

**TASK :- 2**

**EMPLOYEE DATA ANALYSIS  
ASSESSMENT**

**BY :- AAKASH RAJPUROHIT**

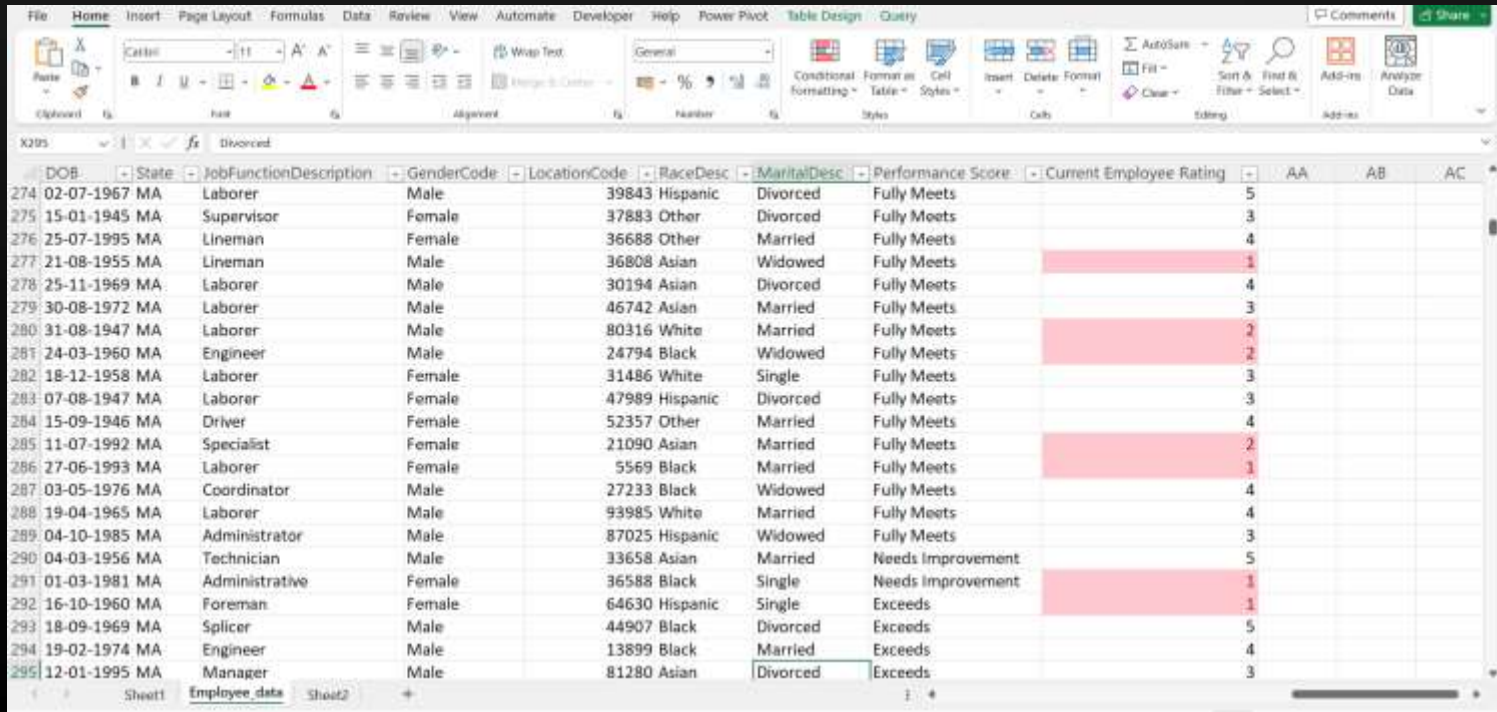
01

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

Department	<input type="text"/> No. of Employee
Admin Offices	115863
Executive Office	82789
IT/IS	1219763
Production	4960723
Sales	956182
Software Engineering	166180
<b>Grand Total</b>	<b>7501500</b>

02

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



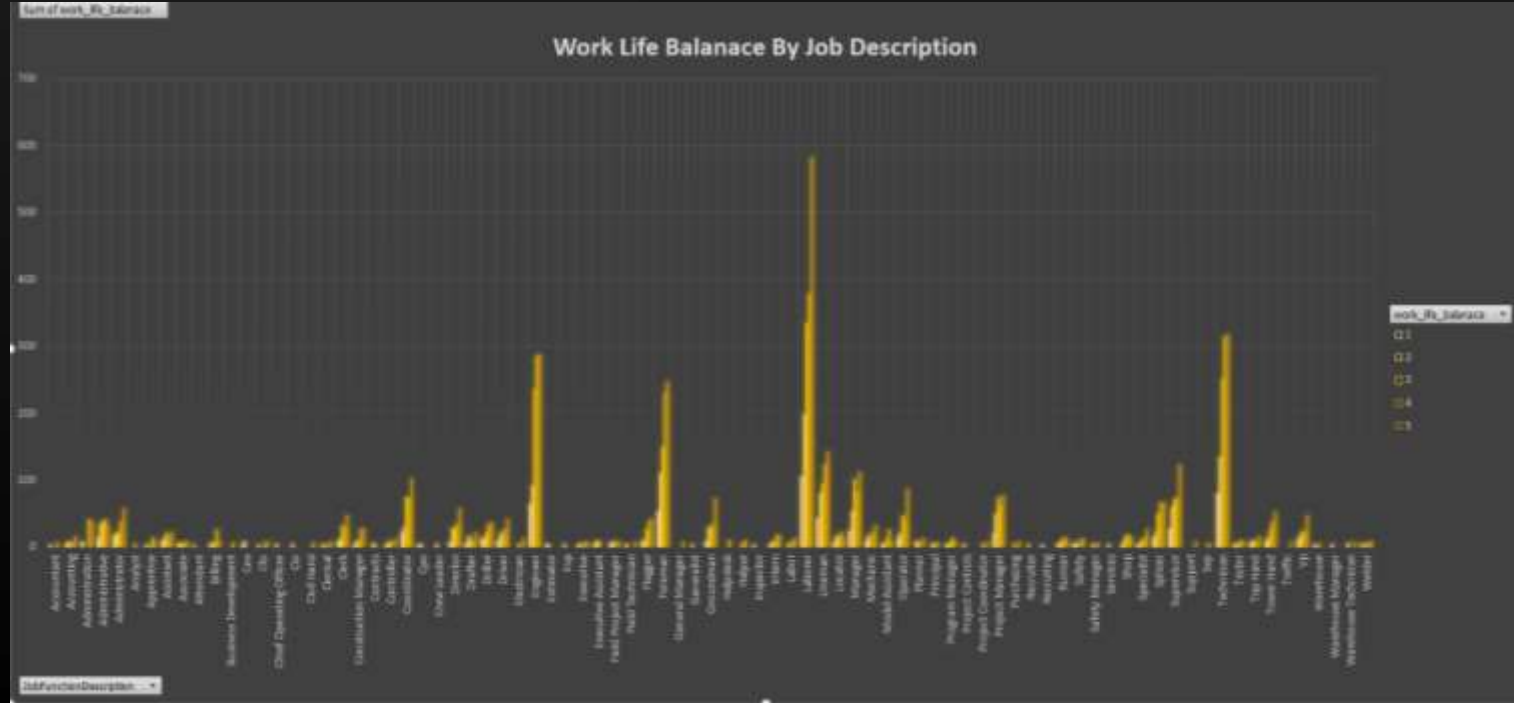
The screenshot shows an Excel spreadsheet with a table of employee data. The 'Performance Score' column is highlighted in red for scores below 3. The table has the following columns: ID, DOB, State, JobFunctionDescription, GenderCode, LocationCode, RaceDesc, MaritalDesc, Performance Score, Current Employee Rating, AA, AB, and AC. The data rows are numbered 274 to 295. The 'Performance Score' column values are: 5, 3, 4, 4, 4, 3, 4, 2, 3, 3, 4, 2, 1, 4, 3, 3, 4, 4, 3, 5, 1, 1, 5, 4, 3.

ID	DOB	State	JobFunctionDescription	GenderCode	LocationCode	RaceDesc	MaritalDesc	Performance Score	Current Employee Rating	AA	AB	AC
274	02-07-1967	MA	Laborer	Male	39843	Hispanic	Divorced	Fully Meets		5		
275	15-01-1945	MA	Supervisor	Female	37883	Other	Divorced	Fully Meets		3		
276	25-07-1995	MA	Lineman	Female	36688	Other	Married	Fully Meets		4		
277	21-08-1955	MA	Lineman	Male	36808	Asian	Widowed	Fully Meets		1		
278	25-11-1969	MA	Laborer	Male	30194	Asian	Divorced	Fully Meets		4		
279	30-08-1972	MA	Laborer	Male	46742	Asian	Married	Fully Meets		3		
280	31-08-1947	MA	Laborer	Male	80316	White	Married	Fully Meets		2		
281	24-03-1960	MA	Engineer	Male	24794	Black	Widowed	Fully Meets		2		
282	18-12-1958	MA	Laborer	Female	31486	White	Single	Fully Meets		3		
283	07-08-1947	MA	Laborer	Female	47989	Hispanic	Divorced	Fully Meets		3		
284	15-09-1946	MA	Driver	Female	52357	Other	Married	Fully Meets		4		
285	11-07-1992	MA	Specialist	Female	21090	Asian	Married	Fully Meets		2		
286	27-06-1993	MA	Laborer	Female	5569	Black	Married	Fully Meets		1		
287	03-05-1976	MA	Coordinator	Male	27233	Black	Widowed	Fully Meets		4		
288	19-04-1965	MA	Laborer	Male	93985	White	Married	Fully Meets		4		
289	04-10-1985	MA	Administrator	Male	87025	Hispanic	Widowed	Fully Meets		3		
290	04-03-1956	MA	Technician	Male	33658	Asian	Married	Needs Improvement		5		
291	01-03-1981	MA	Administrative	Female	36588	Black	Single	Needs Improvement		1		
292	16-10-1960	MA	Foreman	Female	64630	Hispanic	Single	Exceeds		1		
293	18-09-1969	MA	Splicer	Male	44907	Black	Divorced	Exceeds		5		
294	19-02-1974	MA	Engineer	Male	13899	Black	Married	Exceeds		4		
295	12-01-1995	MA	Manager	Male	81280	Asian	Divorced	Exceeds		3		



04

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



05

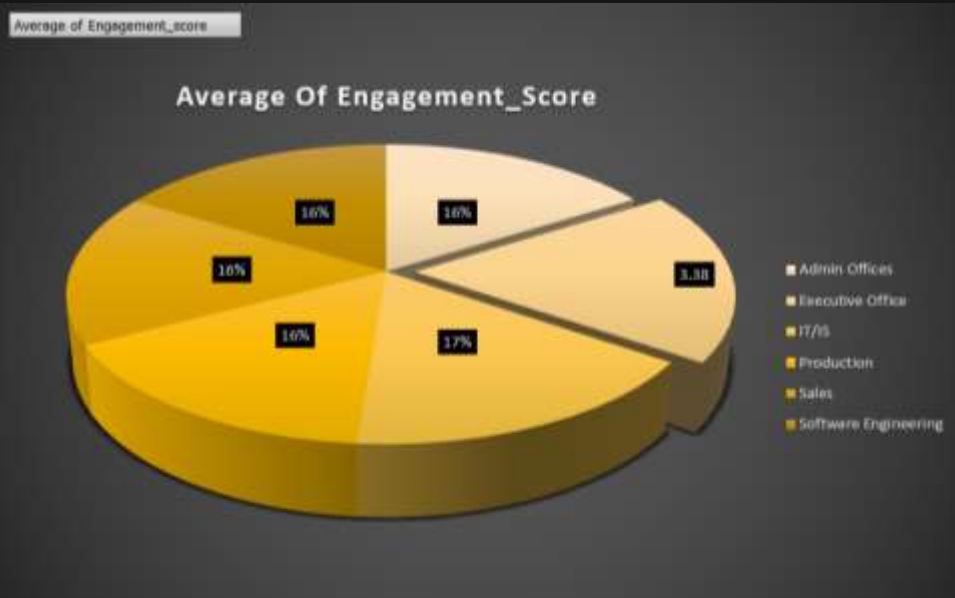
Filter the data to display only terminated employees and find out the most common "Termination Type."

	N	O	P	Q	R	S	T
	TerminationType	TerminationDescription	DepartmentType	Division	DOB	State	JobFunctionDescription
7	Resignation	Throughout yet in serious here wish.	Software Engineering	Engineers	19-02-1959	MA	Administrative
12	Resignation	Professor situation they bag interest there.	Software Engineering	General - Con	22-02-1948	MA	Foreman
21	Resignation	Man issue never strategy will maintain resource.	Software Engineering	Field Operations	20-12-1990	MA	Supervisor
22	Resignation	Section hospital clearly season history.	Software Engineering	General - Eng	25-01-1989	MA	Billing
27	Resignation	Where forward evening huge cost share eat.	Admin Offices	Engineers	11-07-1950	MA	Engineer
29	Resignation	Federal less every character section think white.	Software Engineering	General - Con	22-10-2000	MA	Model Assistant
37	Resignation	Teacher door money tend song.	Admin Offices	Field Operations	08-08-1993	MA	Foreman
44	Resignation	Agreement particular scene also war who.	Software Engineering	Splicing	16-12-1955	MA	Billing
54	Resignation	Wind commercial in ahead will realize.	Software Engineering	Project Management - Con	25-07-1947	MA	Project Manager
70	Resignation	Really full stand face explain would keep energy.	Software Engineering	General - Con	13-09-1975	MA	Foreman
71	Resignation	Or add data indicate account father early these.	Software Engineering	General - Sga	11-04-1998	MA	Project Manager
80	Resignation	Story knowledge policy. Board tax treatment.	Software Engineering	Project Management - Eng	04-11-2000	MA	Manager
89	Resignation	Specific fire rate fly clearly.	Software Engineering	General - Con	04-08-1991	MA	Foreman
118	Resignation	Place impact which although.	Production	General - Con	23-08-1997	MA	Technician
130	Resignation	Mission media writer cell.	Production	Field Operations	17-05-1956	MA	Tower Hand
144	Resignation	Year total care thousand what each.	Production	Field Operations	20-06-1942	MA	Lineman
154	Resignation	Ok though floor sense want future.	Production	Field Operations	20-10-1941	MA	Laborer
156	Resignation	Provide machine statement now.	Production	Finance & Accounting	11-06-1951	MA	Clerk
159	Resignation	Himself final success these or card strategy.	Production	Field Operations	07-04-1958	MA	Technician
163	Resignation	For law simple design entire while.	Production	General - Con	17-08-1983	MA	Laborer
174	Resignation	Sure trip sound action.	Production	Isr	30-01-1968	MA	Manager
175	Resignation	Treatment power card almost pretty sister.	Production	Field Operations	12-10-1973	MA	Construction Manager
191	Resignation	Table day sit wish attention marriage cause.	Production	Project Management - Eng	20-04-1998	MA	Project Manager
195	Resignation	Tonight answer benefit second commercial law.	Production	Field Operations	03-08-1953	MA	Foreman
238	Resignation	Practice cover bar reason expect.	Production	Yard (Material Handling)	17-12-1975	MA	Engineer
247	Resignation	Control store point.	Production	Field Operations	14-11-1943	MA	Ceo
249	Resignation	Suddenly free computer last spend.	Production	Underground	09-09-1988	MA	Operator

06

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

Departments	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





07

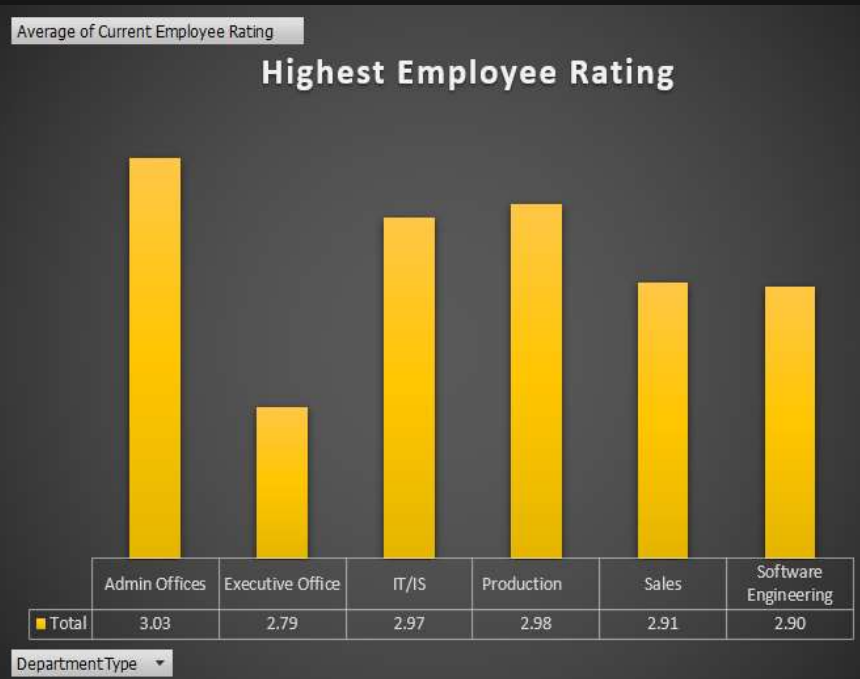
Use VLOOKUP to find the supervisor's email address for a specific employee.

	V	W	X	Y	Z	AA	AB	AC	AD	AE
	LocationCode	RaceDesc	MaritalDesc	Performance Score	Current Employee Rating	Satisfaction Score	gender	work_life_balance	Engagement_score	Mail_id
1										
2	1749	Black	Married	Fully Meets		3	5 Male	5		2 perezjanet@example.org
3	2135	Asian	Widowed	Fully Meets		3	5 Male	3		4 grossmark@example.com
4	2176	White	Married	Fully Meets		3	5 Female	2		2 katiemaldonado@example.com
5	2140	Black	Single	Fully Meets		3	5 Other	3		3 sheila73@example.com
6	1844	Black	Divorced	Fully Meets		3	4 Other	5		2 emilypatterson@example.org
7	2110	White	Widowed	Fully Meets		3	2 Female	1		5 pvelasquez@example.net
8	2451	Black	Widowed	Fully Meets		3	1 Female	5		2 aclayton@example.net
9	2132	Hispanic	Married	Fully Meets		3	2 Male	2		5 jeffreyyellis@example.com
10	2132	Other	Single	Fully Meets		3	5 Male	1		2 hamptontimothy@example.net
11	12889	Hispanic	Divorced	Fully Meets		3	4 Male	2		2 cshaw@example.net
12	21340	Hispanic	Married	Fully Meets		3	2 Other	3		1 sloankrista@example.org
13	67544	White	Single	Fully Meets		3	5 Other	4		3 shelia63@example.net
14	36398	Asian	Single	Fully Meets		3	4 Female	3		5 fraziermichelle@example.net
15	2562	Other	Single	Fully Meets		3	4 Male	1		4 brantswanson@example.org
16	22621	White	Married	Fully Meets		3	1 Other	3		1 clarkdawn@example.net
17	64065	White	Single	Fully Meets		3	3 Female	2		2 rachel98@example.com
18	97374	Black	Single	Fully Meets		3	1 Male	3		4 charlec11@example.net
19	87646	White	Married	Fully Meets		3	1 Female	4		4 smithashley@example.org
20	77974	Hispanic	Widowed	Fully Meets		3	3 Other	5		1 joe34@example.net
21	42126	Black	Widowed	Fully Meets		3	1 Male	2		2 corey49@example.net
22	51613	Hispanic	Single	Fully Meets		3	1 Female	4		5 jennifer31@example.com
23	12765	Black	Divorced	Fully Meets		3	4 Female	4		1 gibbsjacob@example.net
24	64122	Hispanic	Divorced	Fully Meets		3	4 Other	3		4 kristinross@example.net
25	91332	Other	Divorced	Fully Meets		3	3 Other	1		5 malvinzimmerman@example.org
26	39827	Other	Divorced	Fully Meets		3	1 Other	4		4 jameslucas@example.com
27	27418	Other	Widowed	Fully Meets		3	2 Other	5		5 prodiguez@example.com
28	24931	Other	Single	Fully Meets		3	3 Other	3		2 sandraferrell@example.net
29	2121	Asian	Single	Fully Meets		3	5 Other	4		5 lisalee@example.com
30	97697	Asian	Divorced	Fully Meets		3	5 Male	4		3 juliecarter@example.net



08

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

[illegible]

09

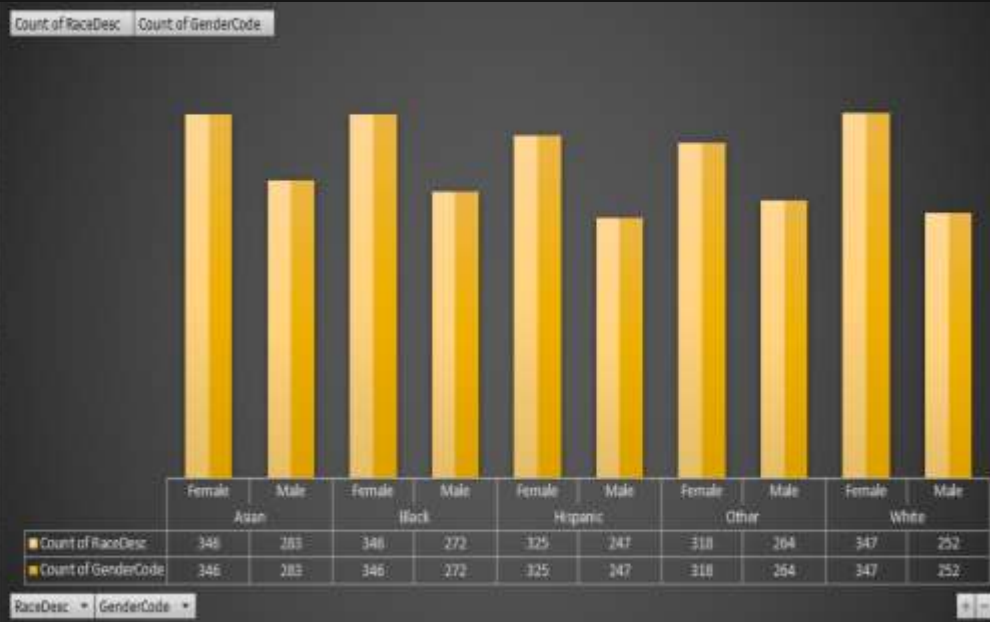
Create a scatter plot to explore the relationship between "Training Duration (Days)" and "Training Cost."



10

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

Departments	Count of RaceDesc	Count of GenderCode
<b>Asian</b>	<b>629</b>	<b>629</b>
Female	346	346
Male	283	283
<b>Black</b>	<b>618</b>	<b>618</b>
Female	346	346
Male	272	272
<b>Hispanic</b>	<b>572</b>	<b>572</b>
Female	325	325
Male	247	247
<b>Other</b>	<b>582</b>	<b>582</b>
Female	318	318
Male	264	264
<b>White</b>	<b>599</b>	<b>599</b>
Female	347	347
Male	252	252
<b>Grand Total</b>	<b>3000</b>	<b>3000</b>



11

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

```
=INDEX('training and development'!$A$1:$I$3001,MATCH(Employee_data!A6,'training and development'!$A$2:$A$3001,0),3)
```

Employee ID	First Name	Last Name	Employee Classification Type	Job Function Description	Gender Code	Training Program Name
1001	Susan	Exantus	Part-Time	Engineer	Female	Customer Service
1002	Sandra	Martin	Temporary	Foreman	Female	Leadership Development
1003	Keyla	Del Bosque	Part-Time	Foreman	Female	Technical Skills
1004	Andrew	Szabo	Part-Time	Coordinator	Male	Customer Service
1005	Luke	Patronick	Temporary	Project Manager	Male	Communication Skills
1006	Colby	Andreola	Part-Time	Administrative	Female	Project Management
1007	Edward	TRUE	Part-Time	Lineman	Male	Leadership Development
1008	Judith	Carabbio	Temporary	Foreman	Female	Technical Skills
1009	Adell	Saada	Temporary	Model Assistant	Female	Customer Service
1010	Kamari	Hunter	Temporary	Supervisor	Male	Communication Skills
1011	Sarah	Malone	Temporary	Foreman	Male	Communication Skills
1012	Skyler	Blackwell	Temporary	Administrative	Male	Technical Skills
1013	Jasmin	Shah	Full-Time	Engineer	Male	Project Management
1014	Kole	Quinn	Full-Time	Clerk	Male	Customer Service
1015	Ansley	Jackson	Part-Time	Vp	Female	Leadership Development
1016	Jayda	Reese	Part-Time	Mechanic	Female	Communication Skills
1017	Julien	Whitehead	Full-Time	Laborer	Female	Technical Skills
1018	Alan	Haynes	Part-Time	Laborer	Female	Project Management
1019	Kamryn	Herrera	Temporary	Engineer	Male	Project Management

12

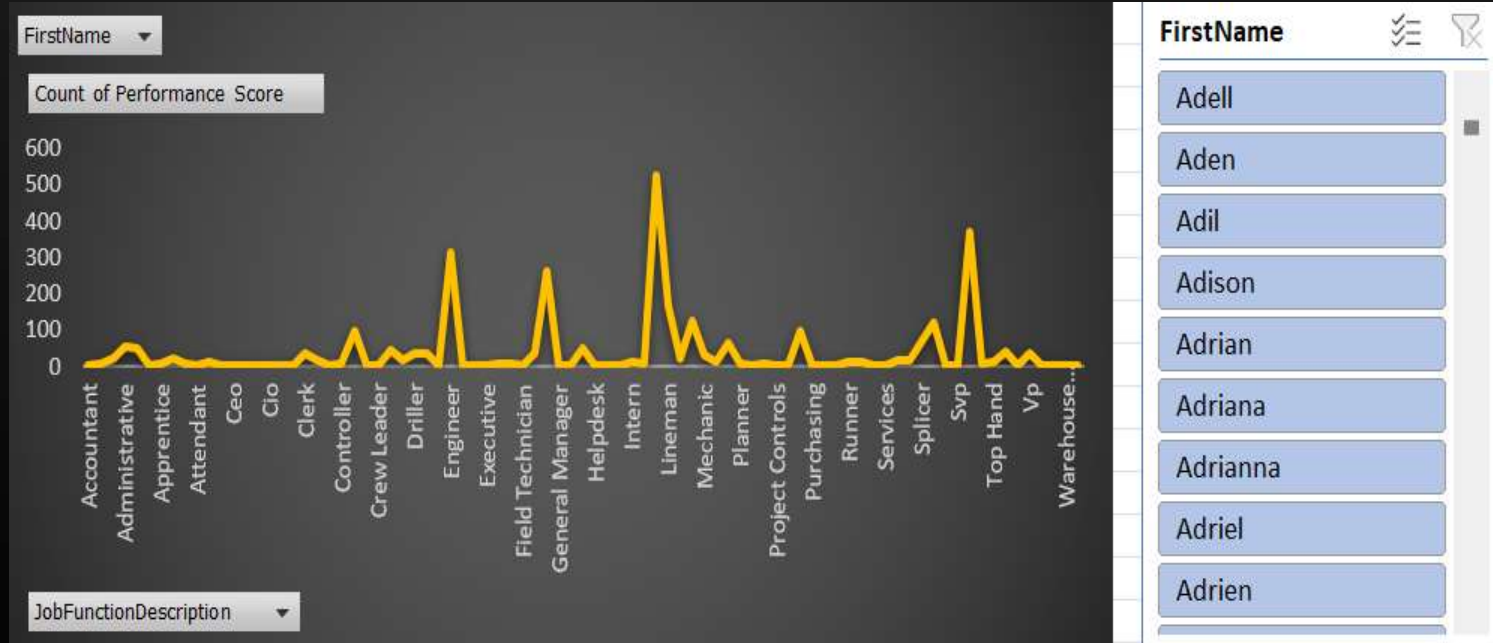
Create a multi-level pivot table to analyze the "Performance Score" by "BusinessUnit" and "JobFunctionDescription."

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



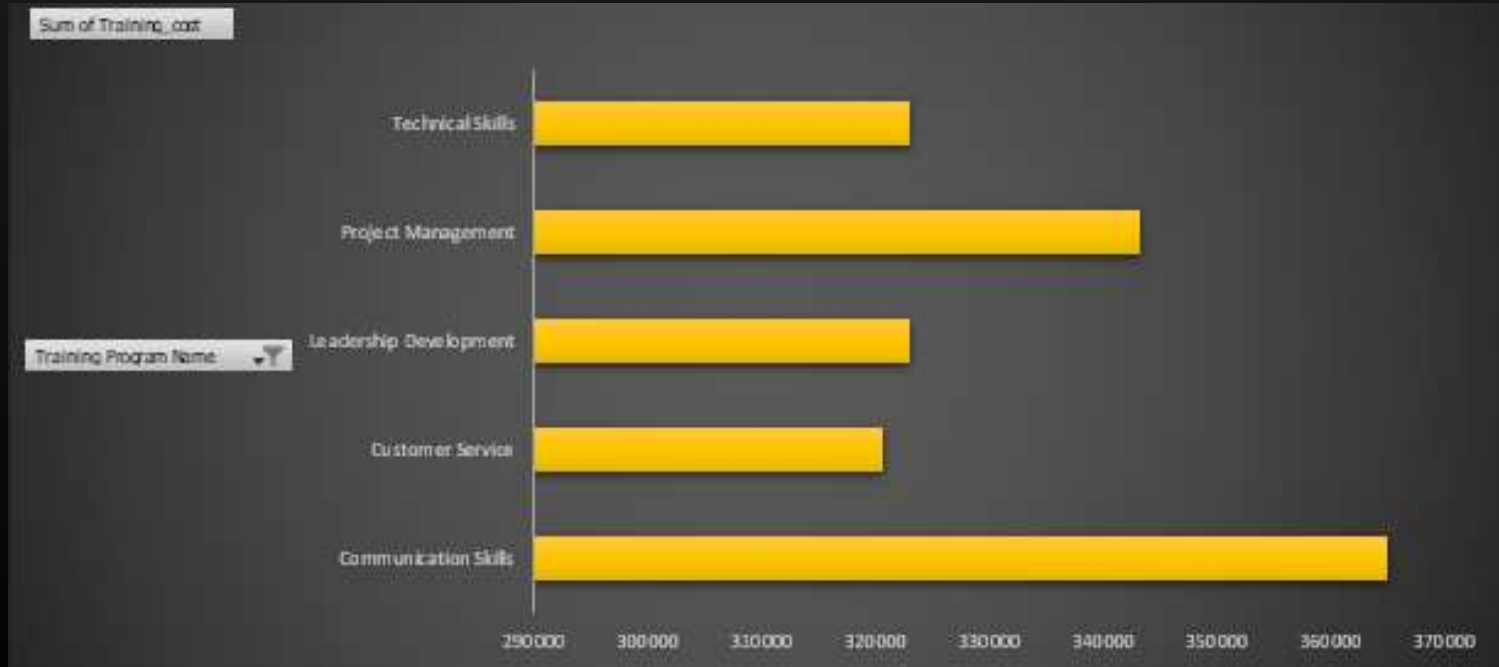
13

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.





15

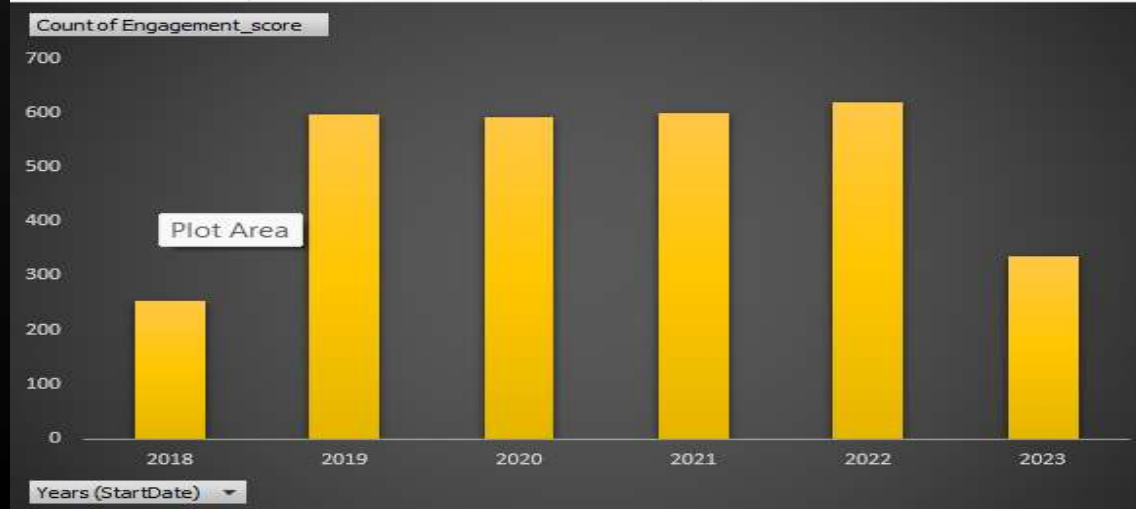
Apply advanced conditional formatting to highlight the top 10% and bottom 10% of employees based on "Current Employee Rating."

1	JobFunctionDescription	GenderCode	LocationCode	RaceDesc	MaritalDesc	Performance Score	Current Employee Rating
256	Mechanic	Male	68039	Black	Widowed	Fully Meets	3
257	Technician	Male	8286	Asian	Single	Fully Meets	4
258	Lineman	Female	50967	Asian	Widowed	Fully Meets	5
259	Locator	Male	13394	Black	Married	Fully Meets	2
260	Manager	Female	81011	Asian	Married	Fully Meets	2
261	Engineer	Female	47025	Hispanic	Widowed	Fully Meets	1
262	Intern	Female	12265	Other	Single	Fully Meets	4
263	Tower Hand	Female	80870	Asian	Divorced	Fully Meets	3
264	Lineman	Female	21015	Hispanic	Widowed	Fully Meets	3
265	Director	Male	67176	Hispanic	Divorced	Fully Meets	5
266	Laborer	Male	95345	Other	Married	Fully Meets	2
267	Project Manager	Male	81455	White	Married	Fully Meets	1
268	Engineer	Male	74284	White	Divorced	Fully Meets	3
269	Driver	Female	2035	Hispanic	Single	Fully Meets	3
270	Technician	Male	27650	Black	Widowed	Fully Meets	5
271	Engineer	Male	73555	Hispanic	Single	Fully Meets	3
272	Engineer	Male	2548	Black	Widowed	Fully Meets	4

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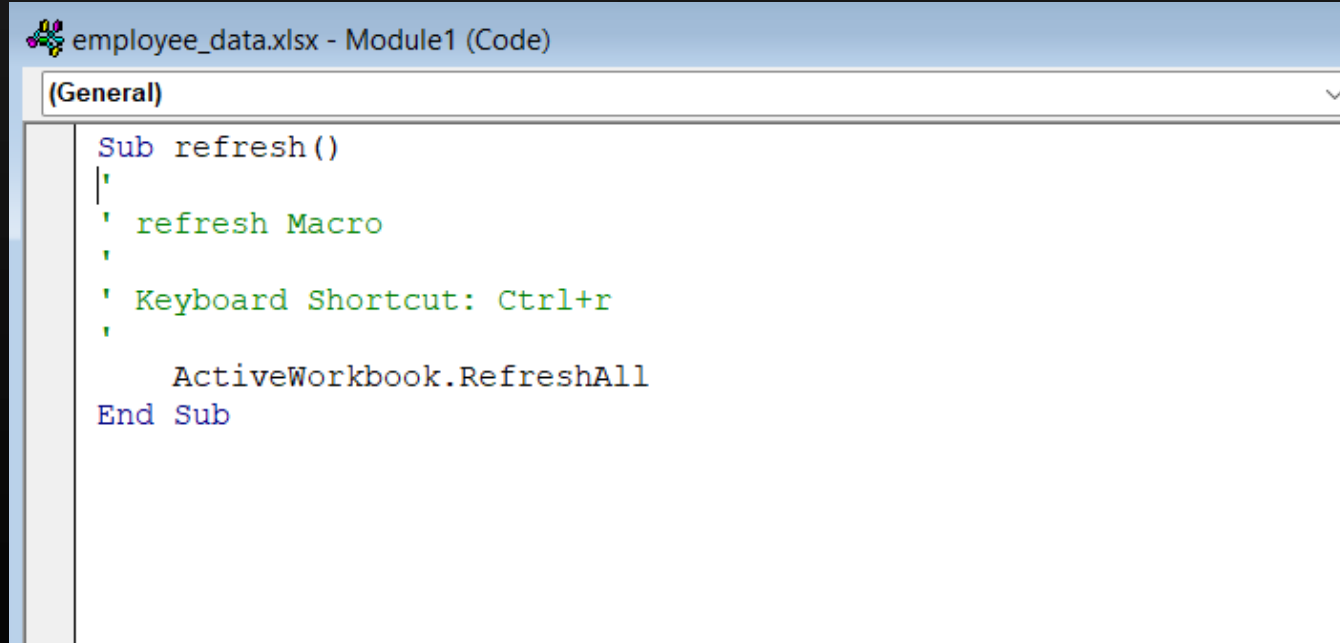
Use a calculated field in a pivot table to determine the average "Engagement Score" per year.

Year	Count of Engagement_score
2018	255
2019	598
2020	592
2021	600
2022	620
2023	335
<b>Grand Total</b>	<b>3000</b>



17

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

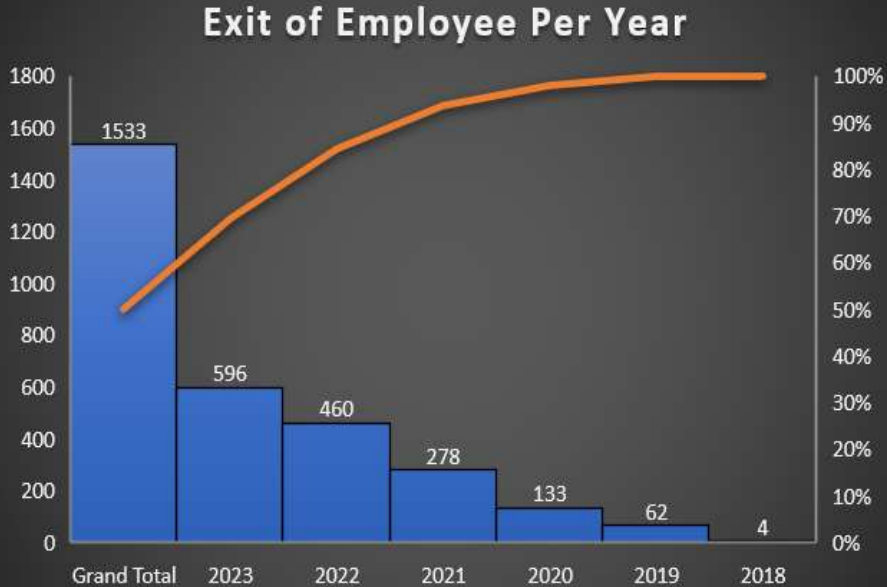


```
Sub refresh()  
    ' refresh Macro  
    ' Keyboard Shortcut: Ctrl+r  
    '   
    ActiveWorkbook.RefreshAll  
End Sub
```

18

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

Row Labels	Count of ExitDate
2018	4
2019	62
2020	133
2021	278
2022	460
2023	596
Grand Total	1533



19

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

=SUMPRODUCT(--(\$F\$1:\$F\$3002=\$F4),\$I\$1:\$I\$3002)

Employee ID	Training Date	Training Program Name	Training Type	Training Outcome	Location	Trainer	Training Duration(Days)	Training Cost	Total_Trai
1001	21-Sep-22	Customer Service	Internal	Failed	Port Greg	Amanda Daniels	4	510.83	510.83
1002	19-Jul-23	Leadership Development	Internal	Failed	Brandonview	Brittany Chambers	2	582.37	1108.45
1003	24-Feb-23	Technical Skills	Internal	Incomplete	Port Briannahaven	Mark Roberson	4	777.06	777.06
1004	12-Jan-23	Customer Service	Internal	Completed	Knightborough	Richard Fisher	2	824.3	824.3
1005	12-May-23	Communication Skills	External	Passed	Bruceshire	Heather Shaffer	4	145.99	145.99
1006	08-May-23	Project Management	Internal	Failed	Erinfort	Michael Duke	2	838.07	838.07
1007	14-May-23	Leadership Development	External	Failed	New Christopher	Virginia Clayton DVM	2	667.32	667.32
1008	02-Aug-23	Technical Skills	External	Incomplete	Lowemouth	Erica Maxwell	2	758.18	758.18
1009	21-Aug-22	Customer Service	Internal	Incomplete	Johnland	Katelyn Hartman	2	101.21	101.21
1010	19-Aug-22	Communication Skills	External	Incomplete	Lake Kimfurt	Rhonda Clark	5	332.25	332.25
1011	06-Nov-22	Communication Skills	Internal	Completed	Smithshire	Natalie Fields	1	803.98	973.83
1012	28-Mar-23	Technical Skills	External	Failed	Howardburgh	Theresa Martinez	3	887.08	887.08
1013	08-Apr-23	Project Management	External	Incomplete	East Jessiatown	Michael Marks	2	657.85	657.85
1014	21-Feb-23	Customer Service	External	Incomplete	Watersview	Rachel Jones	2	895.49	895.49
1015	13-May-23	Leadership Development	External	Passed	Port Ninland	Jennifer Olson	1	539	539
1016	30-Apr-23	Communication Skills	External	Completed	Lake Stuartfurt	Eric Johnson	2	606.68	606.68
1017	14-Nov-22	Technical Skills	External	Passed	Cooleybury	Joseph McIntyre	3	265.73	265.73
1018	25-Mar-23	Project Management	Internal	Incomplete	Larsonborough	Whitney Morgan DVM	2	673.29	673.29
1019	26-Oct-22	Project Management	External	Passed	Powellland	Jon Garcia	5	436.98	436.98
1020	30-Dec-22	Technical Skills	External	Passed	Chadport	Nicole Taylor	4	578.58	578.58
1021	10-Mar-23	Technical Skills	Internal	Failed	Patrickhaven	Crystal Nelson	1	647.16	647.16
1022	12-Jan-23	Project Management	Internal	Failed	Lindseyburgh	Kevin Nichols	1	664.23	664.23
1023	19-Oct-22	Project Management	Internal	Failed	West Justinborough	Angela Good	4	893.07	893.07
1024	11-Oct-22	Project Management	External	Completed	Hullmouth	Keith Curtis	5	868.98	868.98

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

For Your Attention