EMPLOYEE DATA ANALYSIS

PSYLIQ DATA ANALYST INTERNSHIP

Liliana Morones Alba

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**

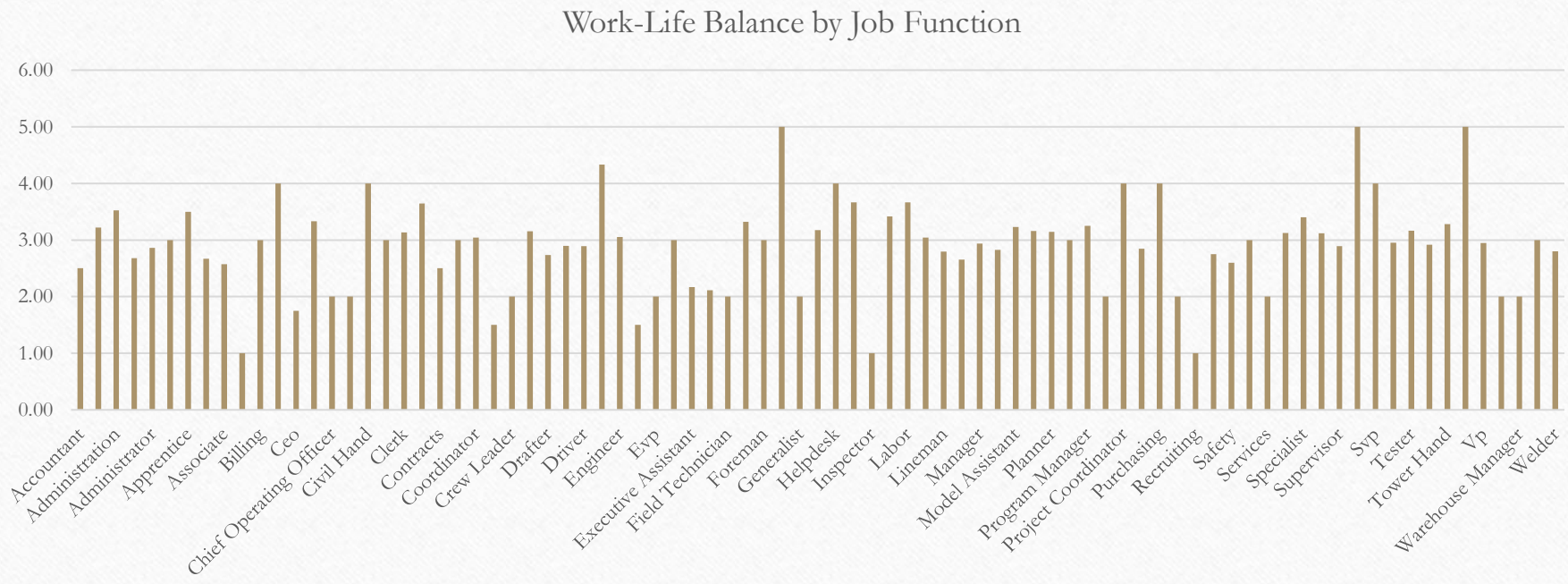
2. Apply conditional formatting to highlight employees with a "Performance Score" below 3 in red.

GenderCode	LocationCode	RaceDesc	MaritalDesc	Performance Score	Current Employee Rating
Female	34904	White	Widowed	Fully Meets	4
Male	6593	Hispanic	Widowed	Fully Meets	3
Male	2330	Hispanic	Widowed	Fully Meets	4
Male	58782	Other	Single	Fully Meets	2
Female	33174	Other	Married	Fully Meets	3
Male	6050	Black	Married	Fully Meets	3
Female	90007	Hispanic	Divorced	Exceeds	4
Female	97756	White	Divorced	Fully Meets	2
Male	78789	Black	Widowed	Exceeds	3
Male	78207	Asian	Widowed	Fully Meets	5
Female	46204	Other	Single	Fully Meets	5
Female	30428	Asian	Married	Fully Meets	3
Male	80820	Other	Single	Fully Meets	3
Female	40220	White	Divorced	Fully Meets	3
Male	89139	Asian	Widowed	Exceeds	4
Male	2810	Black	Single	Exceeds	2

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

Gender	Average of Satisfaction
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."

Termination Type	Count of Employee ID
Involuntary	388
Voluntary	388
Resignation	380
Retirement	377
Grand Total	**1533**

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

Department	Average of Engagement
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.

```
=VLOOKUP([@[Employee ID]],recruitment,8,FALSE)
```

Employee ID	FirstName	LastName	StartDate	ExitDate	Title	Supervisor	Supervisor mail	ADEmail
3427	Uriah	Bridges	20-sep-19		Productior	Peter Oneill	jonathanthompson@example.com	uriah.bridges@bilearner.com
3428	Paula	Small	11-feb-23		Productior	Renee Mccormick	alyssa68@example.com	paula.small@bilearner.com
3429	Edward	Buck	10-dic-18		Area Sales	Crystal Walker	alam@example.net	edward.buck@bilearner.com
3430	Michael	Riordan	21-jun-21		Area Sales	Rebekah Wright	hodgeskayla@example.org	michael.riordan@bilearner.com
3431	Jasmine	Onque	29-jun-19		Area Sales	Jason Kim	john83@example.net	jasmine.onque@bilearner.com
3432	Maruk	Fraval	17-ene-20		Area Sales	Sheri Campos	jose64@example.net	maruk.fraval@bilearner.com
3433	Latia	Costa	06-abr-22	03-jul-23	Area Sales	Jacob Braun	baileychristina@example.net	latia.costa@bilearner.com
3434	Sharlene	Terry	06-nov-20	29-ene-23	Area Sales	Tracy Marquez	wanda90@example.com	sharlene.terry@bilearner.com
3435	Jac	McKinzie	18-ago-18		Area Sales	Sharon Becker	cunninghamdave@example.net	jac.mckinzie@bilearner.com
3436	Joseph	Martins	21-ene-22	29-jun-23	Area Sales	George Jenkins	terrywaller@example.com	joseph.martins@bilearner.com
3437	Myriam	Givens	04-ago-23		Area Sales	Troy White	waltersbobby@example.org	myriam.givens@bilearner.com
3438	Dheepa	Nguyen	10-ago-18	04-nov-19	Area Sales	Brian Miller	mullinswilliam@example.com	dheepa.nguyen@bilearner.com
3439	Bartholemew	Khemmich	25-may-22	27-nov-22	Area Sales	Charles Parks	clarkerin@example.org	bartholemew.khemmich@bilearner.com
3440	Xana	Potts	05-dic-19	17-feb-23	Area Sales	Gregory Walker	floydbenjamin@example.net	xana.potts@bilearner.com

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

Department	Average of Current Employee Rating
Admin Offices	3.03
Production	2.98
IT/IS	2.97
Sales	2.91
Software Engineering	2.90
Executive Office	2.79
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."

Count of Employee ID	Gender		
Race Desc	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	**1,682**	**1,318**	**3,000**

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

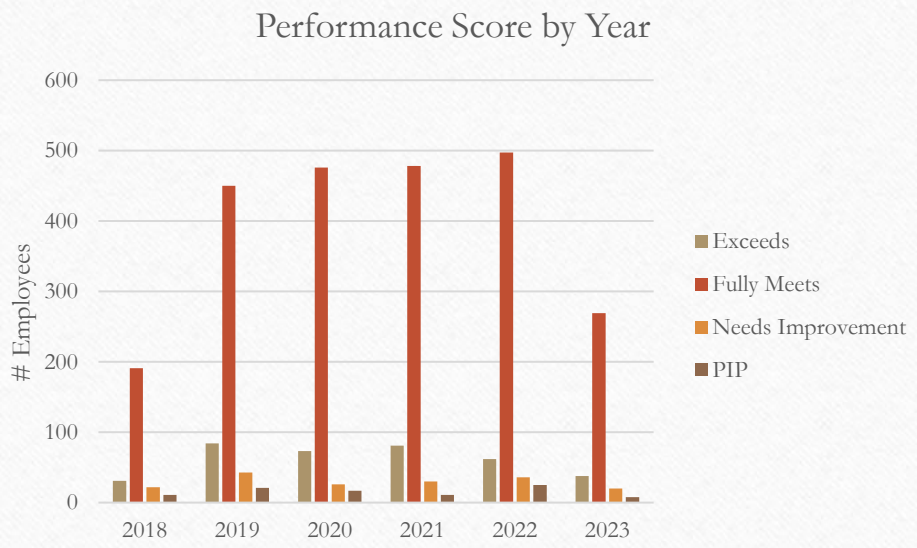
```
=INDEX(training[Training Program Name], MATCH([@[Employee ID]], training[Employee ID], 0))
```

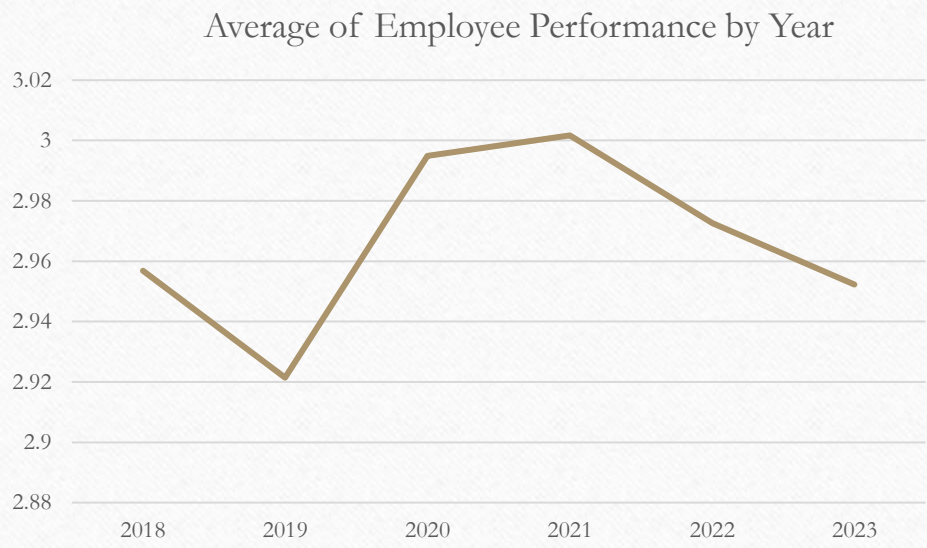
Employee ID	FirstName	LastName	StartDate	ExitDate	Title	Training Program
3427	Uriah	Bridges	20-sep-19		Production Technician I	Leadership Development
3428	Paula	Small	11-feb-23		Production Technician I	Customer Service
3429	Edward	Buck	10-dic-18		Area Sales Manager	Leadership Development
3430	Michael	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."

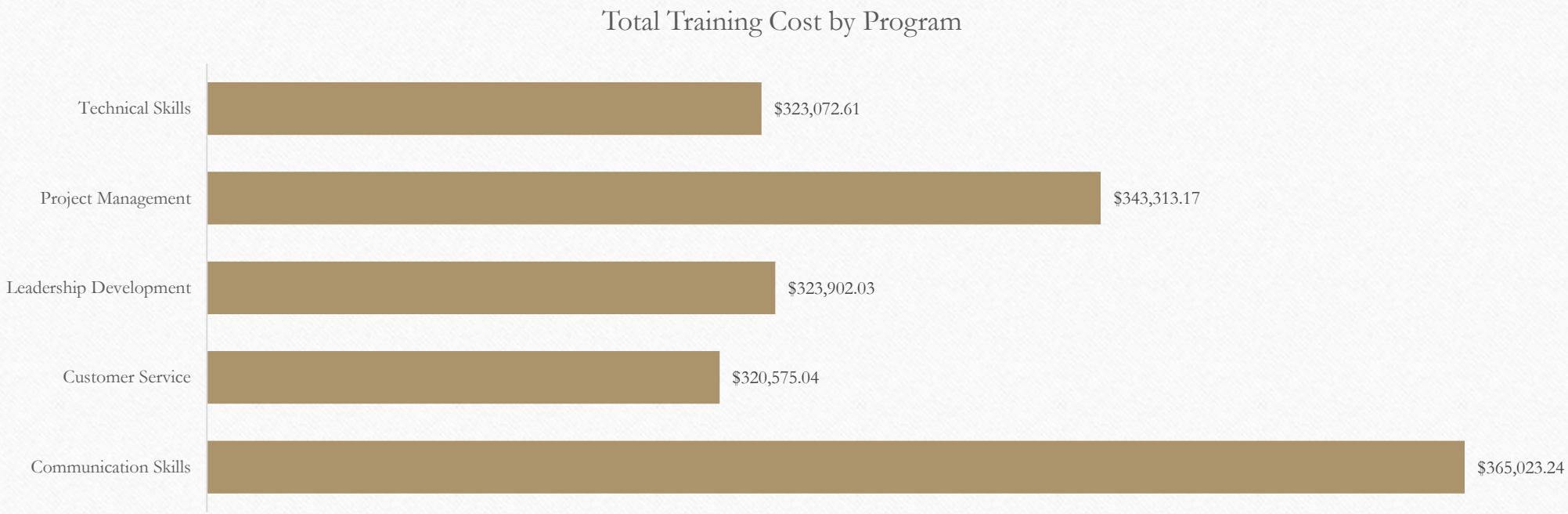
Business Unit / Job Function	Average of Performance Score
BPC	**3.00**
Administration	3.00
Administrative	3.29
Administrator	3.44
Assistant	3.00
Associate	2.00
Billing	4.00
Ceo	2.00
Cio	3.00
Clerk	3.00
Construction Manager	2.00
Controller	4.00
Coordinator	3.00
Director	2.50
Driller	2.33
Driver	2.75
Electrician	1.00
Engineer	3.12
Executive Assistant	3.00
Field Project Manager	3.00

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."

GenderCode	LocationCode	RaceDesc	MaritalDesc	Performance Score	Current Employee Rating	Satisfac
Female	34904	White	Widowed	Fully Meets	4	2
Male	6593	Hispanic	Widowed	Fully Meets	3	1
Male	2330	Hispanic	Widowed	Fully Meets	4	2
Male	58782	Other	Single	Fully Meets	2	5
Female	33174	Other	Married	Fully Meets	3	5
Male	6050	Black	Married	Fully Meets	3	3
Female	90007	Hispanic	Divorced	Exceeds	4	5
Female	97756	White	Divorced	Fully Meets	2	4
Male	78789	Black	Widowed	Exceeds	3	3
Male	78207	Asian	Widowed	Fully Meets	5	5
Female	46204	Other	Single	Fully Meets	5	2
Female	30428	Asian	Married	Fully Meets	3	2
Male	80820	Other	Single	Fully Meets	3	2
Female	40220	White	Divorced	Fully Meets	3	4

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

Year	Average of Engagement
2018	2.90
2019	3.07
2020	2.94
2021	2.89
2022	2.94
2023	2.83
Grand Total	**2.94**

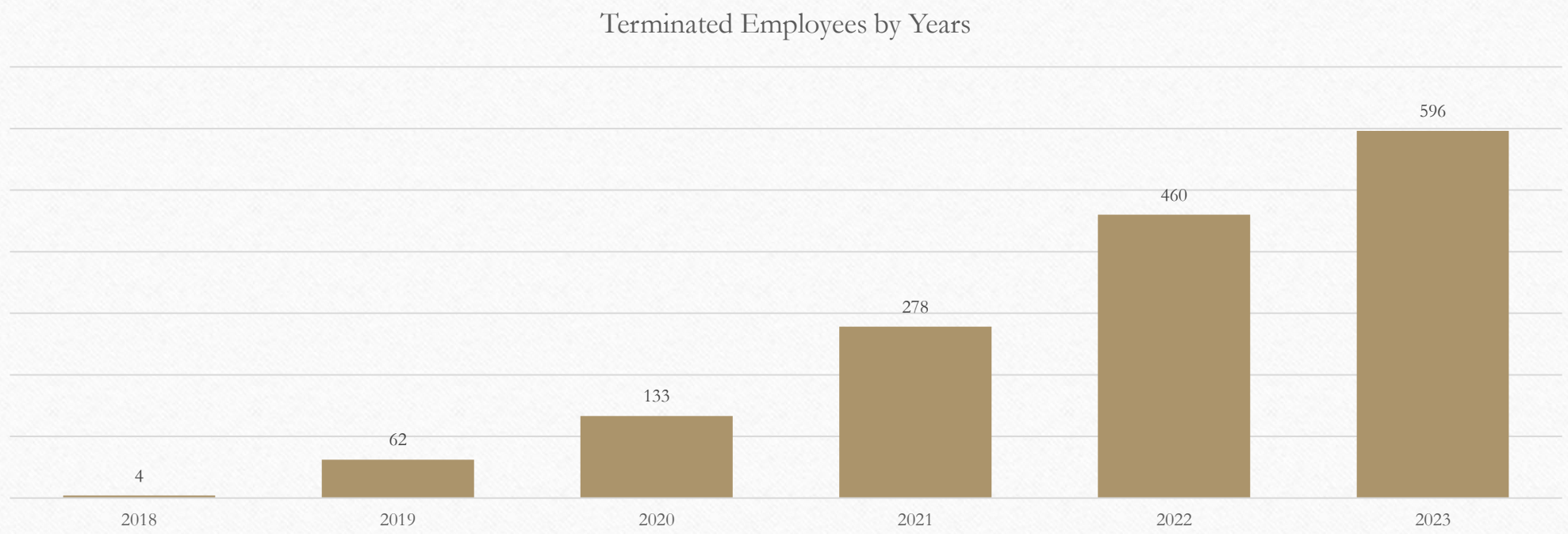
17. Can you build a macro that automates the process of updating and refreshing all pivot tables in the workbook?

```
Sub RefreshCustomPivotTable()

With ActiveSheet
.PivotTables.RefreshTable
End With

End Sub
```

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
South Jennifer	$3,349.21
Smithchester	$3,105.41
Jenniferfurt	$2,764.90
East Michael	$2,707.39
Smithborough	$2,696.67
North Rebecca	$2,677.17
Lake Michael	$2,557.70
New Eric	$2,549.00
Port John	$2,481.91
New David	$2,415.75
Lake Elizabeth	$2,406.32
West Christina	$2,396.12
Port Joshua	$2,352.95
South William	$2,288.16
West Michael	$2,207.65
Kathleenhaven	$2,159.12

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