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Technology Used: Microsoft Excel

Excel Data Analysis And dashboards

A pivot table to summarize the total number of employees in each department

- There are a total of upto 7501500 employees across all departments in the Employees dataset

3	Row Labels	Sum of Employee ID
4	Admin Offices	115863
5	Executive Office	82789
6	IT/IS	1219763
7	Production	4960723
8	Sales	956182
9	Software Engineering	166180
10	Grand Total	7501500
11		

Conditional formatting to highlight employees with a "Performance Score" below 3 in red.

- Performance scores column looks like this after applying the conditional formatting

[illegible]

The average "Satisfaction Score" for male and female employees separately using a pivot table

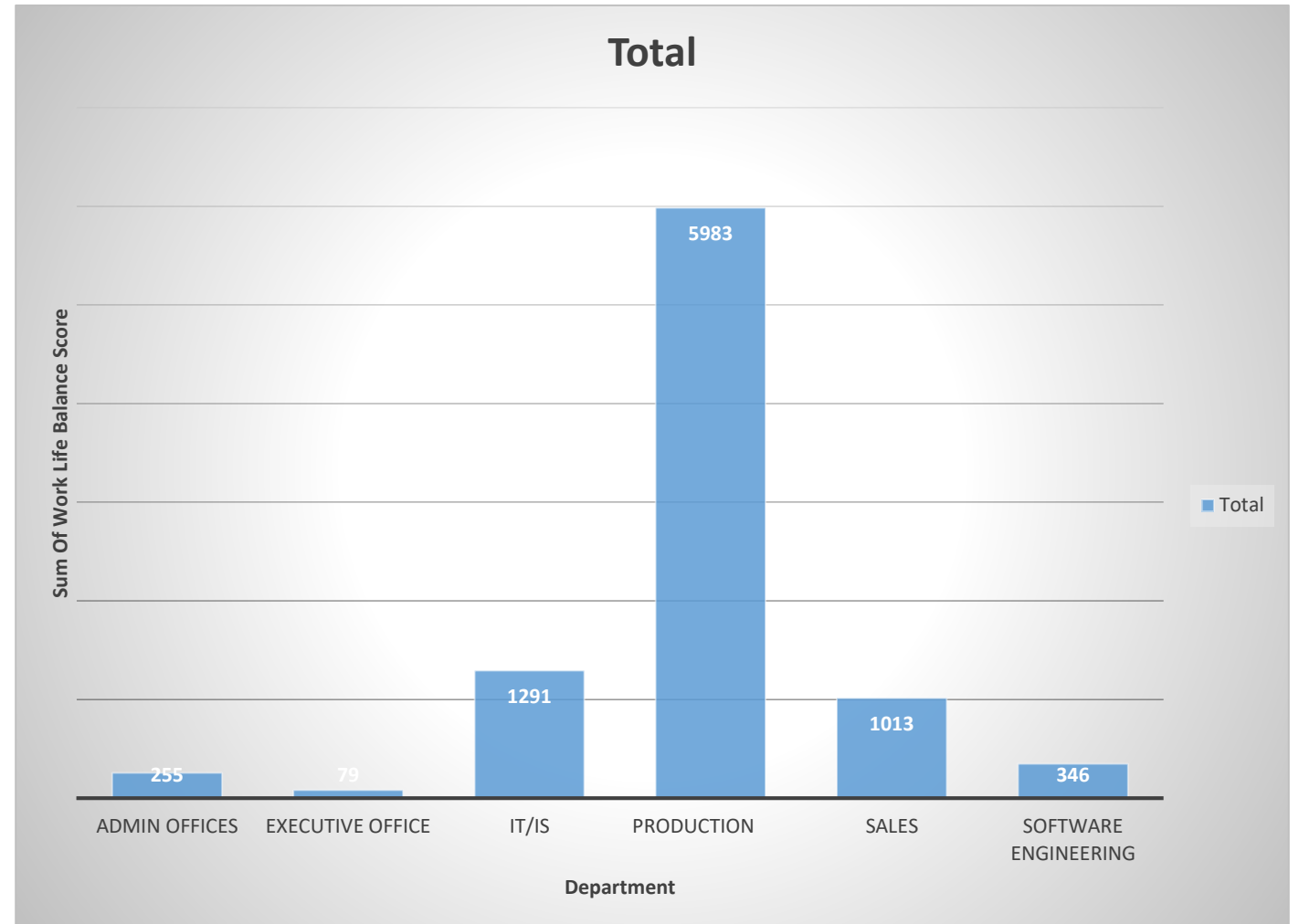
- The pivot table looks like this:

Gender	Sum of Satisfaction Score
F	5056
M	4010
Grand Total	9066

To visualize the distribution of "Work-Life Balance Score" for different job functions.

Department	Sum of WorkLifeBalanceScore
Admin Offices	255
Executive Office	79
IT/IS	1291
Production	5983
Sales	1013
Software Engineering	346
Grand Total	8967
4)The work-life balance score is good in the Production	

The Production department tops



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

- The Most common termination type is Voluntarily terminated

5) Voluntarily terminated--321 members

Terminated for cause --67 members

T
TerminationType
Involuntary
Voluntary
Involuntary
Involuntary
Voluntary
Retirement
Voluntary
Involuntary
Retirement
Involuntary
Involuntary
Retirement
Voluntary
Involuntary
Retirement
Voluntary
Voluntary
Voluntary
Involuntary
Retirement
Retirement
Involuntary
Involuntary
Involuntary

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

- The average "Engagement Score" for each department using a pivot table.

Row Labels	Average of Engagement_Score
Admin Offices	2.925
Executive Office	3.375
IT/IS	3.025581395
Production	2.906435644
Sales	2.990936556
Software Engineering	2.973913043
Grand Total	2.939666667

VLOOKUP to find the supervisor's email address for a specific employee

- The lookup value is calculated using vlookup as follows:

Employee's Supervisor	Engage
Angela.Hayes@bilearner.com	
Christina.Copeland@bilearner.com	
Jennifer.Cohen@bilearner.com	
Raymond.Adams@bilearner.com	
Jessica.Rhodes@bilearner.com	
Steven.Tran@bilearner.com	
Kristen.Collier@bilearner.com	
Candice.Schmidt@bilearner.com	
Jermaine.Weaver@bilearner.com	
Tyler.Davis@bilearner.com	
Joshua.Gonzalez@bilearner.com	
Justin.Sherman@bilearner.com	
Sara.Holland@bilearner.com	
Debra.Morales@bilearner.com	
Chad.Andrews@bilearner.com	
John.Wallace@bilearner.com	
Michael.Ramos@bilearner.com	
Dominique.Bailey@bilearner.com	
Stacey.Vargas@bilearner.com	
Joshua.Daniels@bilearner.com	
Mark.Mays@bilearner.com	
Brandon.Ortiz@bilearner.com	
Kelly.Williams@bilearner.com	
Jose.Daniel@bilearner.com	
Patricia.Brewer@bilearner.com	

Sheet25 Copy_Of_Employee_data

Employee's Supervisor	E
=VLOOKUP(G3,G2:AJ3002,30,FALSE)	
Christina.Copeland@bilearner.com	
Jennifer.Cohen@bilearner.com	

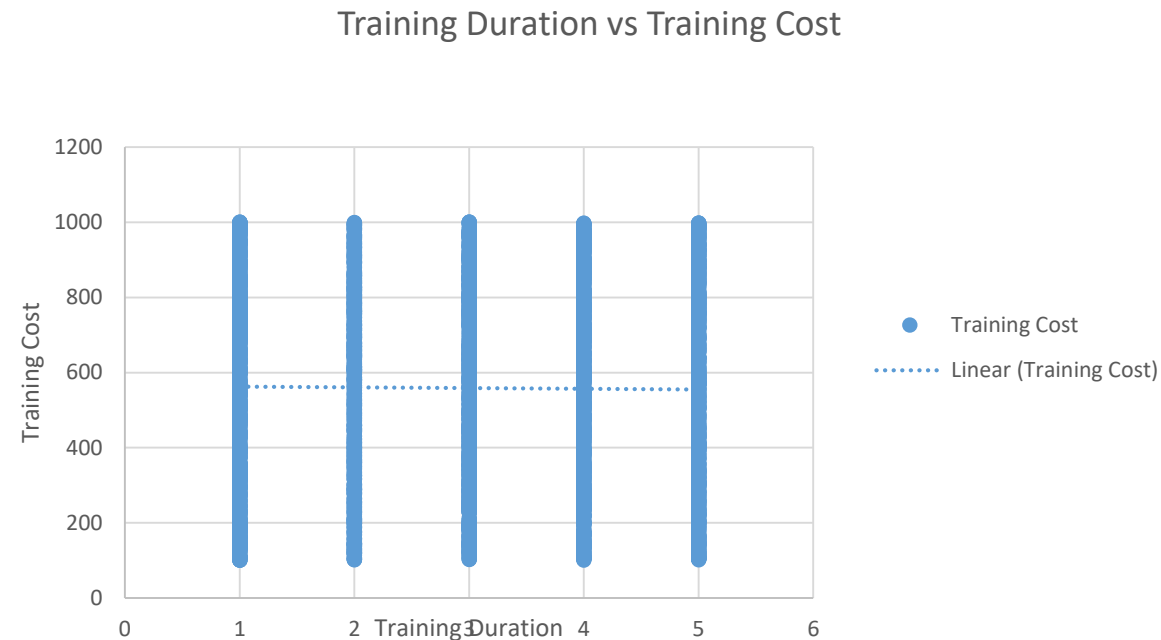
The department with the highest average "Employee Rating?"

- highest average :Admin Offices has highest Employee Rating

Row Labels	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

Training Duration Vs Training Cost

- We can't comment on any relationship between Training Duration And Training Cost



The count of employees by "RaceDesc" and "GenderCode."

RaceDesc		Count of Employees
[-] 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

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

- Below is the task performed using index and match functions:

AL
Using_IndexMatch
Leadership Development
Technical Skills
Customer Service
Leadership Development
Technical Skills
Customer Service
Communication Skills
Technical Skills
Customer Service
Communication Skills
Technical Skills
Project Management
Project Management
Project Management
Project Management
Project Management
Communication Skills
Technical Skills
Leadership Development
Customer Service
Technical Skills
Customer Service
Customer Service
Leadership Development
Leadership Development

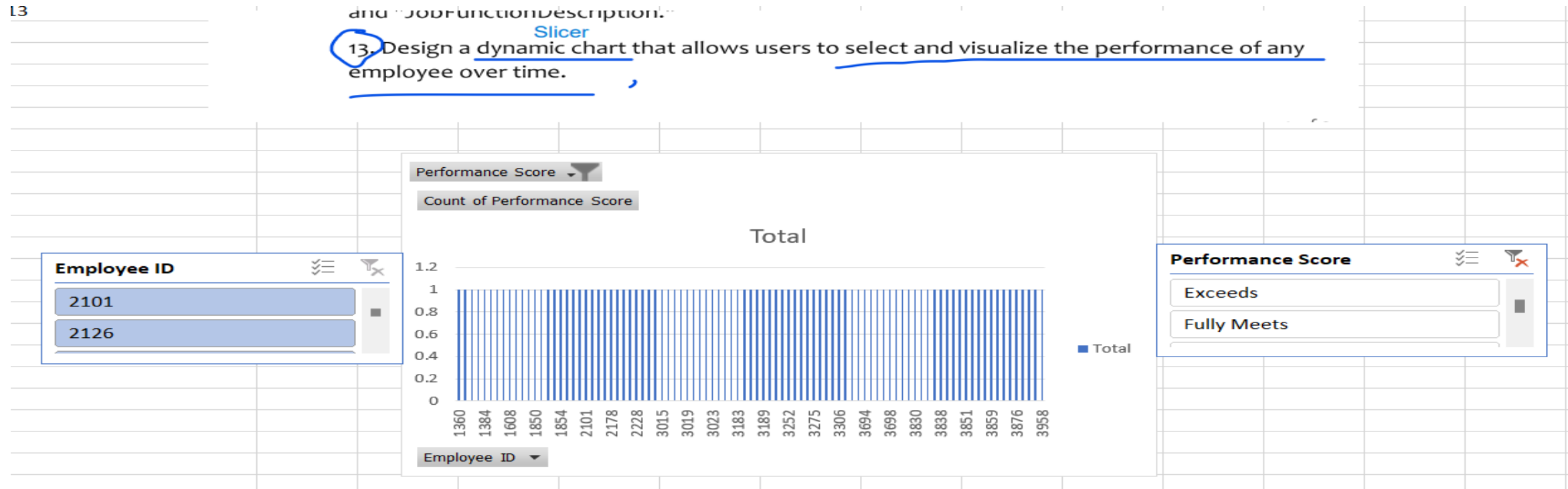
Multi-level pivot table to analyze the "Performance Score" by "BusinessUnit" and "JobFunctionDescription."

- "Performance Score" by "BusinessUnit" and "JobFunctionDescription."

Count of Performance Score		JobFuncDescription				
Business Unit	Accountant	Accounting	Administration	Administrative	Administrator	Analyst
BPC				3	7	9
CCDR	1		1		4	3
EW			1		7	2
MSC	1		6		10	5
NEL	1		1		5	2
PL			1		4	6
PYZ	2		2		2	6
SVG	1		3		5	7
TNS	3		2		5	4
WBL	2		3		7	6
Grand Total	2	9	23	56	50	1

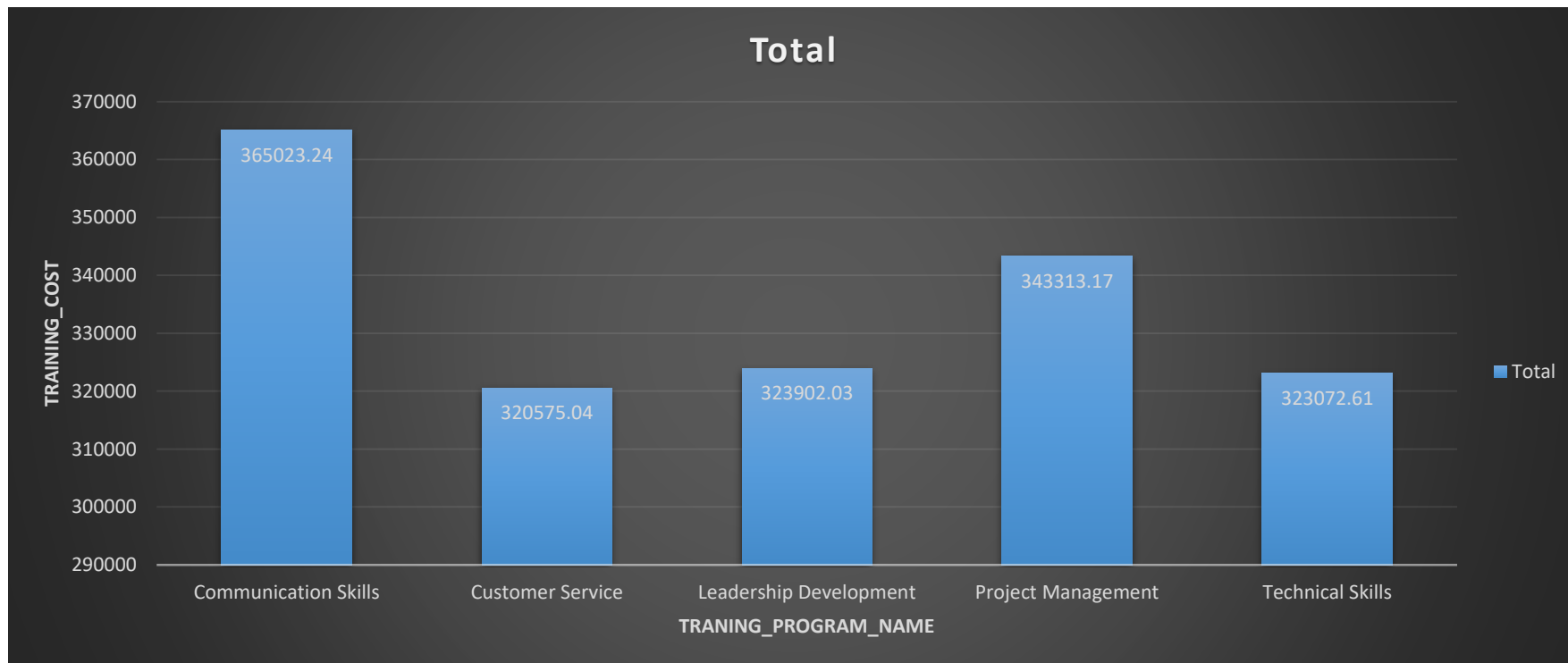
Employee Dynamic Chart

- You can analyze any employee using the below dynamic chart.



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

- The “communication Skills” training program has taken more training cost than any other training program



Top10% of Employees

- The top10% is formatted in Green

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1	EmployeeClassificationType	TerminationType	TerminationReason	DepartmentType	Division	DOB	State	JobFunction	Gender	Location	Race	Marital	Performance Score	Current Employee Rating	
3	Temporary	Involuntary	Even third	Production	Fielders	13-12-1964	MA	Engineer	Female	35098	Hispanic	Married	PIP	5	
4	Temporary	Involuntary	Arrive allow	Production	General - C	17-05-1957	MA	Lineman	Female	92067	Asian	Single	Needs Improvement	5	
5	Full-Time	Involuntary	Fight perh	Production	General - C	21-02-1962	MA	Laborer	Female	53948	Black	Married	Exceeds	5	
8	Temporary	Involuntary	Developm	Production	Project M	26-03-1997	MA	Coordinator	Female	90636	White	Single	Exceeds	5	
9	Full-Time	Voluntary	Onto brot	Production	Splicing	10-06-1971	MA	Splicer	Female	73850	Asian	Widowed	Exceeds	5	
10	Full-Time	Involuntary	Lawyer he	Production	Aerial	21-04-1959	MA	Groundma	Female	13138	Asian	Single	Exceeds	5	
11	Full-Time	Voluntary	Ago deter	Production	General - C	20-01-1985	MA	Laborer	Female	46637	Asian	Single	Needs Improvement	5	
13	Part-Time	Retirement	Kid oil new	Production	Engineers	19-11-1971	MA	Engineer	Female	47342	Asian	Married	Needs Improvement	5	
15	Full-Time	Retirement	You sugges	IT/IS	Shop (Flee	09-03-1965	MA	Shop	Female	8415	Asian	Married	Exceeds	5	
17	Part-Time	Retirement	Past really	IT/IS	Wireline C	25-10-1966	MA	Laborer	Female	8635	Hispanic	Widowed	Exceeds	5	
18	Part-Time	Retirement	Future wh	IT/IS	Catv	12-11-1962	MA	Manager	Male	62468	Asian	Divorced	Fully Meets	5	
19	Temporary	Involuntary	Money rea	IT/IS	Aerial	09-02-1962	CT	Groundma	Female	13557	Asian	Married	Fully Meets	5	
20	Part-Time	Involuntary	Cultural re	IT/IS	Executive	03-05-1979	MA	Manager	Male	4377	White	Single	Fully Meets	5	
24	Temporary	Involuntary	Foreign thi	Production	Fielders	09-09-1984	MA	Engineer	Female	2451	Black	Divorced	Fully Meets	5	
25	Temporary	Involuntary	Two descr	Production	Field Oper	25-01-1999	MA	Driller	Female	53295	Asian	Divorced	Fully Meets	5	
26	Full-Time	Retirement	Where vot	Production	Field Oper	05-09-1999	MA	Coordinator	Male	20854	Other	Divorced	Fully Meets	5	
28	Part-Time	Voluntary	Continue r	Production	General - C	18-02-1983	MA	Administra	Female	31008	White	Widowed	Fully Meets	5	
33	Temporary	Retirement	Fill outside	Production	Project M	07-05-1959	MA	Manager	Female	35263	Asian	Divorced	Fully Meets	5	
38	Full-Time	Retirement	Window p	Production	Field Oper	16-09-1987	MA	Engineer	Male	59893	Other	Divorced	Fully Meets	5	
40	Full-Time	Retirement	Most spor	Production	Field Oper	31-01-1952	MA	Locator	Male	84707	Other	Widowed	Fully Meets	5	
41	Part-Time	Involuntary	Line believ	Production	Engineers	09-04-1993	MA	Engineer	Female	79531	Other	Widowed	Fully Meets	5	
42	Full-Time	Voluntary	Next expla	IT/IS	Field Oper	22-11-1956	MA	Top Hand	Female	87868	Asian	Divorced	Fully Meets	5	
46	Full-Time	Involuntary	Dog dark p	Production	General - C	22-09-1991	MA	Foreman	Male	34702	Asian	Single	Fully Meets	5	
47	Full-Time	Involuntary	Every year	Production	Executive	20-10-1948	MA	Manager	Male	59946	Black	Divorced	Fully Meets	5	
50	Full-Time	Involuntary	Change hu	Production	Engineers	01-02-1979	MA	Engineer	Female	86392	Other	Married	Fully Meets	5	

Bottom10% of Employee

- Bottom10% of employees based on Employee Rating are shaded in red

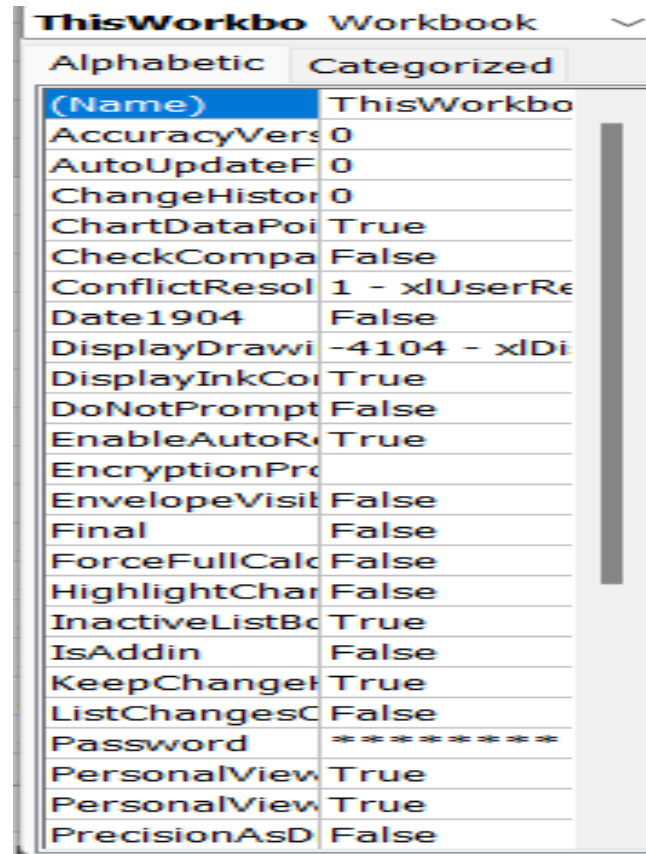
Employ	PayZon	EmployeeClassificationType	TerminationType	Termin	DepartmentType	Division	DOB	State	JobFunc	Gender	Locatio	RaceDe	Marital	Performance Score	Current Employee Rating
Contract	Zone B	Temporary	Retirement	Cell push s	Production	Field Oper	27-12-1943	MA	Project Me	Female	68361	Hispanic	Widowed	Exceeds	1
Part-Time	Zone C	Temporary	Involuntary	Will cut ga	Production	Technolog	20-06-1969	MA	Helpdesk	Female	35121	Black	Married	PIP	1
Part-Time	Zone A	Part-Time	Involuntary	Despite ex	Production	Undergrou	10-08-1991	MA	Labor	Female	19006	Other	Divorced	Exceeds	1
Contract	Zone A	Temporary	Involuntary	Gas group	Production	Yard (Mate	25-01-1994	MA	Coordinat	Female	46121	Asian	Divorced	Exceeds	1
Contract	Zone B	Temporary	Involuntary	Cut mind y	Production	Fielders	12-05-1950	MA	Engineer	Female	47622	Hispanic	Married	Exceeds	1
Part-Time	Zone A	Temporary	Voluntary	Speech str	Production	Field Oper	17-05-1997	MA	Technician	Male	74447	Hispanic	Married	Exceeds	1
Part-Time	Zone C	Part-Time	Voluntary	Economy i	Production	General - C	29-06-1945	MA	Administra	Female	41219	Black	Divorced	Needs Improvement	1
Contract	Zone B	Temporary	Retirement	Friend cou	Production	Field Oper	07-01-1963	MA	Driver	Female	63184	White	Single	Exceeds	1
Contract	Zone A	Part-Time	Involuntary	Together t	Production	General - C	04-05-1986	MA	Technician	Female	42742	Asian	Married	Exceeds	1
Full-Time	Zone C	Part-Time	Involuntary	Possible sh	IT/IS	Field Oper	05-11-1991	MA	Cfo	Female	74179	White	Widowed	Exceeds	1
Full-Time	Zone A	Temporary	Involuntary	Choice lea	IT/IS	Engineers	28-10-1948	CT	Project Me	Female	44145	Hispanic	Widowed	Fully Meets	1
Part-Time	Zone B	Temporary	Voluntary	Stay mom	IT/IS	Engineers	21-10-1992	MA	Billing	Female	17501	Hispanic	Widowed	Fully Meets	1
Part-Time	Zone C	Temporary	Voluntary	Join execu	Production	Undergrou	08-12-1946	MA	Operator	Female	1425	Asian	Single	Fully Meets	1
Contract	Zone C	Part-Time	Retirement	Energy ger	Production	Wireline C	14-02-1952	MA	Supervisor	Male	34849	Black	Divorced	Fully Meets	1
Full-Time	Zone B	Part-Time	Retirement	Pretty he r	Production	General - S	08-06-1972	MA	Administra	Female	19049	Black	Married	Fully Meets	1
Contract	Zone C	Temporary	Retirement	Money sta	Production	Yard (Mate	23-08-1991	MA	Engineer	Female	42542	Other	Divorced	Fully Meets	1
Contract	Zone C	Temporary	Retirement	Teacher of	IT/IS	Field Oper	17-01-1943	MA	Civil Hand	Male	91193	Asian	Single	Fully Meets	1
Contract	Zone B	Temporary	Involuntary	Where aut	Production	General - C	15-09-1943	MA	Foreman	Female	48133	Black	Married	Fully Meets	1
Part-Time	Zone B	Part-Time	Voluntary	Decide ric	Production	Fielders	10-06-1990	MA	Engineer	Female	26846	Asian	Widowed	Fully Meets	1
Contract	Zone A	Temporary	Involuntary	Station to	Production	Engineers	25-08-1953	MA	Technician	Female	43609	Black	Married	Fully Meets	1
Part-Time	Zone C	Temporary	Involuntary	Light free	Production	Catv	12-10-1943	MA	Laborer	Male	59652	Asian	Single	Fully Meets	1
Part-Time	Zone C	Part-Time	Involuntary	Hair force	Production	Engineers	13-02-1943	MA	Coordinat	Female	94090	Asian	Divorced	Fully Meets	1
Contract	Zone B	Temporary	Involuntary	Speak high	Production	Project Me	20-06-1942	MA	Manager	Male	16793	Black	Married	Fully Meets	1
Contract	Zone C	Temporary	Retirement	Game play	Production	Engineers	30-08-1976	MA	Project Me	Male	28492	White	Widowed	Fully Meets	1
Contract	Zone C	Temporary	Retirement	Radio fight	Software Engineering	Aerial	24-03-1988	MA	Lineman	Male	87866	Asian	Single	Fully Meets	1

a pivot table to determine the average
"Engagement Score" per year

Row Labels	Average of Engagement_Score
Admin Offices	2.925
Executive Office	3.375
IT/IS	3.025581395
Production	2.906435644
Sales	2.990936556
Software Engineering	2.973913043
Grand Total	2.939666667

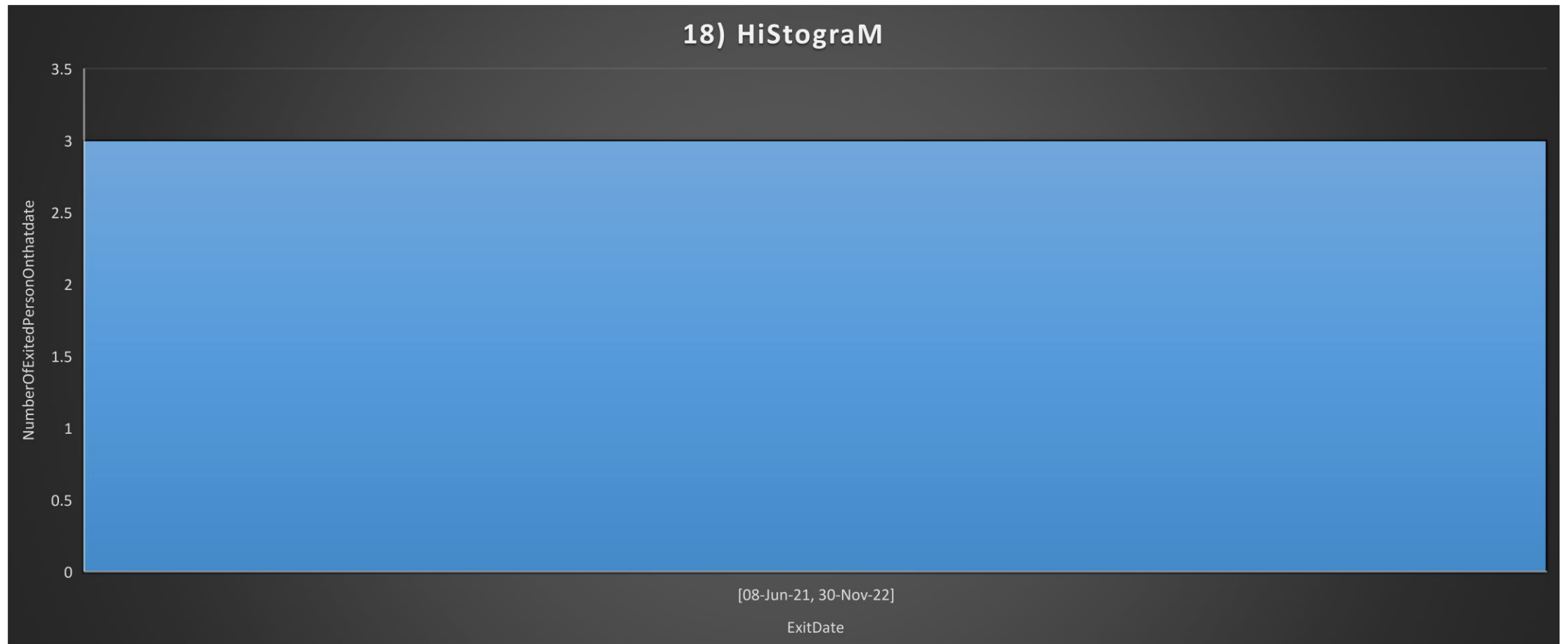
Macro that automates the process of updating and refreshing all pivot tables in the workbook

- The sheets for which VBA code has been applied is as shown after running the VBA code



(Name)	ThisWorkbo
AccuracyVers	0
AutoUpdateF	0
ChangeHistor	0
ChartDataPoi	True
CheckCompa	False
ConflictResol	1 - xlUserRe
Date1904	False
DisplayDrawi	-4104 - xlDi
DisplayInkCo	True
DoNotPrompt	False
EnableAutoR	True
EncryptionPro	
EnvelopeVisit	False
Final	False
ForceFullCalc	False
HighlightChar	False
InactiveListBo	True
IsAddin	False
KeepChange	True
ListChangesC	False
Password	*****
PersonalView	True
PersonalView	True
PrecisionAsD	False

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

	AE	AF	AG	AH	AI	AJ	AK	AL	AM
1	Performance Score	Current Employee Rating		Supervisor_first	Supervisor_last	SupervisorEmail	Supervisor	Using_IndexMatch	
392	Needs Improvement	3		Janet	Jones	Janet.Jones@bilearner.com	Wesley Stephens	Leadership Development	
399	Needs Improvement	3		Kristin	Baird	Kristin.Baird@bilearner.com	Kirk Brooks	Communication Skills	
400	Needs Improvement	3		s	Sabrina	s.Sabrina@bilearner.com	Austin Dixon	Customer Service	
414	Needs Improvement	3		Maria	Payne	Maria.Payne@bilearner.com	Bobby Martinez	Technical Skills	
419	Needs Improvement	3		Timothy	Hill	Timothy.Hill@bilearner.com	Justin Kent	Project Management	
423	Needs Improvement	3		Justin	Kent	Justin.Kent@bilearner.com	Sarah Stevenson	Technical Skills	
424	Needs Improvement	3		Thomas	Leon	Thomas.Leon@bilearner.com	Barry Payne	Communication Skills	
425	Needs Improvement	3		Crystal	Barnes	Crystal.Barnes@bilearner.com	Paula Ross	Technical Skills	
426	Needs Improvement	3		Nicholas	Oconnor	Nicholas.Oconnor@bilearner.com	Lisa Spencer	Technical Skills	
428	Needs Improvement	3		Barry	Payne	Barry.Payne@bilearner.com	Samantha Ross	Project Management	
431	Needs Improvement	3		Joseph	Smith	Joseph.Smith@bilearner.com	Desiree Martinez	Leadership Development	
434	Needs Improvement	3		Brandi	Ruiz	Brandi.Ruiz@bilearner.com	James Kennedy	Customer Service	
437	Needs Improvement	3		Kimberly	Meyer	Kimberly.Meyer@bilearner.com	Tommy Green	Technical Skills	
440	Needs Improvement	3		Daniel	Mason	Daniel.Mason@bilearner.com	Robert Carter	Communication Skills	
441	Needs Improvement	3		Tommy	Green	Tommy.Green@bilearner.com	John Mccarty	Communication Skills	
442	Needs Improvement	3		Holly	Lee	Holly.Lee@bilearner.com	Felicia Goodwin	Customer Service	
443	Needs Improvement	3		Jerome	Warren	Jerome.Warren@bilearner.com	Joseph Riley	Technical Skills	
444	Needs Improvement	3		Robert	Carter	Robert.Carter@bilearner.com	Alexis Bell	Leadership Development	
445	Needs Improvement	3		John	Mccarty	John.Mccarty@bilearner.com	Jesus Mejia	Leadership Development	
449	Needs Improvement	3		Jesus	Mejia	Jesus.Mejia@bilearner.com	Lindsey Carter PhD	Leadership Development	
450	Needs Improvement	3		Ashley	Gamble	Ashley.Gamble@bilearner.com	Sherry Jones	Customer Service	
451	Needs Improvement	3		Michael	Rodriguez	Michael.Rodriguez@bilearner.com	Ryan Cooke	Project Management	
452	Needs Improvement	3		Miguel	Whitehead	Miguel.Whitehead@bilearner.com	Sara Farrell	Communication Skills	
453	Needs Improvement	3		Lindsey	Carter	Lindsey.Carter@bilearner.com	Brittany Payne	Technical Skills	
454	Needs Improvement	3		Sherry	Jones	Sherry.Jones@bilearner.com	Linda Boyer	Technical Skills	
455	Needs Improvement	3		Ryan	Cooke	Ryan.Cooke@bilearner.com	John Carter	Customer Service	

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

- Dashboard:

