

Employee_ID	Name	Department	Hours_Worked	Tasks_Completed
101	Aakash	Sales	35	50
102	Meera	Marketing	40	65
103	Suresh	HR	30	40
104	Riya	IT	45	75
105	Prakash	Finance	25	30
106	Neha	Sales	38	58
107	Rahul	IT	50	80
108	Priya	HR	28	35
109	Kunal	Marketing	42	70
110	Sneha	Sales	37	55
111	Amit	Finance	29	38
112	Pooja	Marketing	44	73
113	Varun	HR	33	45
114	Deepak	Sales	41	66
115	Rakesh	IT	48	78
116	Kavita	Finance	26	32
117	Sanjay	HR	31	42
118	Arjun	Marketing	43	75
119	Anjali	IT	39	60
120	Suman	Sales	36	52
121	Mohan	Finance	27	34
122	Jyoti	HR	32	44
123	Neeraj	Marketing	46	77
124	Akash	Sales	34	48
125	Tanya	IT	47	79

*Note: This is the original table loaded from the dataset provided

Question1- Top 5 Product

Employee_ID	Name	Department	Hours_Worked	Tasks_Completed
107	Rahul	IT	50	80
125	Tanya	IT	47	79
115	Rakesh	IT	48	78
123	Neeraj	Marketing	46	77
104	Riya	IT	45	75

Question2- Department-Wise Product

Row Labels	StdDev of Productivity_Score
Finance	3.41565
HR	3.962323
IT	5.263079
Marketing	2.236068
Sales	4.792355
Grand Total	12.66886

Question3- Productivity E

I have created the Productivity Efficiency Index (PEI) in the original table
 $PEI = (Productivity\ Score \times Performance\ Rating) / Hours\ Worked.$
 Additionally, I have ranked all employees based on their PEI using the RANK

Employee_ID	Name	Department	Hours_Worked	Tasks_Completed
102	Meera	Marketing	40	65
109	Kunal	Marketing	42	70
118	Arjun	Marketing	43	75

Question4- C

a. Question 1:

Correlation between **Hours_Worked** and **Performance_Rating**

0.946234858

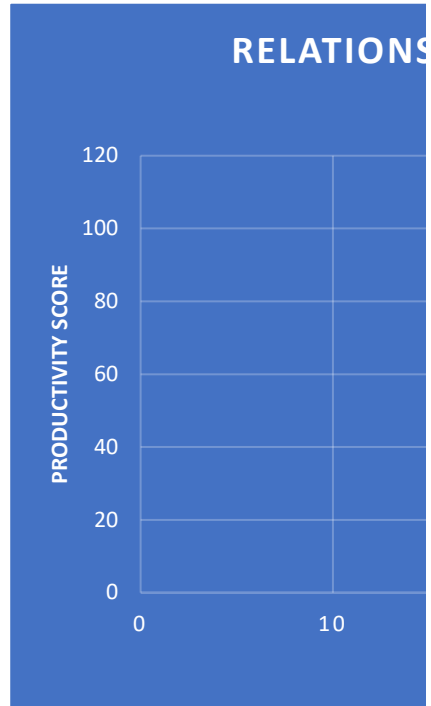
Correlation between **Tasks_Completed** and **Performance_Rating**

0.95745537

b. Question 2:

Work Hours and Productivity Correlation

Create a scatter plot to visualize the relationship between Hours_V



Conclusion: The scatter plot shows a **positive** correlation. As the number of **hours worked** increases, the **productivity score** also tends to increase.

Question5- U

Average of Hours_Worked

37.04

Employee_ID	Name
101	Aakash
110	Sneha

120 Suman

Employee Name	Department	Hours_Worked
102 Meera	Marketing	40
109 Kunal	Marketing	42
118 Arjun	Marketing	43
112 Pooja	Marketing	44
104 Riya	IT	45
125 Tanya	IT	47
123 Neeraj	Marketing	46
115 Rakesh	IT	48
107 Rahul	IT	50
101 Aakash	Sales	35
110 Sneha	Sales	37
106 Neha	Sales	38
119 Anjali	IT	39
114 Deepak	Sales	41
120 Suman	Sales	36
111 Amit	Finance	29
103 Suresh	HR	30
117 Sanjay	HR	31
108 Priya	HR	28
122 Jyoti	HR	32
113 Varun	HR	33
124 Akash	Sales	34
105 Prakash	Finance	25
116 Kavita	Finance	26
121 Mohan	Finance	27

Highest Tasks

Most Task-Efficient
Arjun

Department of Information Technology

Comparison of Performance

Arjun, the most task-efficient employee with a Tasks per Hour of 12, indicates a strong correlation between task efficiency and overall productivity, as reflected by the Performance Score of 93. The Performance Score of 93 indicates that Arjun is performing exceptionally well in their role.

Productivity_Score	Performance_Rating
80	4
90	5
70	3
95	5
60	2
85	4
100	5
65	3
92	5
83	4
68	3
94	5
75	3
89	4
98	5
62	2
72	3
93	5
87	4
78	4
64	2
74	3
96	5
76	3
99	5

d in the assignment question pdf. The answers of all the questions are done below*

Active Employees

Productivity_Score	Performance_Rating
100	5
99	5
98	5
96	5
95	5

Productivity Consistency

Marketing has the least variation in productivity with a Standard Deviation of 2.24.

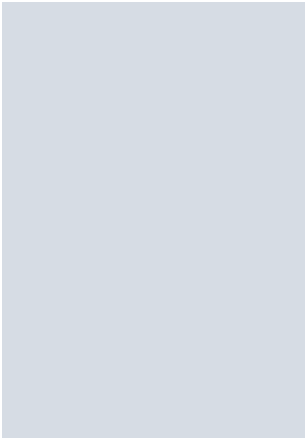
Efficiency Index (PEI)

by using the formula:

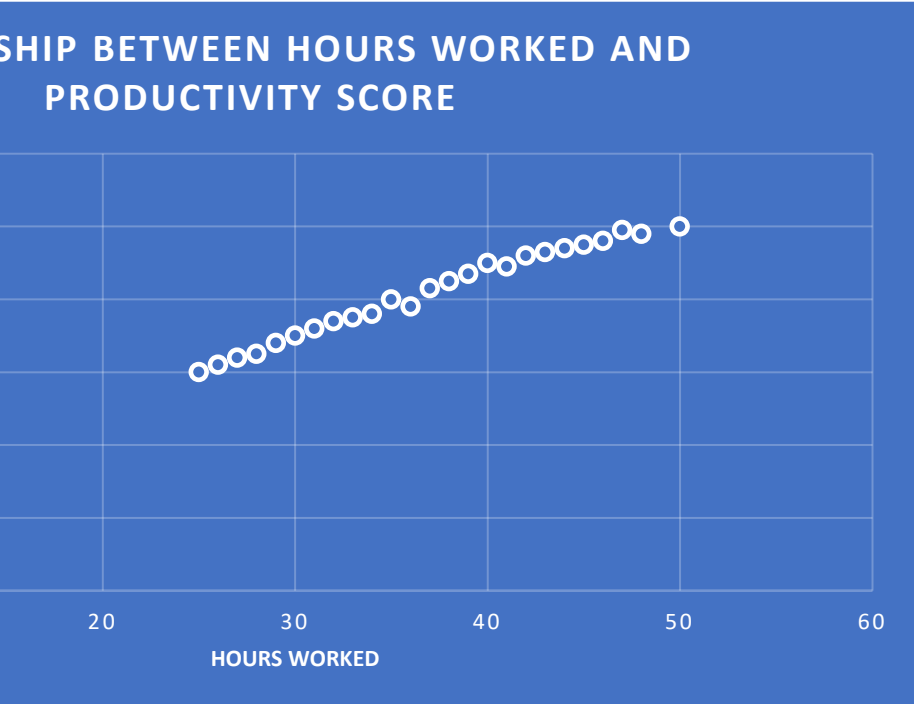
function and displayed the top 3 employees using Filter function.

Productivity_Score	Performance_Rating	PEI	Rank
90	5	11.25	1
92	5	10.95238	2
93	5	10.81395	3

Correlation Analysis



Hours Worked and Productivity_Score



There is a positive correlation between **Hours Worked** and **Productivity Score**. As **hours worked** increases, the **productivity score** generally tends to increase.

Underutilized High Performers

Department	Hours_Worked	Tasks_Con	Productivity	Performance	PEI	Rank
Sales	35	50	80	4	9.142857	10
Sales	37	55	83	4	8.972973	11

Sales	36	52	78	4	8.666667	15
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Question6- Task Per Hour Efficiency

Tasks_Completed	Productivity_Score	Performan	PEI	Rank	Tasks_per
65	90	5	11.25	1	1.625
70	92	5	10.95238	2	1.666667
75	93	5	10.81395	3	1.744186
73	94	5	10.68182	4	1.659091
75	95	5	10.55556	5	1.666667
79	99	5	10.53191	6	1.680851
77	96	5	10.43478	7	1.673913
78	98	5	10.20833	8	1.625
80	100	5	10	9	1.6
50	80	4	9.142857	10	1.428571
55	83	4	8.972973	11	1.486486
58	85	4	8.947368	12	1.526316
60	87	4	8.923077	13	1.538462
66	89	4	8.682927	14	1.609756
52	78	4	8.666667	15	1.444444
38	68	3	7.034483	16	1.310345
40	70	3	7	17	1.333333
42	72	3	6.967742	18	1.354839
35	65	3	6.964286	19	1.25
44	74	3	6.9375	20	1.375
45	75	3	6.818182	21	1.363636
48	76	3	6.705882	22	1.411765
30	60	2	4.8	23	1.2
32	62	2	4.769231	24	1.230769
34	64	2	4.740741	25	1.259259

s_per_Hour

1.744186047

ent Employee (Name)

the Top Employee

Marketing

erformance Score and Rating:

f **1.744**, has a **Performance Score of 93** and a **Performance Rating of 5**. This
rformance. Arjun's high Tasks per Hour suggests not only efficiency but also high
rmance Rating of 5, being the highest, further reinforces that Arjun is performing
role within the **Marketing** department.