11	3436	Leadership Development	Joseph	Martins	21-Jan-22	29-Jun-23	Area Sales Manager	George Jenkins
12	3437	Technical Skills	Myriam	Givens	4-Aug-23		Area Sales Manager	Troy White
13	3438	Technical Skills	Dheepa	Nguyen	10-Aug-18	4-Nov-19	Area Sales Manager	Brian Miller
14	3439	Technical Skills	Bartholemew	Khemmich	25-May-22	27-Nov-22	Area Sales Manager	Charles Parks
15	3440	Communication Skills	Xana	Potts	5-Dec-19	17-Feb-23	Area Sales Manager	Gregory Walker
16	3441	Project Management	Prater	Jeremy	28-Apr-19		Area Sales Manager	Tyler Lewis
17	3442	Project Management	Kaylah	Moon	9-Jul-19	16-Jun-22	Area Sales Manager	Ashley Scott
18	3443	Technical Skills	Kristen	Tate	5-Apr-21	12-May-23	Area Sales Manager	Lauren Jones
19	3444	Technical Skills	Bobby	Rodgers	28-Nov-21	4-Feb-22	Area Sales Manager	Matthew Jackson
20	3445	Project Management	Reid	Park	16-Jan-21		Area Sales Manager	Michelle Mitchell
21	3446	Technical Skills	Hector	Dalton	24-Aug-21		Area Sales Manager	Sydney French
22	3447	Customer Service	Mariela	Schultz	26-May-20	18-Jun-23	Area Sales Manager	Michelle Evans MD
23	3448	Communication Skills	Angela	Molina	1-Oct-19	6-Nov-20	Area Sales Manager	Patricia Cook

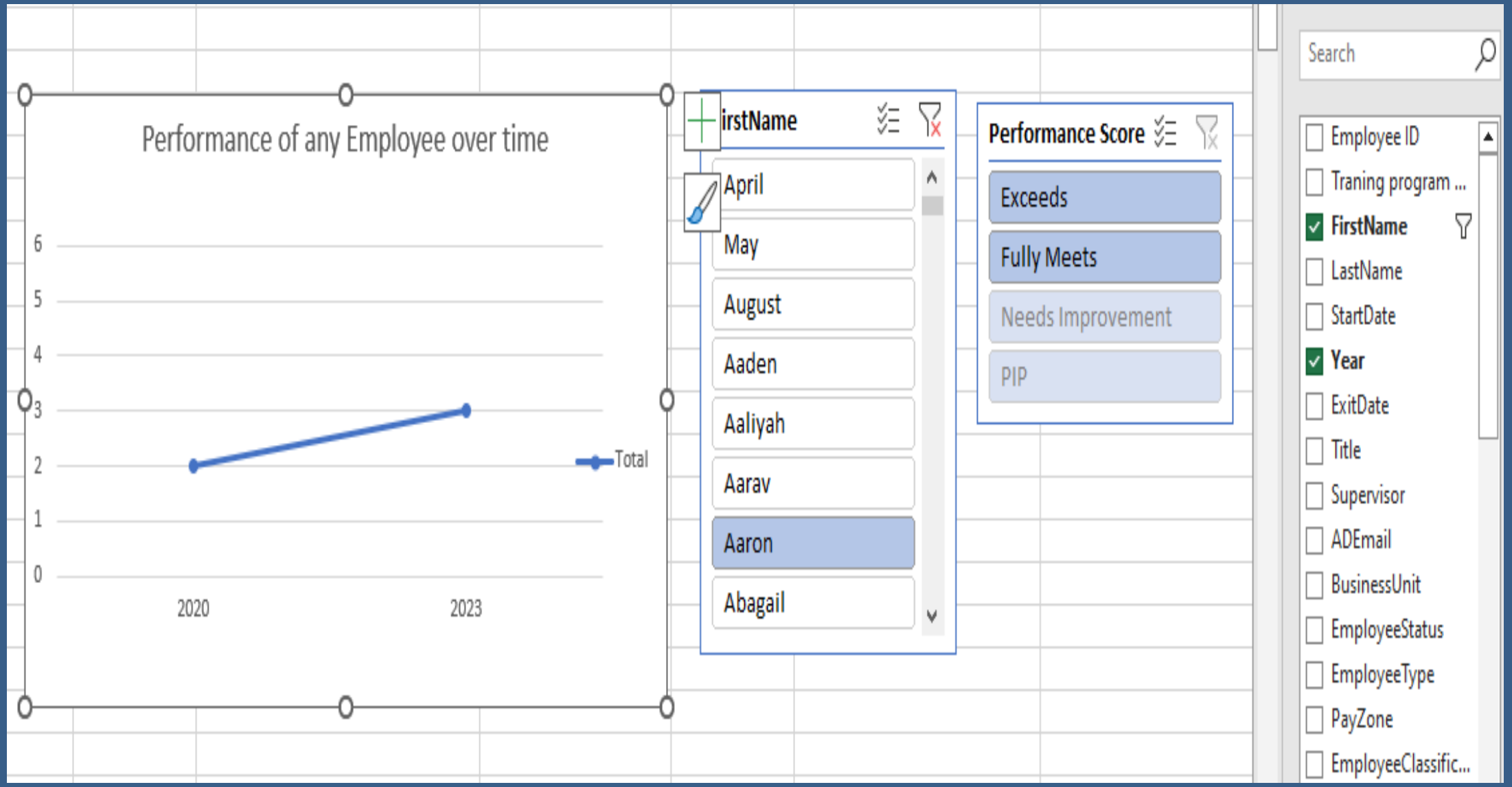
Read_me | Employee_data | vlookup | Sheet1 | pivot table | conditional formating

12. CREATE A MULTI-LEVEL PIVOT TABLE TO ANALYZE THE "PERFORMANCE SCORE" BY "BUSINESSUNIT" AND "JOBFUNCTIONDESCRIPTION."

Row Labels	Count of Performance Score
BPC	303
CCDR	300
EW	302
MSC	296
NEL	304
PL	301
PYZ	299
SVG	304
TNS	297
WBL	294
Grand Total	3000

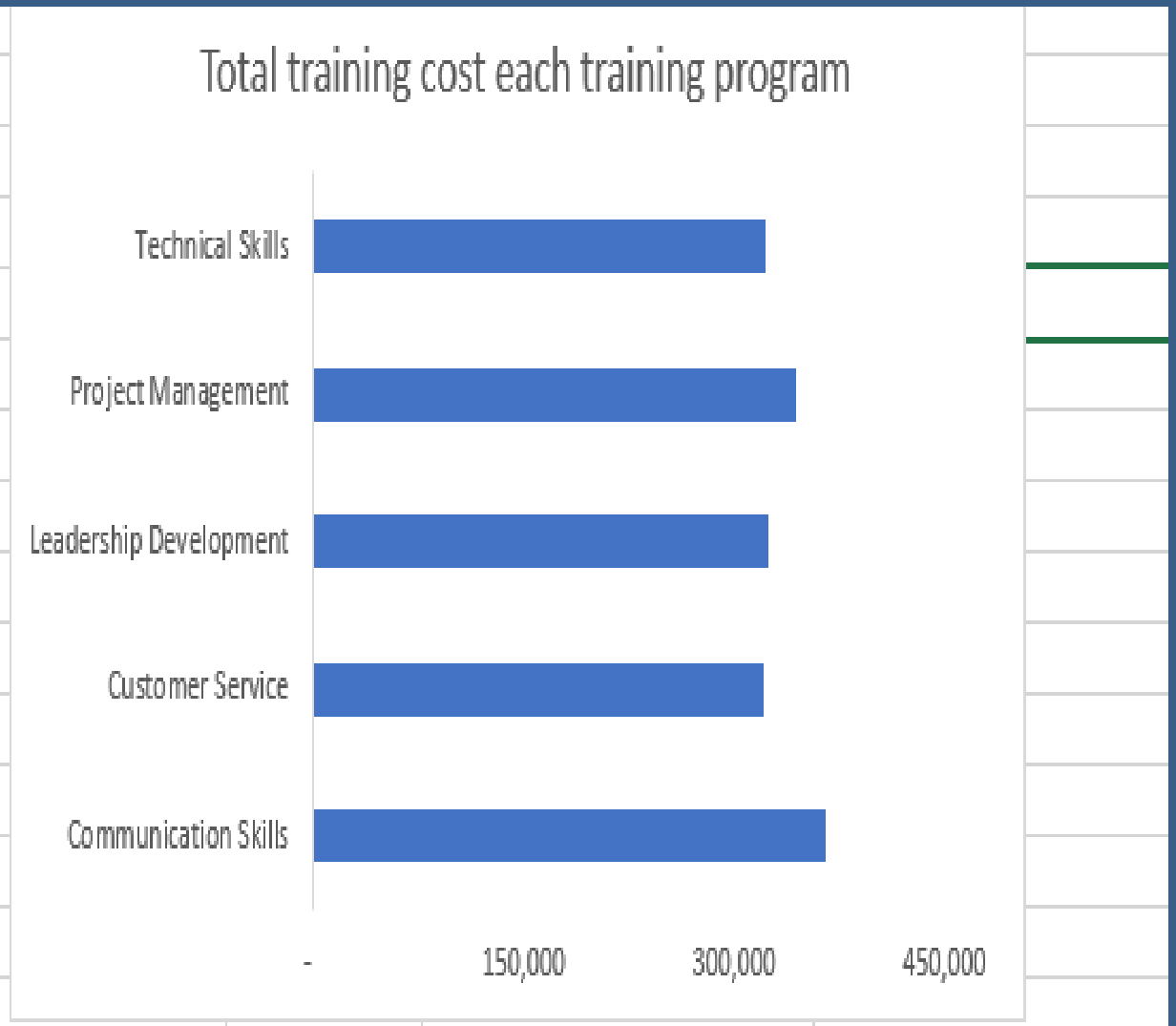


13. DESIGN A DYNAMIC CHART THAT ALLOWS USERS TO SELECT AND VISUALIZE THE PERFORMANCE OF ANY EMPLOYEE OVER TIME.

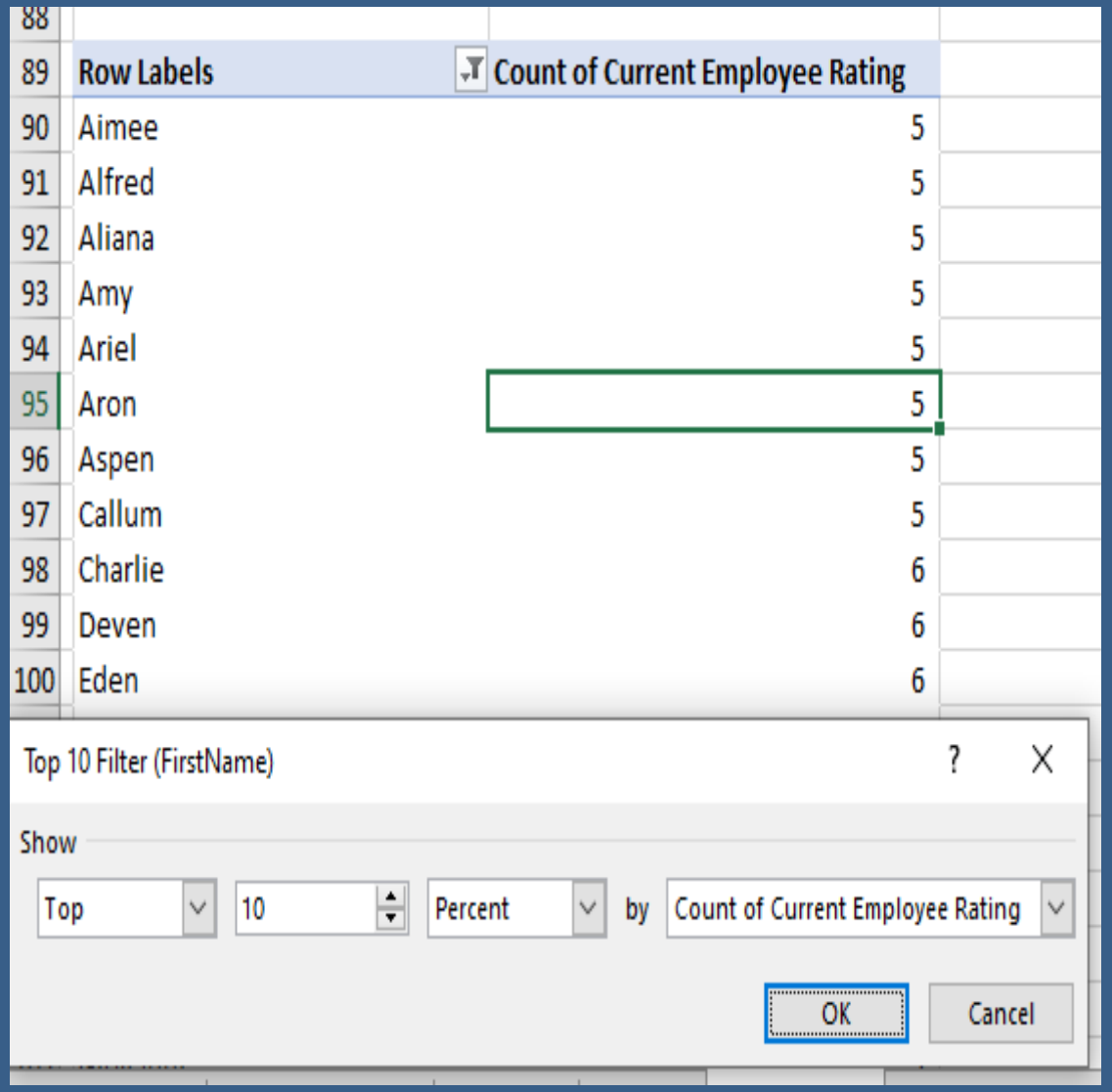


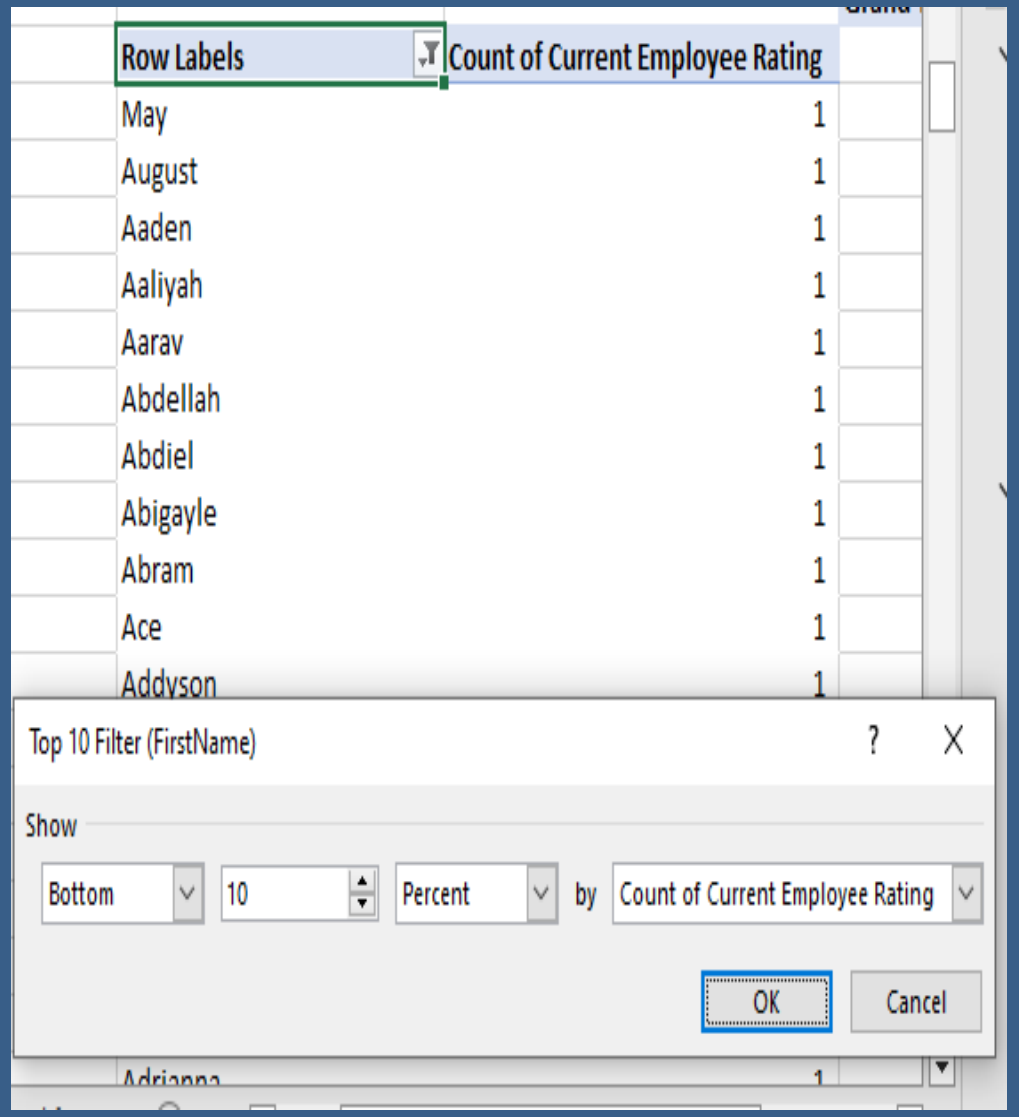
14. CALCULATE THE TOTAL TRAINING COST FOR EACH "TRAINING PROGRAM NAME" AND DISPLAY IT IN A BAR CHART.

Row Labels	Sum of Training_cost
Communicatio	365,023
Customer Serv	320,575
Leadership De	323,902
Project Manag	343,313
Technical Skill	323,073
Grand Total	**1,675,886**



15. APPLY ADVANCED CONDITIONAL FORMATTING TO HIGHLIGHT THE TOP 10% AND BOTTOM 10% OF EMPLOYEES BASED ON "CURRENT EMPLOYEE RATING."

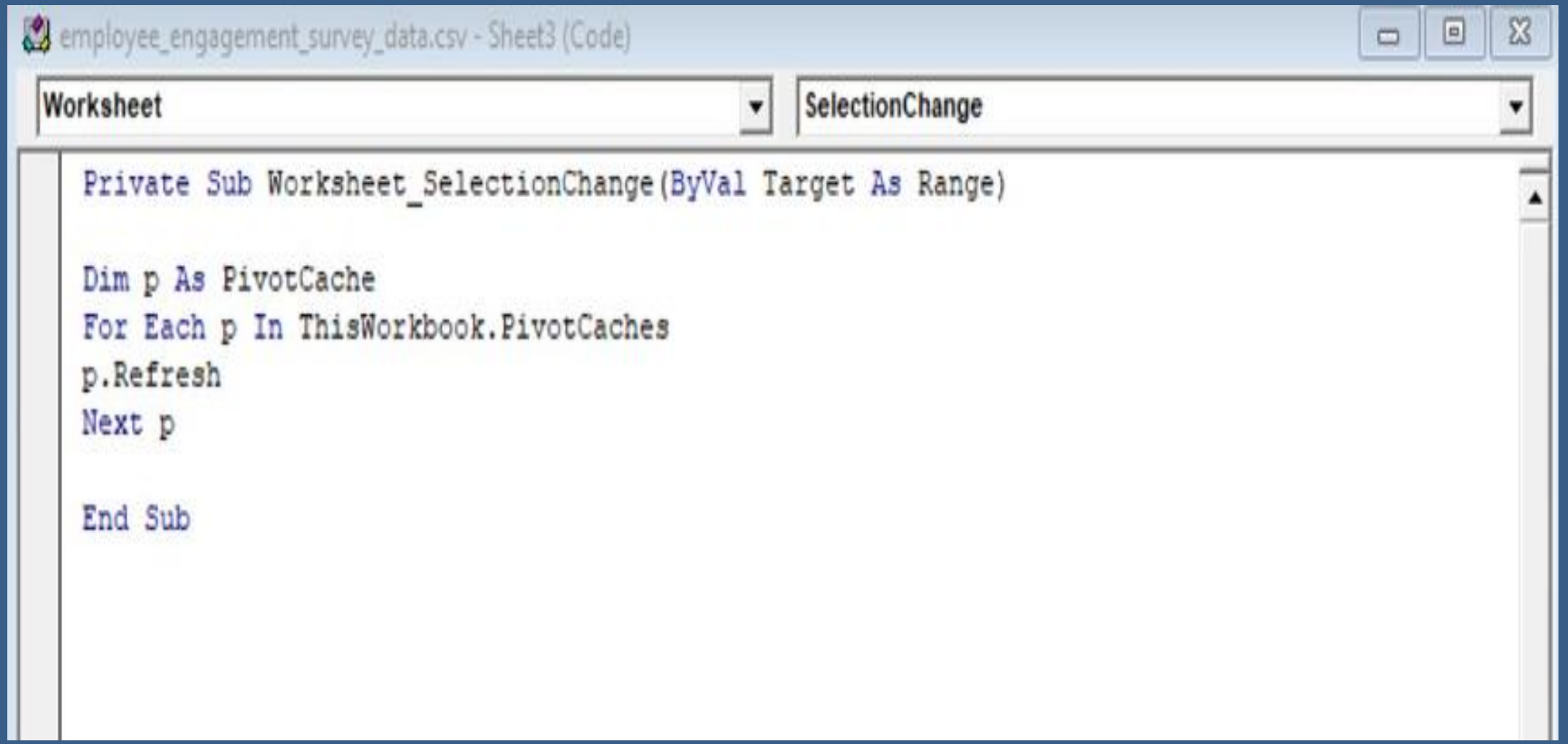




16. USE A CALCULATED FIELD IN A PIVOT TABLE TO DETERMINE THE AVERAGE "ENGAGEMENT SCORE" PER YEAR

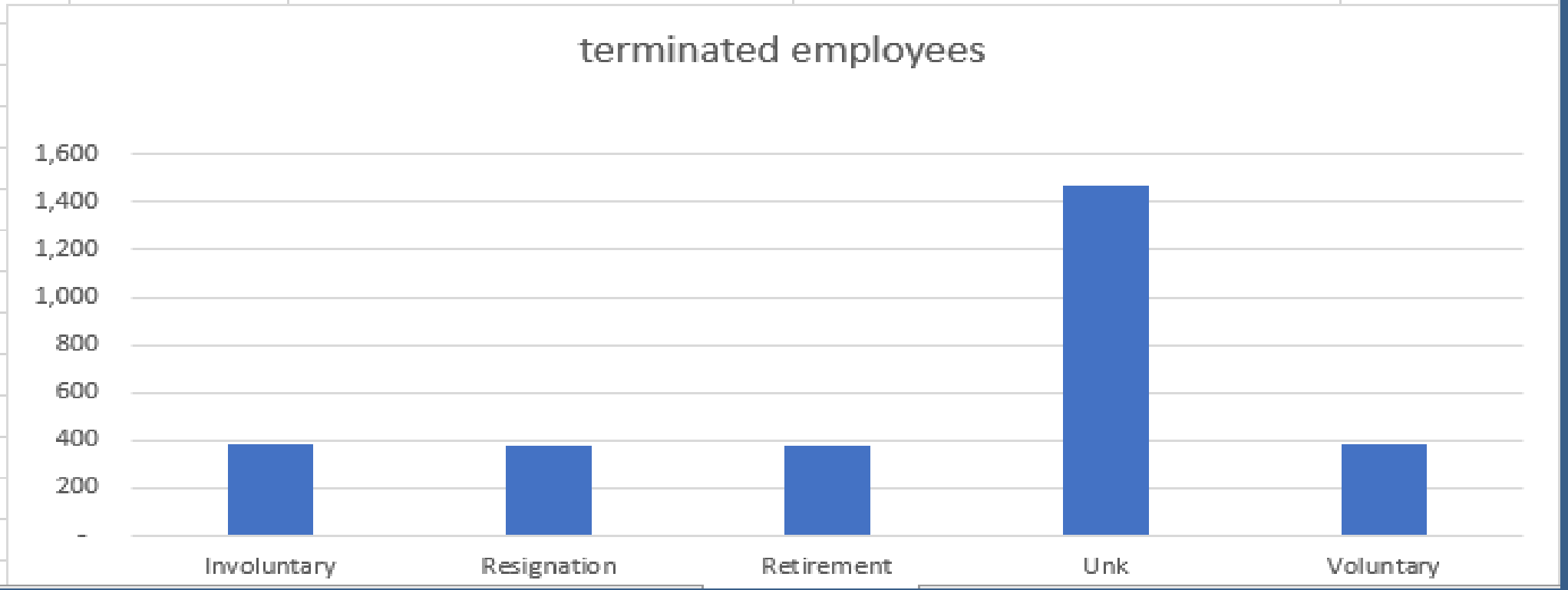
Row Labels	Average of Engagement Score
2018	2.90
2019	3.07
2020	2.94
2021	2.89
2022	2.94
2023	2.83
Grand Total	2.94

17. CAN YOU BUILD A MACRO THAT AUTOMATES THE PROCESS OF UPDATING AND REFRESHING ALL PIVOT TABLES IN THE WORKBOOK?

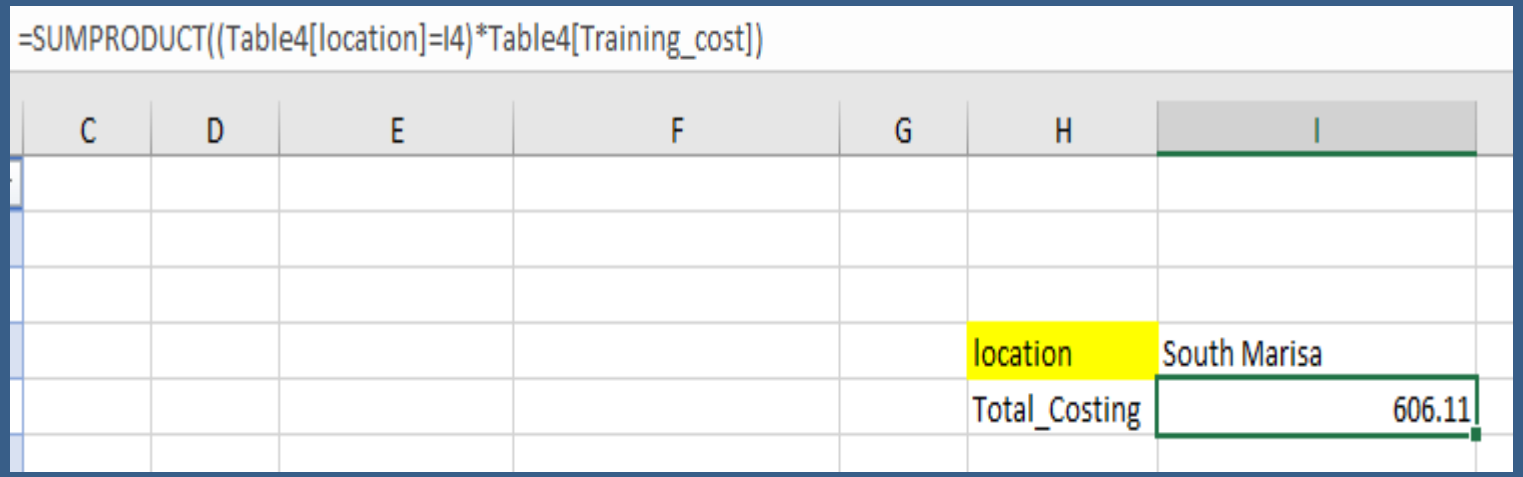


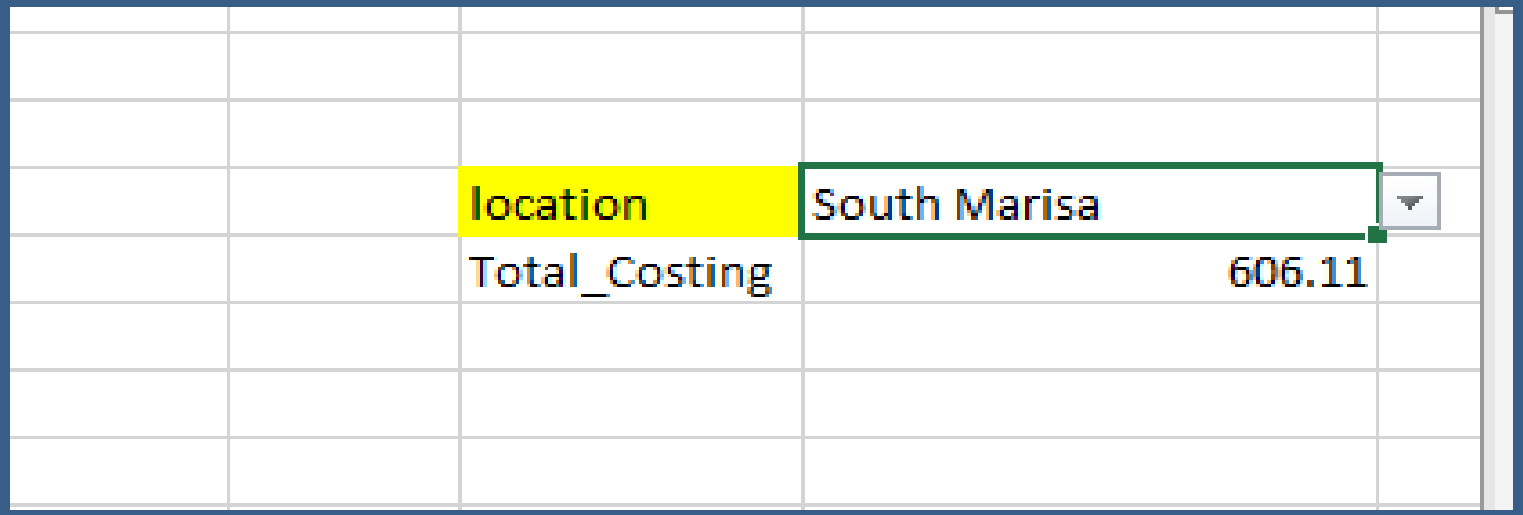
18. CREATE A HISTOGRAM TO UNDERSTAND THE DISTRIBUTION OF "EXITDATE" FOR TERMINATED EMPLOYEES

Row Labels	Count of Employee ID
Involuntary	388
Resignation	380
Retirement	377
Unk	1,467
Voluntary	388
Grand Total	3,000

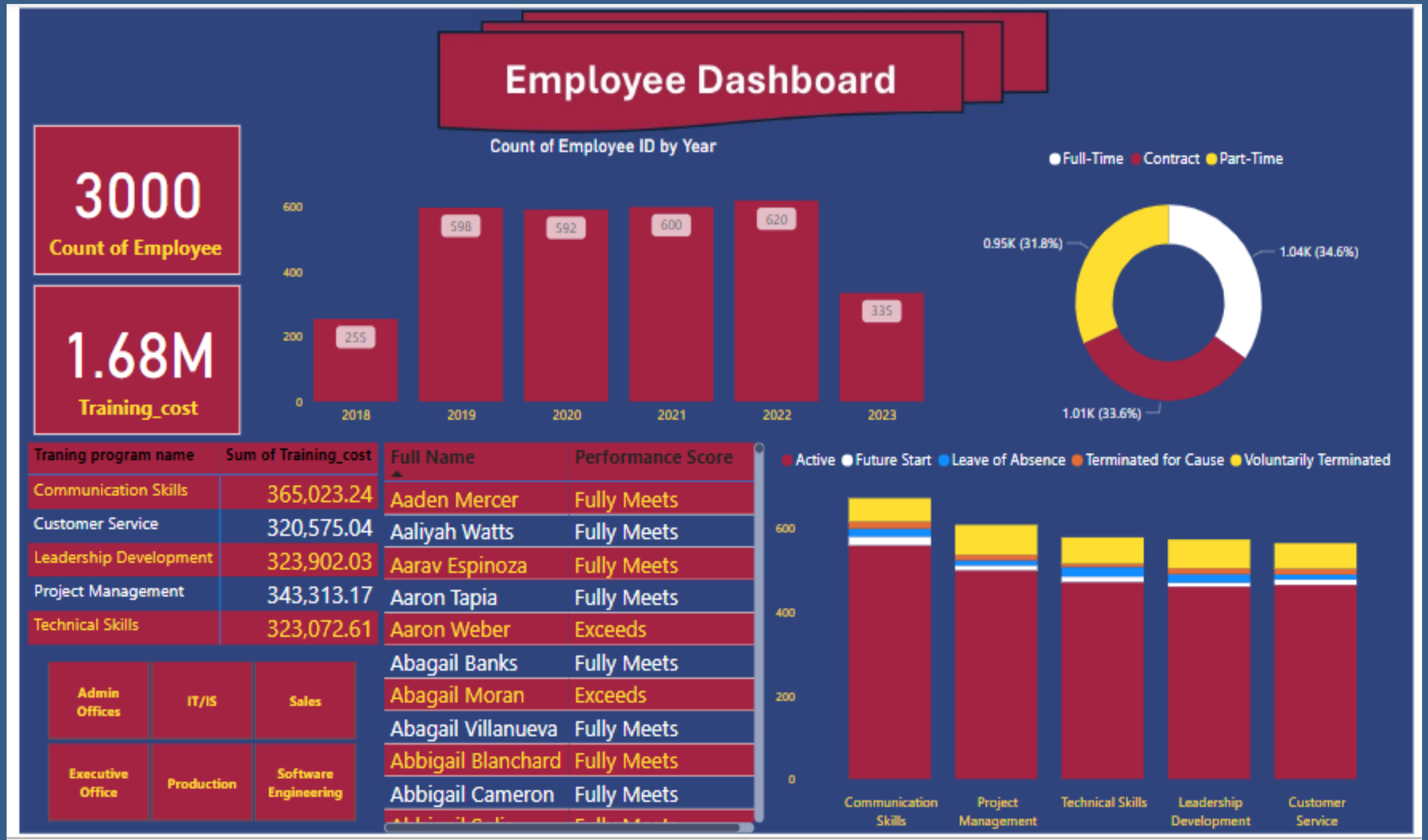


19. UTILIZE THE SUMPRODUCT FUNCTION TO CALCULATE THE TOTAL TRAINING COST FOR EMPLOYEES IN A SPECIFIC LOCATION.





20. DEVELOP A DASHBOARD THAT PROVIDES AN OVERVIEW OF KEY HR METRICS, INCLUDING HEADCOUNT, PERFORMANCE, AND TRAINING COSTS, USING CHARTS AND PIVOT TABLES.



THANK YOU

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