



# PSYLIQ- EMPLOYEE DATA ANALYSIS ASSESSMENT

---

TANYA MITTAL (DATA ANALYST INTERN)



# EMPLOYEE DATA DASHBOARD

3000

Count of Employee ID

28

Count of State

## State and Engagement Score



## Gender

Female

Male

## Year

2018

2021

2019

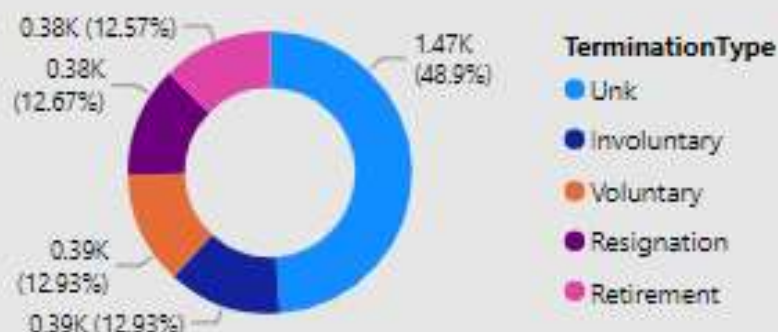
2022

2020

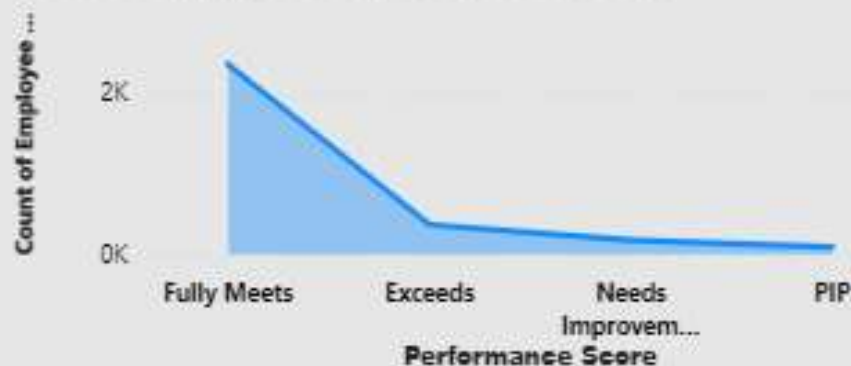
2023

Training Program Name	Sum of Training Cost
Communication Skills	365,023.24
Project Management	343,313.17
Leadership Development	323,902.03
Technical Skills	323,072.61
Customer Service	320,575.04
Total	1,675,886.09

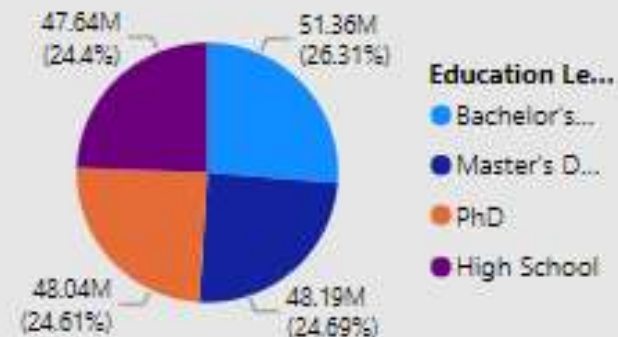
## Count of Employee ID by TerminationType



## Count of Employee ID by Performance Score



## Sum of Desired Salary by Education Level







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

---

Row Labels	Count of FirstName
Admin Offices	80
Executive Office	24
IT/IS	430
Production	2020
Sales	331
Software Engineering	115
Grand Total	3000





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

---

Y	Z
Performance Score	Current Employee Rating
Fully Meets	4
Fully Meets	3
Fully Meets	4
Fully Meets	2
Fully Meets	3
Fully Meets	3
Exceeds	4
Fully Meets	2
Exceeds	3
Fully Meets	5
Fully Meets	5
Fully Meets	3
Fully Meets	3
Fully Meets	3
Exceeds	4
Exceeds	2
Fully Meets	3
Fully Meets	3
Exceeds	4
Exceeds	2





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

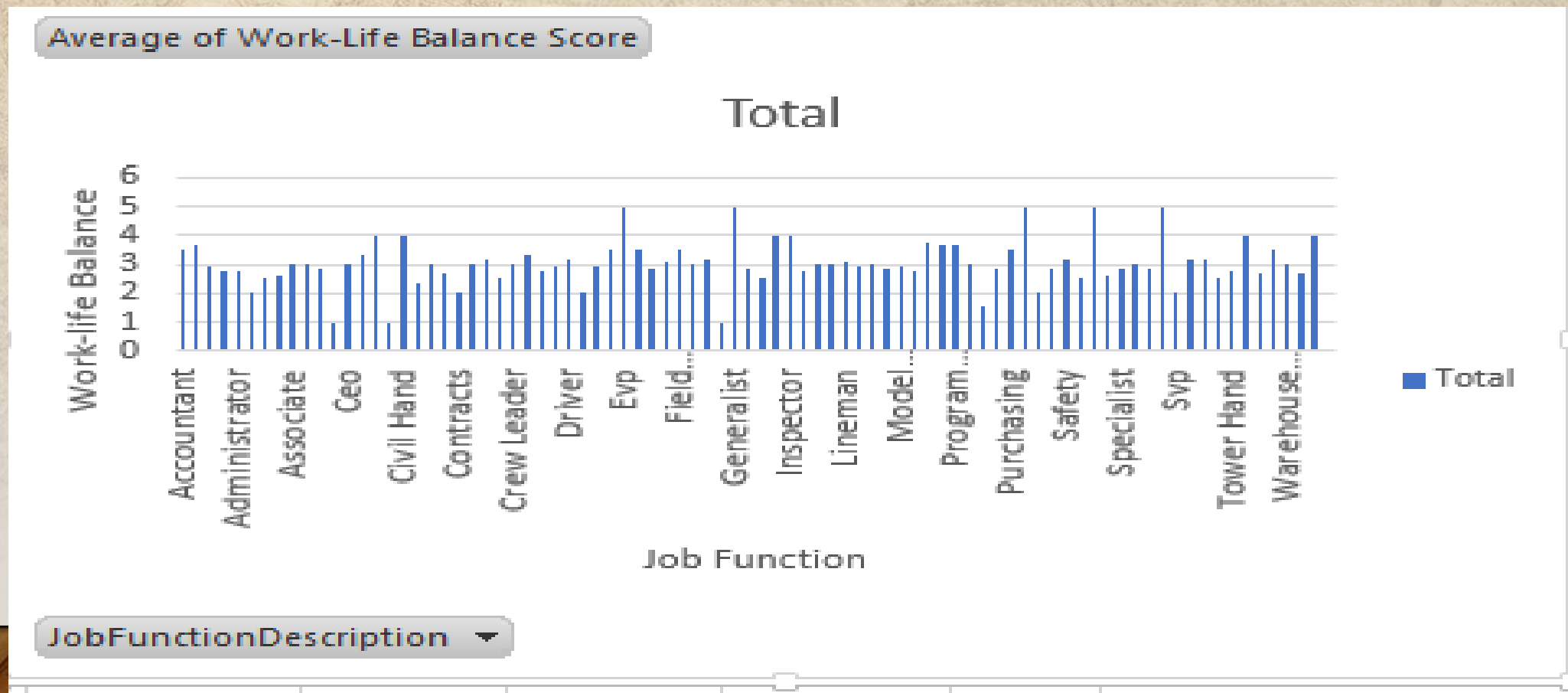
---

Row Labels ▼	Average of Satisfaction Score
Female	3.02
Male	3.02
(blank)	
Grand Total	3.02





CREATE A CHART TO VISUALIZE THE DISTRIBUTION OF "WORK-LIFE BALANCE SCORE" FOR DIFFERENT JOB FUNCTIONS.









FILTER THE DATA TO DISPLAY ONLY TERMINATED EMPLOYEES AND FIND OUT THE MOST COMMON "TERMINATION TYPE."

---

- INVOLUNTARY IS THE MOST COMMON "TERMINATION TYPE".

EmployeeStatus (Multiple Items) 	
Row Labels 	Count of Employee ID
Involuntary	107
Resignation	96
Retirement	86
Voluntary	98
Grand Total	387





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

---

Row Labels	Average of Engagement Score
Admin Offices	3.00
Executive Office	2.88
IT/IS	2.93
Production	2.95
Sales	2.88
Software Engineering	2.92
Grand Total	2.94





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



Employee ID	FirstName	LastName	StartDate	ExitDate	Title	Supervisor	ADEmail
3427	Uriah	Bridges	20-Sep-19		Production Technician	Peter Oneill	uriah.bridges@bilearner.com
3428	Paula	Small	11-Feb-23		Production Technician	Renee McCormick	paula.small@bilearner.com
3429	Edward	Buck	10-Dec-18		Area Sales Manager	Crystal Walker	edward.buck@bilearner.com
3430	Michael	Riordan	21-Jun-21		Area Sales Manager	Rebekah Wright	michael.riordan@bilearner.com
3431	Jasmine	Onque	29-Jun-19		Area Sales Manager	Jason Kim	jasmine.onque@bilearner.com
3432	Maruk	Fraval	17-Jan-20		Area Sales Manager	Sheri Campos	maruk.fraval@bilearner.com
3433	Latia	Costa	6-Apr-22	3-Jul-23	Area Sales Manager	Jacob Braun	latia.costa@bilearner.com
3434	Sharlene	Terry	6-Nov-20	29-Jan-23	Area Sales Manager	Tracy Marquez	sharlene.terry@bilearner.com
3435	Jac	McKinzie	18-Aug-18		Area Sales Manager	Sharon Becker	jac.mckinzie@bilearner.com
3436	Joseph	Martins	21-Jan-22	29-Jun-23	Area Sales Manager	George Jenkins	joseph.martins@bilearner.com
3437	Myriam	Givens	4-Aug-23		Area Sales Manager	Troy White	myriam.givens@bilearner.com
3438	Dheepa	Nguyen	10-Aug-18	4-Nov-19	Area Sales Manager	Brian Miller	dheepa.nguyen@bilearner.com
3439	Bartholemew	Khemmich	25-May-22	27-Nov-22	Area Sales Manager	Charles Parks	bartholemew.khemmich@bilearner.com
3440	Xana	Potts	5-Dec-19	17-Feb-23	Area Sales Manager	Gregory Walker	xana.potts@bilearner.com
3441	Prater	Jeremy	28-Apr-19		Area Sales Manager	Tyler Lewis	prater.jeremy@bilearner.com
3442	Kaylah	Moon	9-Jul-19	16-Jun-22	Area Sales Manager	Ashley Scott	kaylah.moon@bilearner.com
3443	Kristen	Tate	5-Apr-21	12-May-23	Area Sales Manager	Lauren Jones	kristen.tate@bilearner.com
3444	Bobby	Rodgers	28-Nov-21	4-Feb-22	Area Sales Manager	Matthew Jackson	bobby.rodgers@bilearner.com
3445	Reid	Park	16-Jan-21		Area Sales Manager	Michelle Mitchell	reid.park@bilearner.com
3446	Hector	Dalton	24-Aug-21		Area Sales Manager	Sydney French	hector.dalton@bilearner.com

✕ ✓ fx

=VLOOKUP(A11,A1:H21,8,FALSE)

EMAIL: joseph.martins@bilearner.com





# 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

- Admin Offices is the department with highest average Employee Rating.





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

---







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

---

Count of Employee ID		Column Labels ▼		
Row Labels	▼	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





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

Employee ID	Training Date	Training Program Name	Training Type	Training Outcome	Location	Trainer	Training Duration(Days)	Training Cost
1001	21-Sep-22	Customer Service	Internal	Failed	Port Greg	Amanda Daniels	4	510.83
1002	19-Jul-23	Leadership Development	Internal	Failed	Brandonview	Brittany Chambers	2	582.37
1003	24-Feb-23	Technical Skills	Internal	Incomplete	Port Briannahaven	Mark Roberson	4	777.06
1004	12-Jan-23	Customer Service	Internal	Completed	Knightborough	Richard Fisher	2	824.3
1005	12-May-23	Communication Skills	External	Passed	Bruceshire	Heather Shaffer	4	145.99
1006	8-May-23	Project Management	Internal	Failed	Erinfort	Michael Duke	2	838.07
1007	14-May-23	Leadership Development	External	Failed	New Christopher	Virginia Clayton DVM	2	667.32
1008	2-Aug-23	Technical Skills	External	Incomplete	Lowemouth	Erica Maxwell	2	758.18
1009	21-Aug-22	Customer Service	Internal	Incomplete	Johnland	Katelyn Hartman	2	101.21
1010	19-Aug-22	Communication Skills	External	Incomplete	Lake Kimfurt	Rhonda Clark	5	332.25
1011	6-Nov-22	Communication Skills	Internal	Completed	Smithshire	Natalie Fields	1	803.98
1012	28-Mar-23	Technical Skills	External	Failed	Howardburgh	Theresa Martinez	3	887.08
1013	8-Apr-23	Project Management	External	Incomplete	East Jessicatown	Michael Marks	2	657.85
1014	21-Feb-23	Customer Service	External	Incomplete	Watersview	Rachel Jones	2	895.49
1015	13-May-23	Leadership Development	External	Passed	Port Ninaland	Jennifer Olson	1	539
1016	30-Apr-23	Communication Skills	External	Completed	Lake Stuartfurt	Eric Johnson	2	606.68
1017	14-Nov-22	Technical Skills	External	Passed	Cooleybury	Joseph McIntyre	3	265.73

X ✓ f<sub>x</sub> | =INDEX(C1:C18,MATCH(A6,A1:A18,0))

Training Program Name | Communication Skills





# CREATE A MULTI-LEVEL PIVOT TABLE TO ANALYZE THE "PERFORMANCE SCORE" BY "BUSINESS UNIT" AND "JOB FUNCTION DESCRIPTION."

Count of Employee ID		Column Labels				
Row Labels	Exceeds	Fully Meets	Needs Improvement	PIP	Grand Total	
⊕ BPC	36	235	24	8	303	
⊕ CCDR	39	234	17	10	300	
⊕ EW	39	240	16	7	302	
⊕ MSC	39	226	20	11	296	
⊕ NEL	30	251	11	12	304	
⊕ PL	34	241	16	10	301	
⊕ PYZ	35	228	23	13	299	
⊕ SVG	46	233	20	5	304	
⊕ TNS	41	233	15	8	297	
⊕ WBL	30	240	15	9	294	
Grand Total	369	2361	177	93	3000	

⊕ MSC	39	226	20	11	296
⊖ NEL	30	251	11	12	304
Accounting			1		1
Administration		1			1
Administrative		4	1		5
Administrator		2			2
Apprentice	1				1
Assistant	1	2	1		4
Associate		1			1
Billing		1			1
Chief Operating Officer		1			1
Clerk		4			4
Construction Manager		1			1
Coordinator		9			9
Cpo		1			1
Director		4			4
Drafter		1	1		2
Driller	1	2			3
Driver		5			5
Electrician		1			1
Engineer	1	26	3		30
Executive Assistant	1				1
Flagger	1	1			2





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

Count of Employee ID		Column Labels				
Row Labels	Exceeds	Fully Meets	Needs Improvement	PIP	Grand Total	
2018	31	191	22	11	255	
2019	84	450	43	21	598	
2020	73	476	26	17	592	
2021	81	478	30	11	600	
2022	62	497	36	25	620	
2023	38	269	20	8	335	
Grand Total	369	2361	177	93	3000	

StartDate

All Periods

YEARS

2018201920202021202220232024

Name

Zoie

Zoey

Zoe

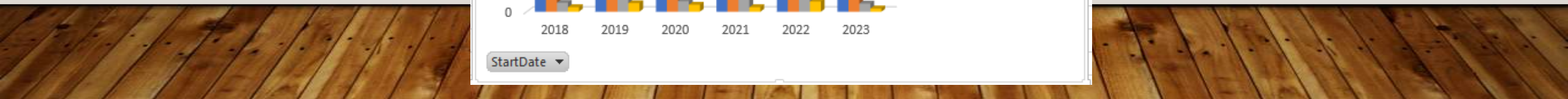
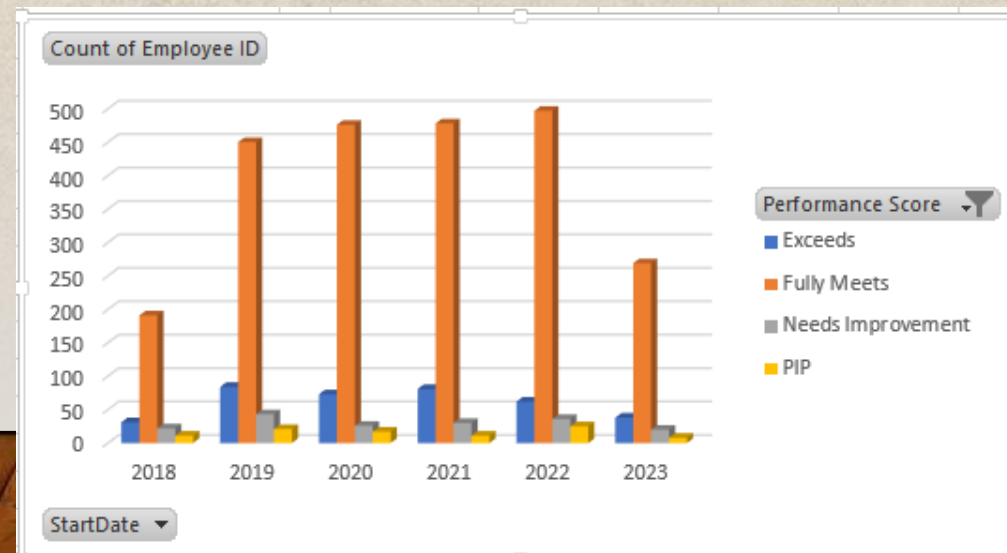
Zechariah

Zayne

Zavier

Zariah

Zaria







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

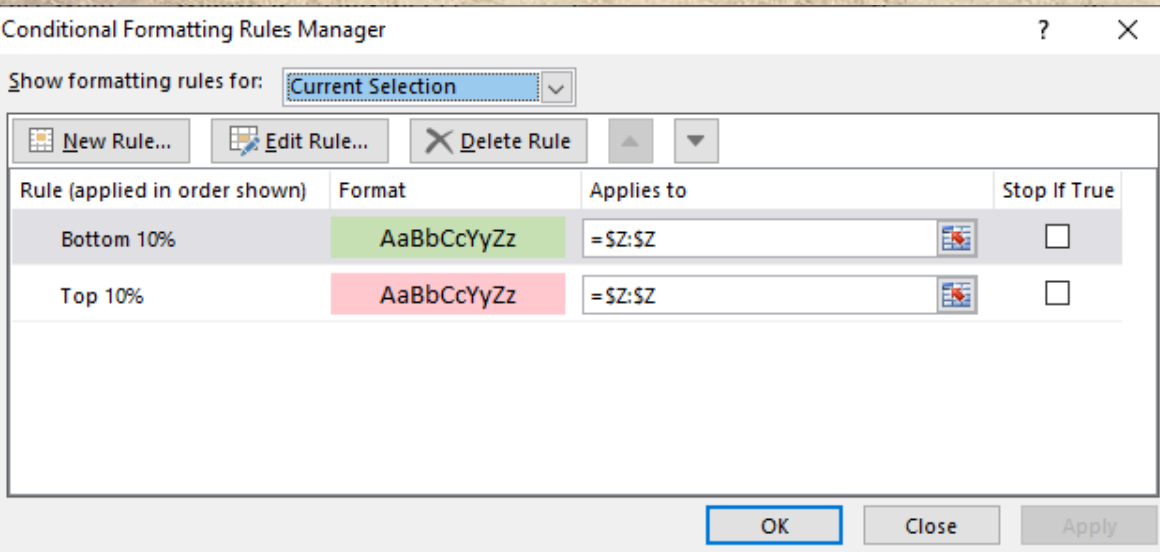
Row Labels	Sum of Training Cost
Communication Skills	365023.24
Customer Service	320575.04
Leadership Development	323902.03
Project Management	343313.17
Technical Skills	323072.61
Grand Total	1675886.09







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



V	W	X	Y	Z
LocationCode	RaceDesc	MaritalDesc	Performance Score	Current Employee Rating
34904	White	Widowed	Fully Meets	4
6593	Hispanic	Widowed	Fully Meets	3
2330	Hispanic	Widowed	Fully Meets	4
58782	Other	Single	Fully Meets	2
33174	Other	Married	Fully Meets	3
6050	Black	Married	Fully Meets	3
90007	Hispanic	Divorced	Exceeds	4
97756	White	Divorced	Fully Meets	2
78789	Black	Widowed	Exceeds	3
78207	Asian	Widowed	Fully Meets	5
46204	Other	Single	Fully Meets	5
30428	Asian	Married	Fully Meets	3
80820	Other	Single	Fully Meets	3
40220	White	Divorced	Fully Meets	3
89139	Asian	Widowed	Exceeds	4
2810	Black	Single	Exceeds	2
2621	Asian	Widowed	Fully Meets	3
44553	Other	Widowed	Fully Meets	3
5360	Other	Married	Exceeds	4
16325	White	Divorced	Exceeds	2
43481	Asian	Widowed	Fully Meets	3
50705	Asian	Widowed	Fully Meets	3





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

---

Row Labels ▼	Average of Engagement Score
2018	2.99
2019	2.89
2020	2.96
2021	2.95
2022	2.91
2023	2.98
Grand Total	2.94





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

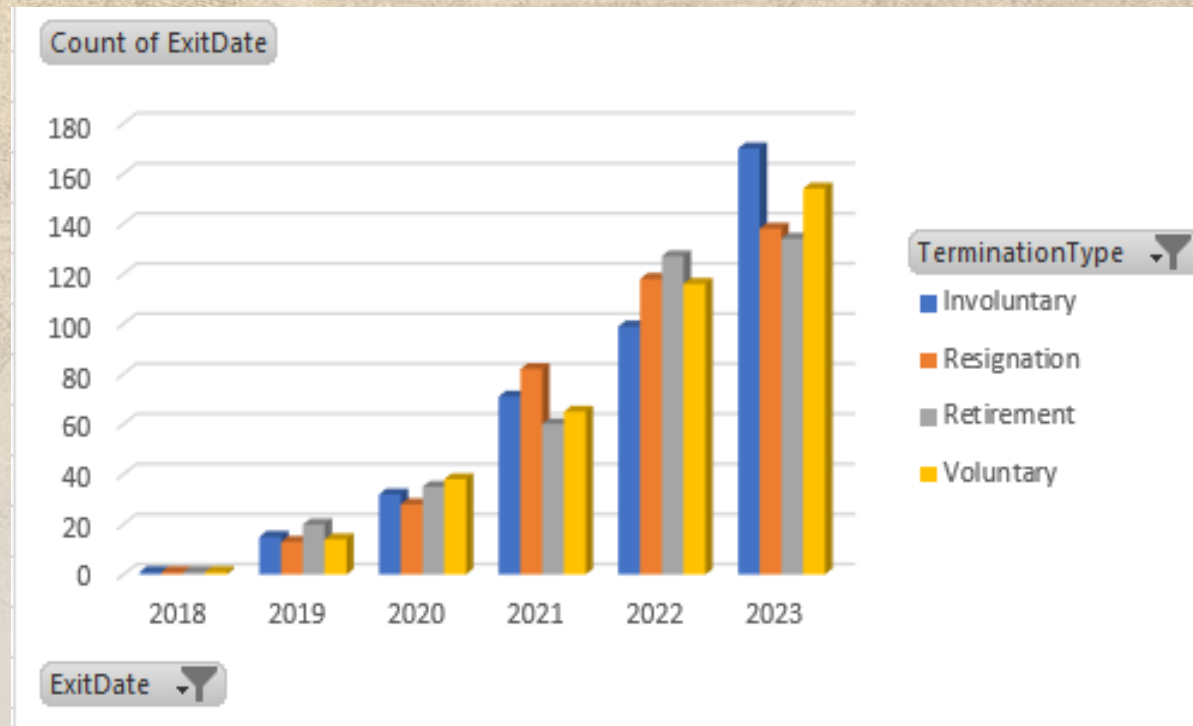
---

- Press Alt + F11 to open the Visual Basic for Applications (VBA) editor.
- Go to Insert > Module to insert a new module.
- Write the code into the module window.
- Close the VBA editor.
- Press Alt + F8, select "RefreshAllPivotTables", and click "Run".





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







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

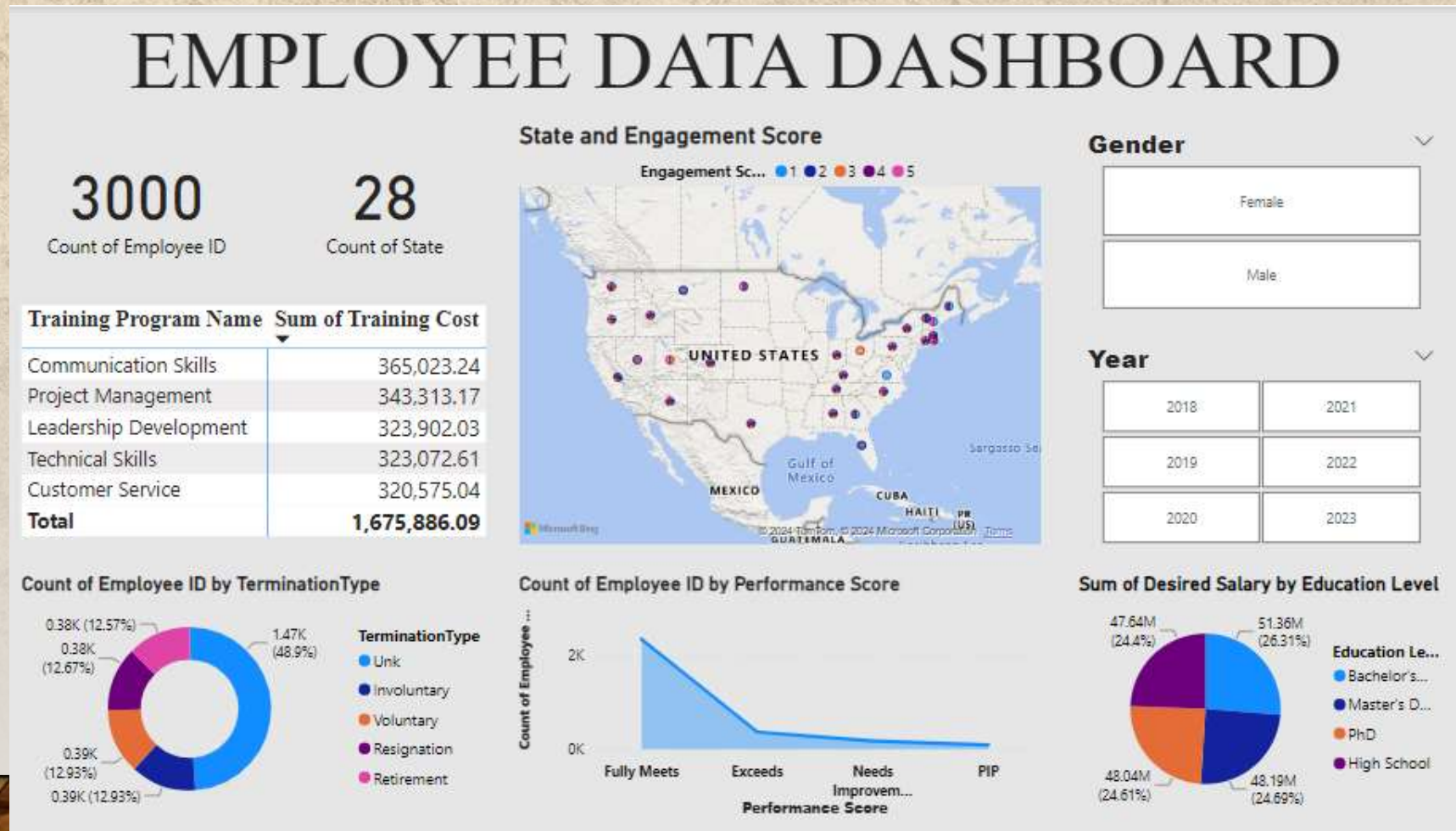
Training Date	Training Program Name	Training Type	Training Outcome	Location	Trainer	Training Duration(Days)	Training Cost
21-Sep-22	Customer Service	Internal	Failed	Port Greg	Amanda Daniels	4	510.83
19-Jul-23	Leadership Development	Internal	Failed	Brandonview	Brittany Chambers	2	582.37
24-Feb-23	Technical Skills	Internal	Incomplete	Port Briannahaven	Mark Roberson	4	777.06
12-Jan-23	Customer Service	Internal	Completed	Knightborough	Richard Fisher	2	824.3
12-May-23	Communication Skills	External	Passed	Bruceshire	Heather Shaffer	4	145.99
8-May-23	Project Management	Internal	Failed	Erinfort	Michael Duke	2	838.07
14-May-23	Leadership Development	External	Failed	New Christopher	Virginia Clayton DVM	2	667.32
2-Aug-23	Technical Skills	External	Incomplete	Lowemouth	Erica Maxwell	2	758.18
21-Aug-22	Customer Service	Internal	Incomplete	Johnland	Katelyn Hartman	2	101.21
19-Aug-22	Communication Skills	External	Incomplete	Lake Kimfurt	Rhonda Clark	5	332.25
6-Nov-22	Communication Skills	Internal	Completed	Smithshire	Natalie Fields	1	803.98
28-Mar-23	Technical Skills	External	Failed	Howardburgh	Theresa Martinez	3	887.08
8-Apr-23	Project Management	External	Incomplete	East Jessicatown	Michael Marks	2	657.85
21-Feb-23	Customer Service	External	Incomplete	Watersview	Rachel Jones	2	895.49
13-May-23	Leadership Development	External	Passed	Port Ninaland	Jennifer Olson	1	539
30-Apr-23	Communication Skills	External	Completed	Lake Stuartfurt	Eric Johnson	2	606.68
14-Nov-22	Technical Skills	External	Passed	Cooleybury	Joseph McIntyre	3	265.73
25-Mar-23	Project Management	Internal	Incomplete	Larsonborough	Whitney Morgan DVM	2	673.29
26-Oct-22	Project Management	External	Passed	Powellland	Jon Garcia	5	436.98
30-Dec-22	Technical Skills	External	Passed	Chadport	Nicole Taylor	4	578.58
10-Mar-23	Technical Skills	Internal	Failed	Patrickhaven	Crystal Nelson	1	647.16

X ✓ fx	=SUMPRODUCT((I1:I22),(F1:F22=L9)*1)
Location	New Christopher
Training Cost	667.32





DEVELOP A DASHBOARD THAT PROVIDES AN OVERVIEW OF KEY HR METRICS, INCLUDING HEADCOUNT, PERFORMANCE, AND TRAINING COSTS.







THANK YOU