

OGTIP PROJECT 2 DATA VISUALIZATION

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PROJECT DESCRIPTION

We are Given the limited HR data from a reputed organization XYZ technologies that includes relevant information of the employees like id, designation, performance score, salary etc. As a Data Scientist make necessary visualisation from the data using seaborn/matplotlib.

1

ANALYZE THE EXCEL DATA PERTAINING TO THE PROBLEM STATEMENT.

2

PROVIDE DESCRIPTIVE STATISTICS FOR THE RELEVANT FIELD IN THE DATA.

3

INCLUDE CHARTS AND DIAGRAMS TO SHOW THE RELATIONSHIP BETWEEN DIFFERENT COLUMNS OF THE DATA .

4

STATE YOUR INFERENCE WITH RELEVANT STATEMENTS.



DESCRIPTIVE STATISTICS

count	311.000000
mean	10.237942
std	5.852596
min	1.000000
25%	5.000000
50%	10.000000
75%	15.000000
max	20.000000

ABSENCES

The average number of absences for the employees is 10. The minimum number of absences is 1 and the maximum is 20.

count	311.000000
mean	3.890675
std	0.909241
min	1.000000
25%	3.000000
50%	4.000000
75%	5.000000
max	5.000000

EMPLOYEE SATISFACTION

*The average employee satisfaction is 3.
The minimum employee satisfaction is 1
and the maximum is 5.*

count	311.000000
mean	1.218650
std	2.349421
min	0.000000
25%	0.000000
50%	0.000000
75%	0.000000
max	8.000000

SPECIAL PROJECTS

The average amount of special projects an employee does is 1. The minimum amount of special projects an employee does is 0 and the maximum is 8.

count	311.000000
mean	69020.684887
std	25156.636936
min	45046.000000
25%	55501.500000
50%	62810.000000
75%	72036.000000
max	250000.000000

SALARY

The average salary of an employee is \$69,020. Employee salary ranges from \$45,046 to \$250,000.

	DAYS LATE (LAST 30 DAYS)
count	311.000000
mean	0.414791
std	1.294519
min	0.000000
25%	0.000000
50%	0.000000
75%	0.000000
max	6.000000

The average employee wasn't late in the last 30 days. The minimum number of times an employee was late in the last 30 days is 0 and the maximum is 6.

count	311.000000
mean	4.110000
std	0.789938
min	1.120000
25%	3.690000
50%	4.280000
75%	4.700000
max	5.000000

ENGAGEMENT SURVEY

The average engagement level is 4. The minimum engagement level is 1 and the maximum is 5.

count	311.000000
mean	44.122186
std	8.867002
min	31.000000
25%	37.000000
50%	42.000000
75%	49.000000
max	72.000000

AGE

The average age is 44. The minimum age is 31 and the maximum is 72.

count	311.000000
mean	10.083601
std	1.973883
min	5.000000
25%	8.000000
50%	10.000000
75%	12.000000
max	17.000000

TENURE

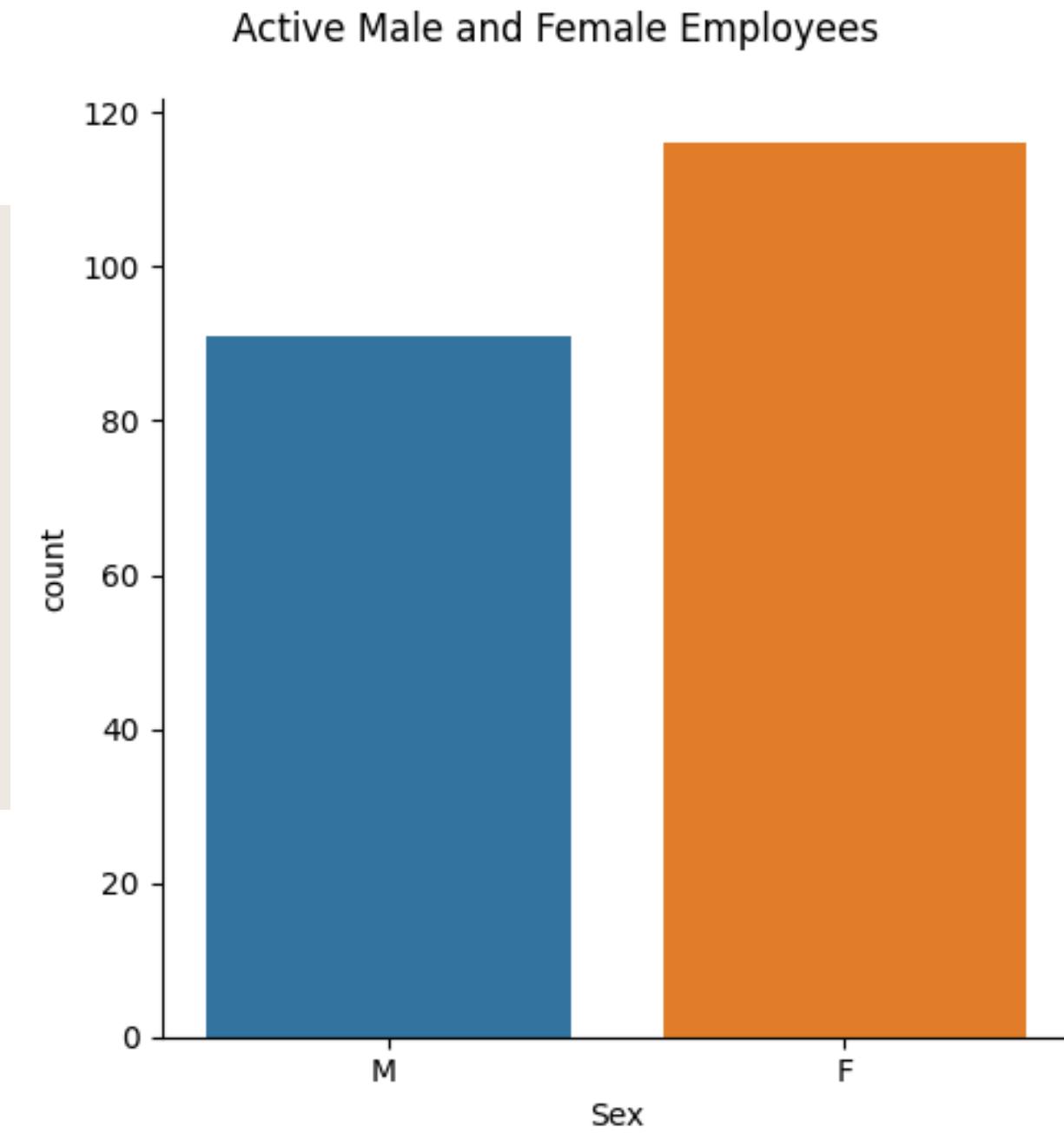
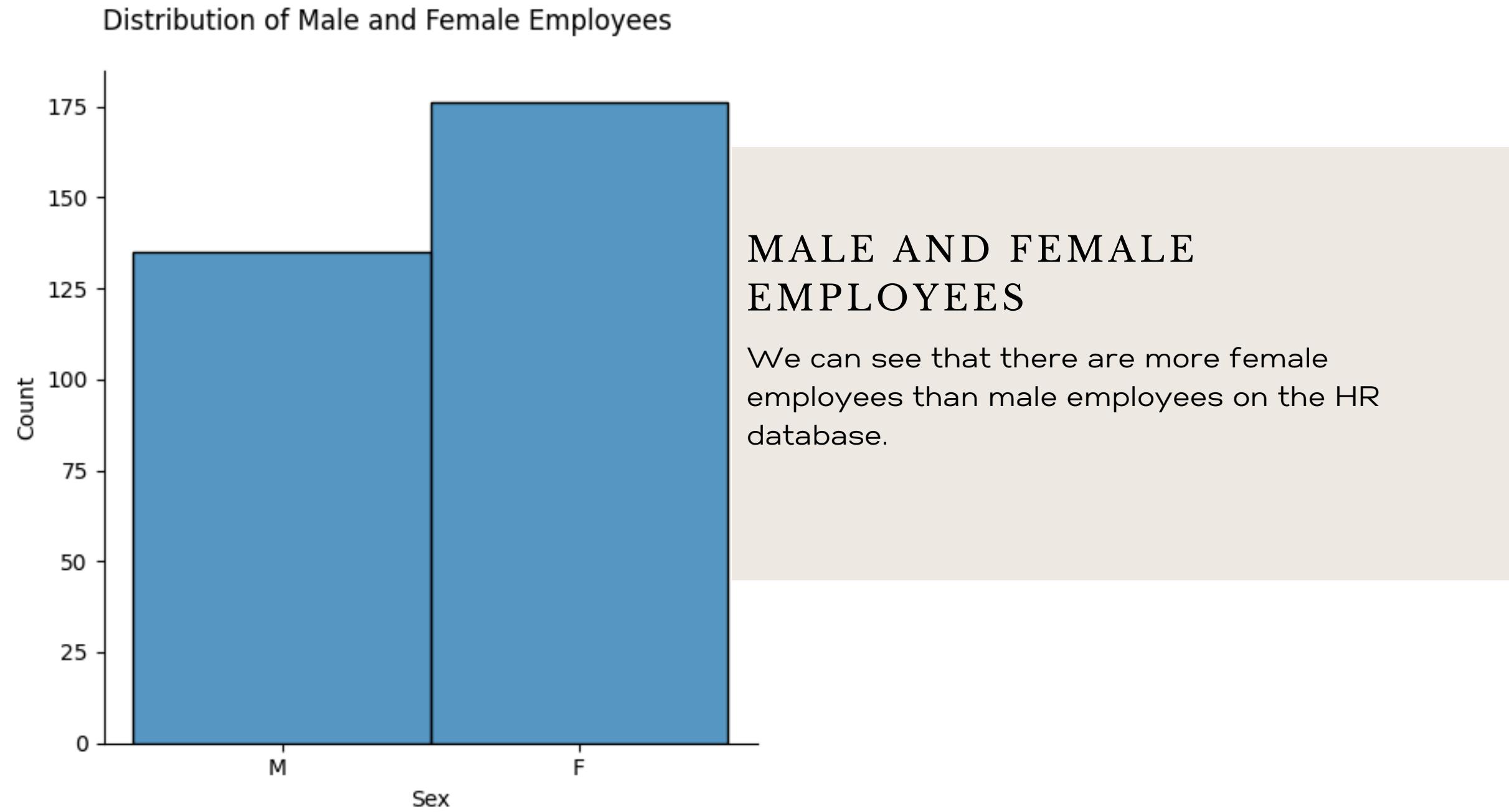
The average tenure is 10 years. The minimum tenure is 5 and the maximum is 17.



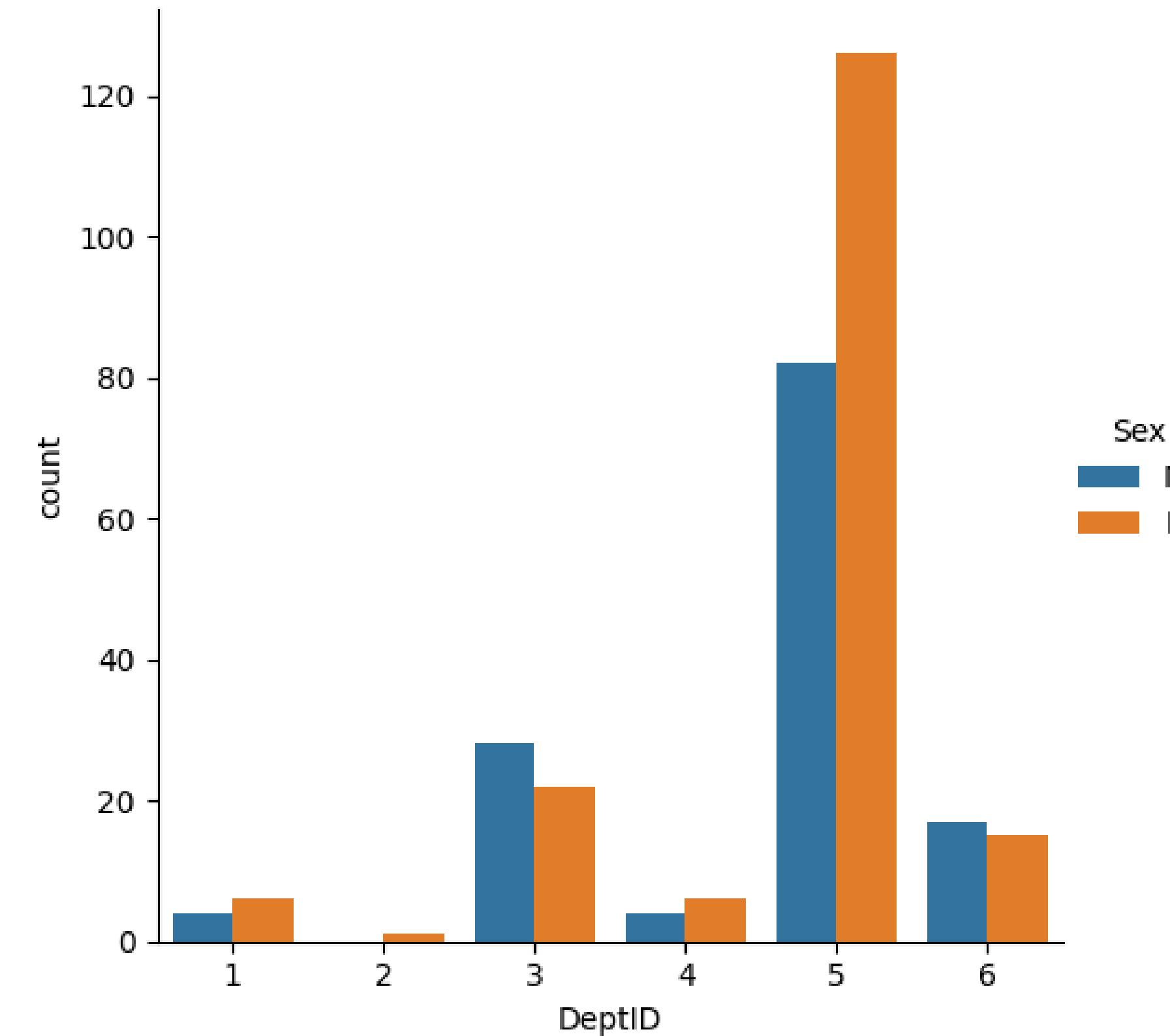
DATA VISUALIZATION

The elements that will be analysed:

- Gender
- Department
- Marital Status
- Salary
- Performance Score
- Employee Satisfaction
- Engagement Survey
- Employment Status
- Absences
- Special Projects
- Age



Number of Females and Males in Each Department

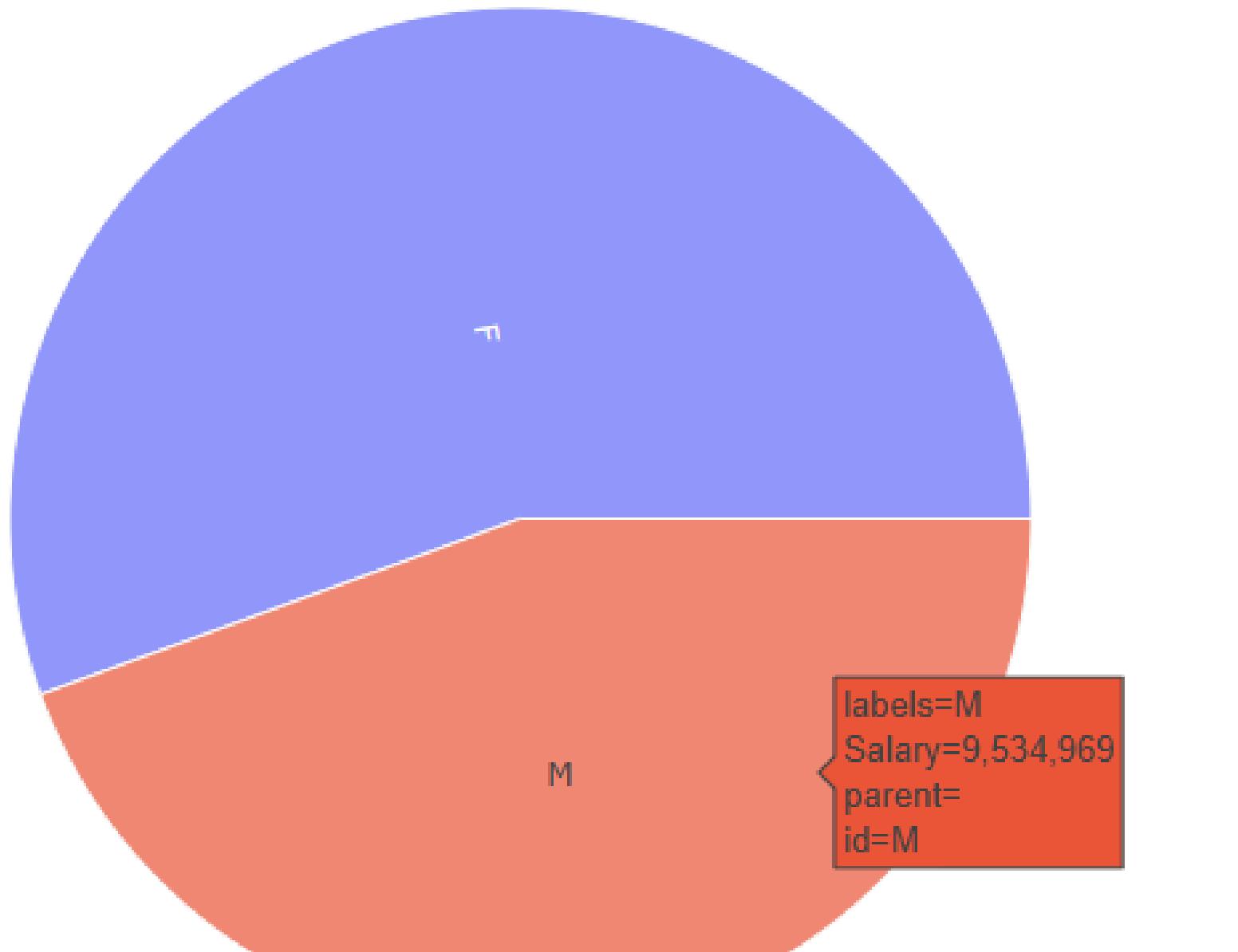


GENDER VS. DEPARTMENT

Females dominate most departments other than the IT/IS and Sales department.

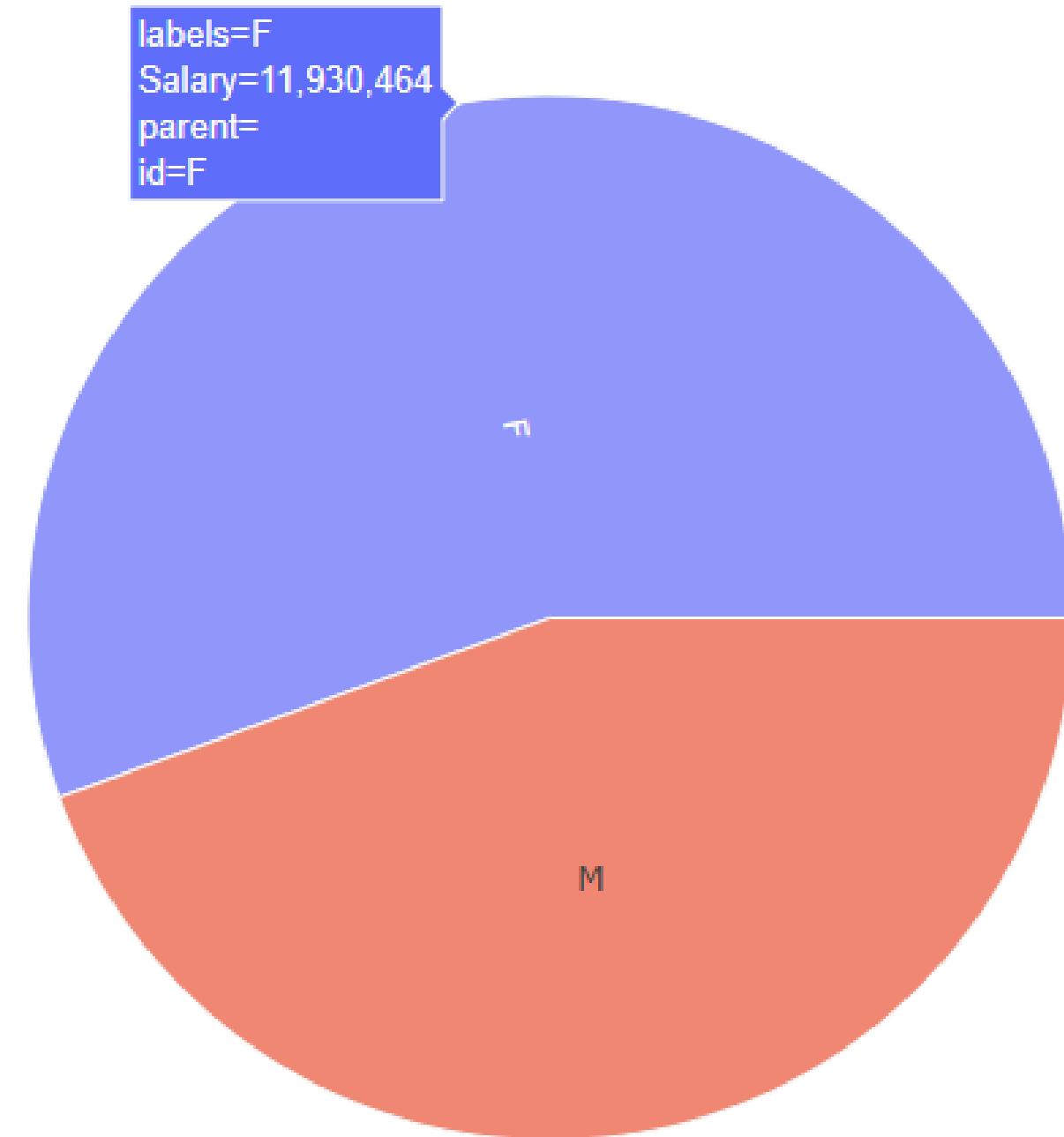
DEPARTMENT KEY

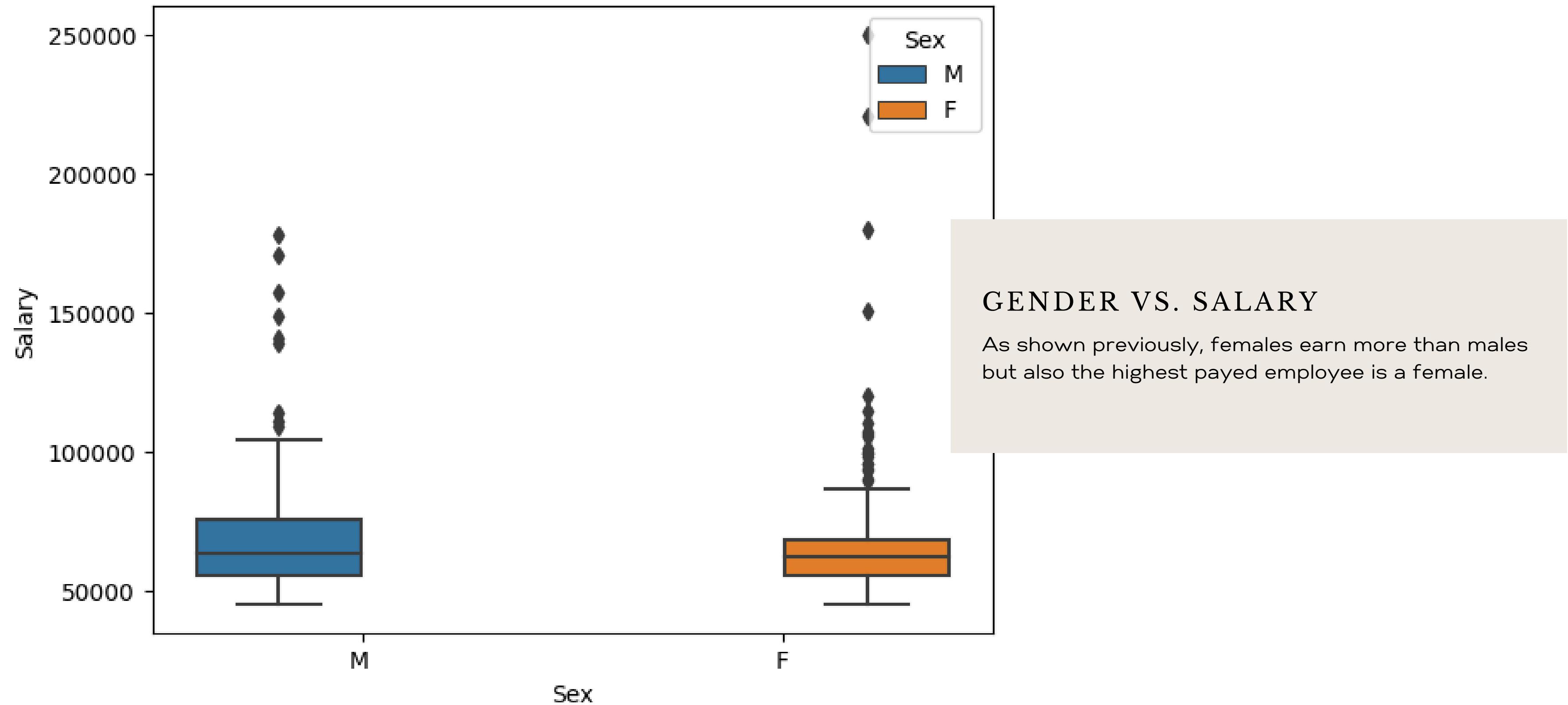
- 1- Administrative Office
- 2- Executive Office
- 3- IT/IS
- 4- Software Engineering
- 5- Production
- 6- Sales



GENDER VS. SALARY

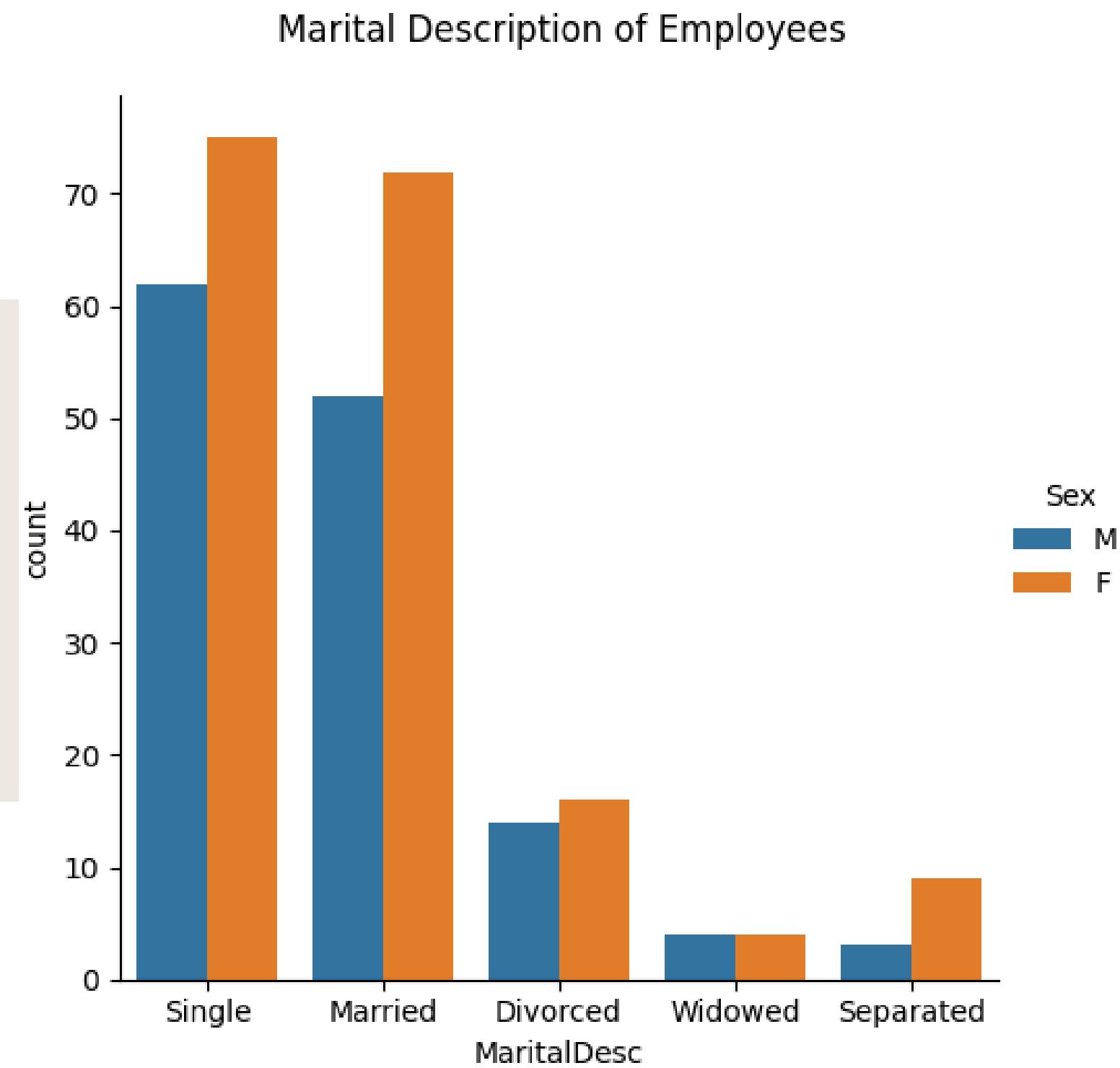
Female employees make more than their counterparts in this company.

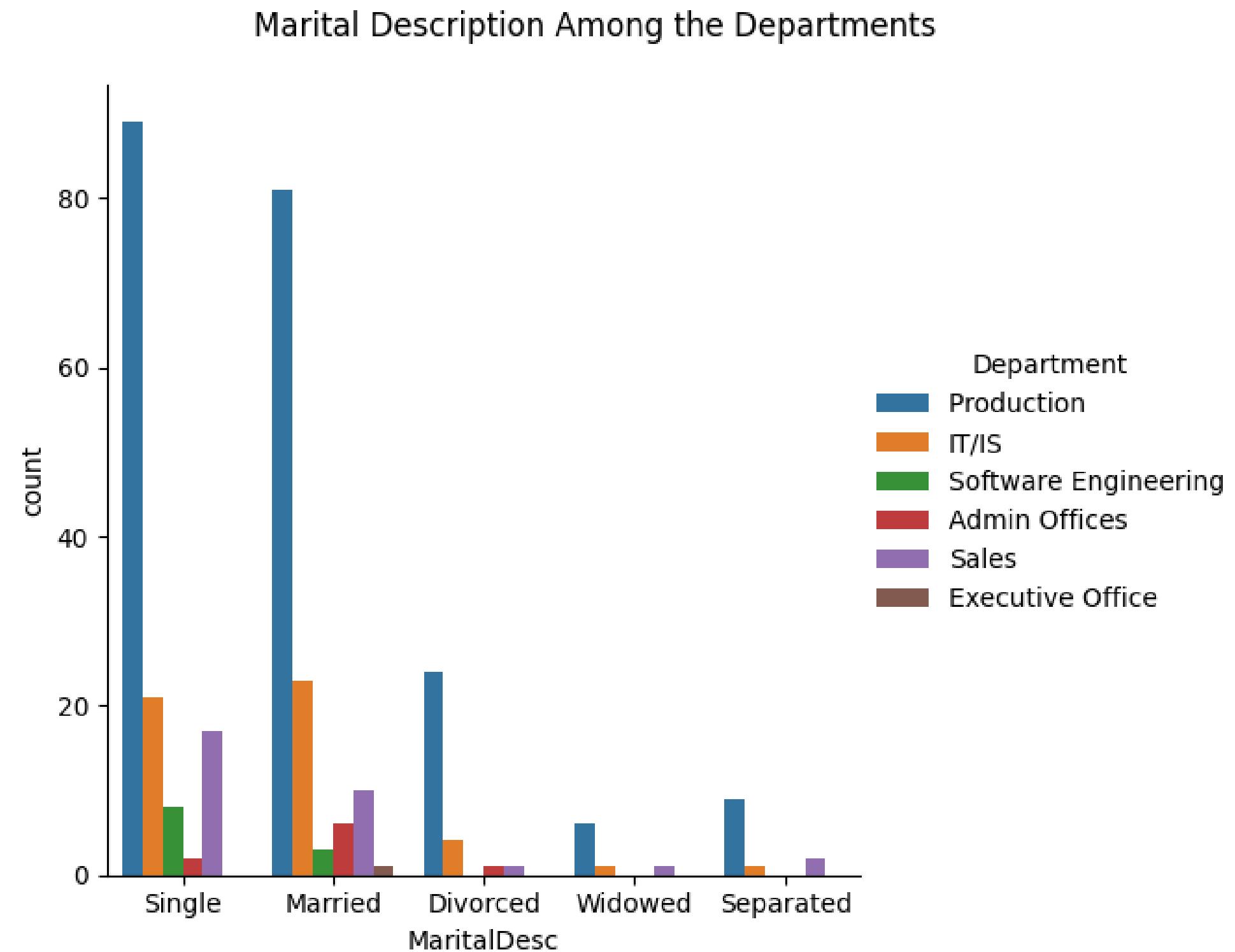




MALE AND FEMALE EMPLOYEES MARITAL DESCRIPTION

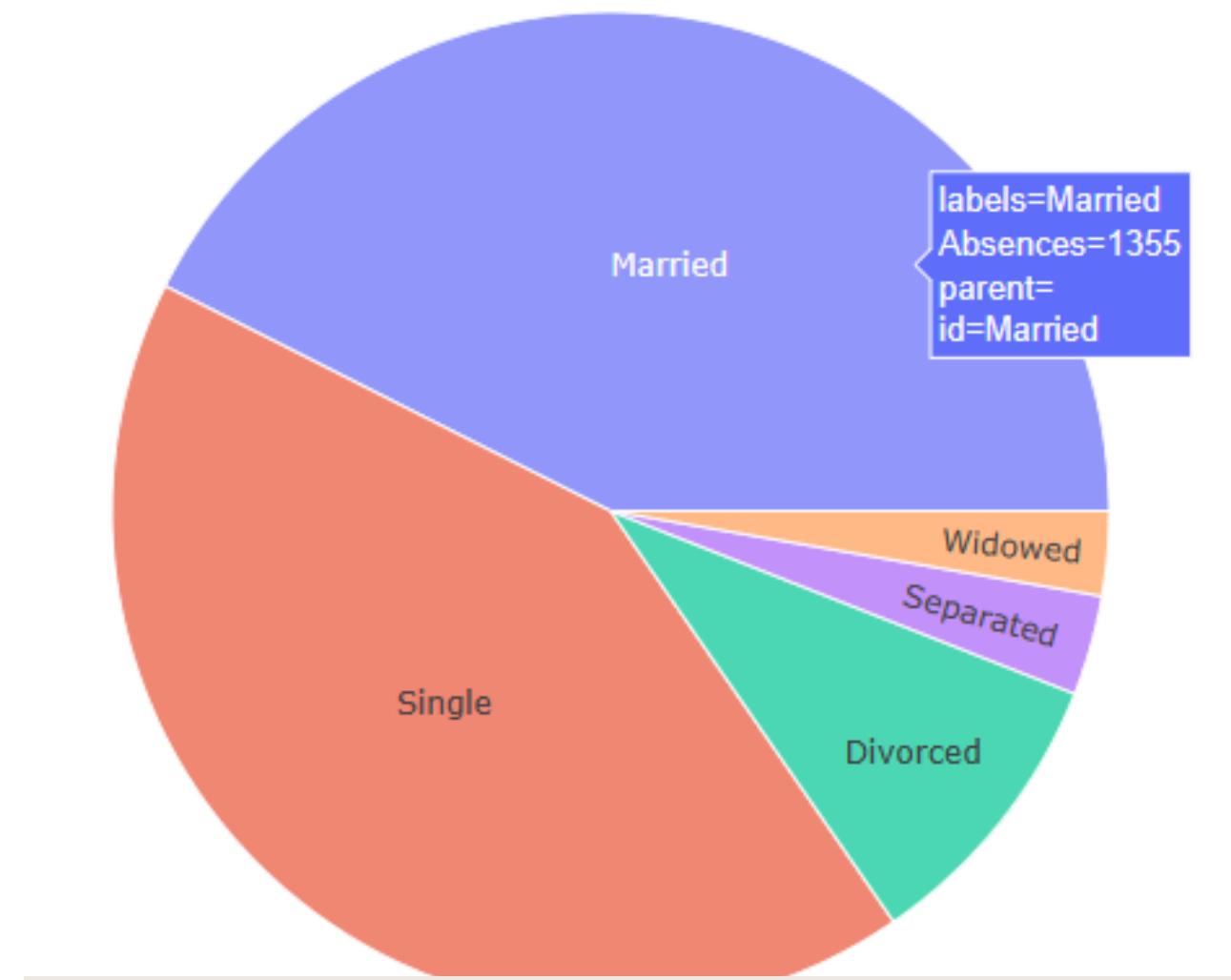
We can see that most of the employees are single. The next biggest group are those that are married. The company has an equal number of widowed males and females.





MARITAL STATUS IN THE DEPARTMENTS

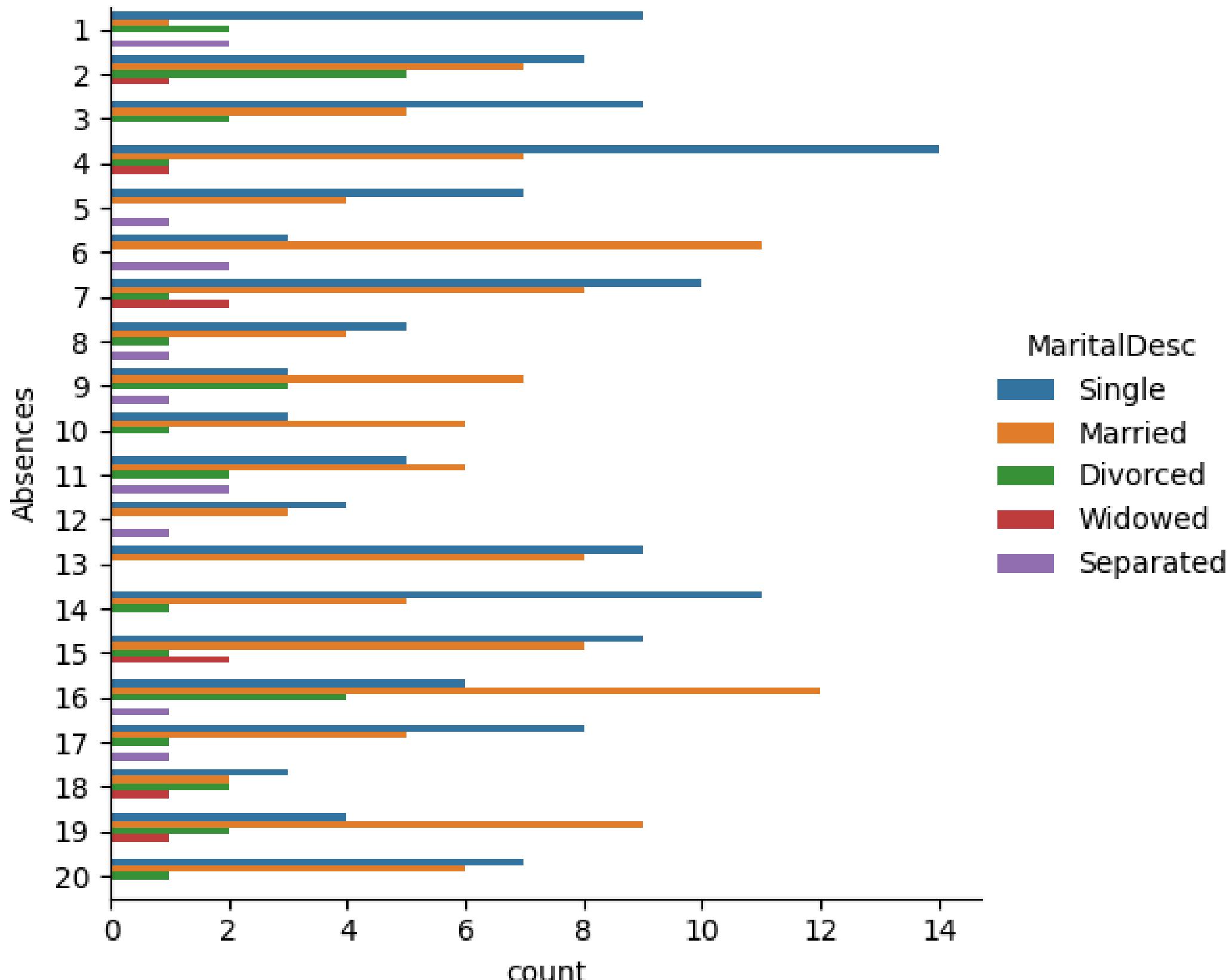
The Production department, which we will come to understand is the biggest department, has mostly singles. On the other hand, the IT/IS department has mostly married persons.

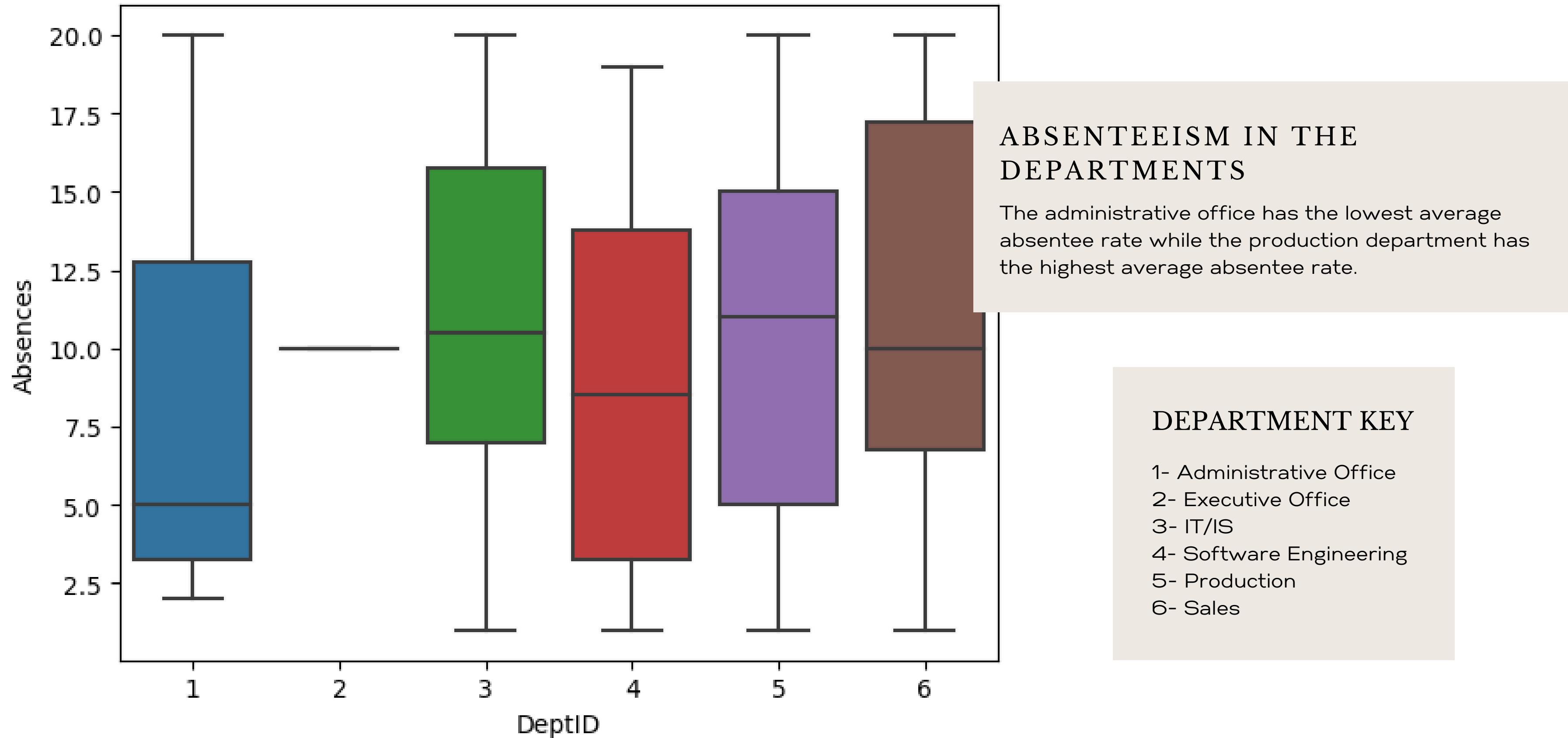


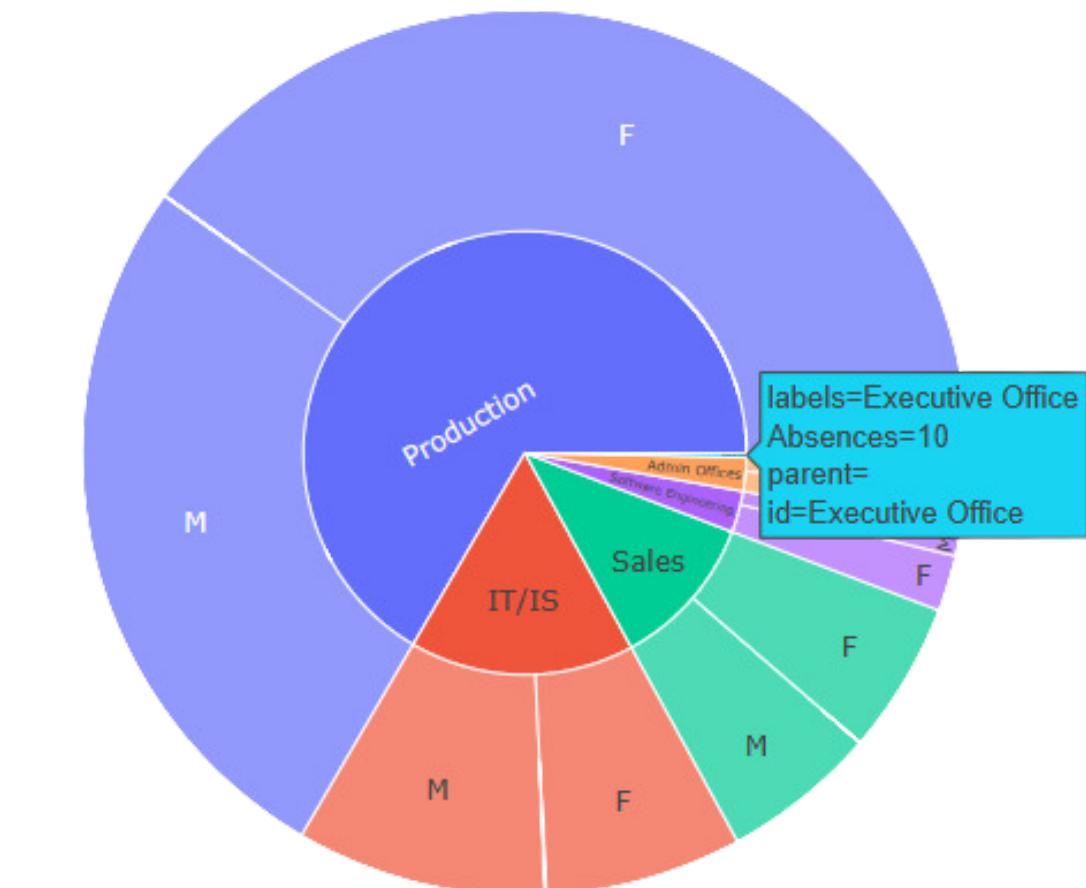
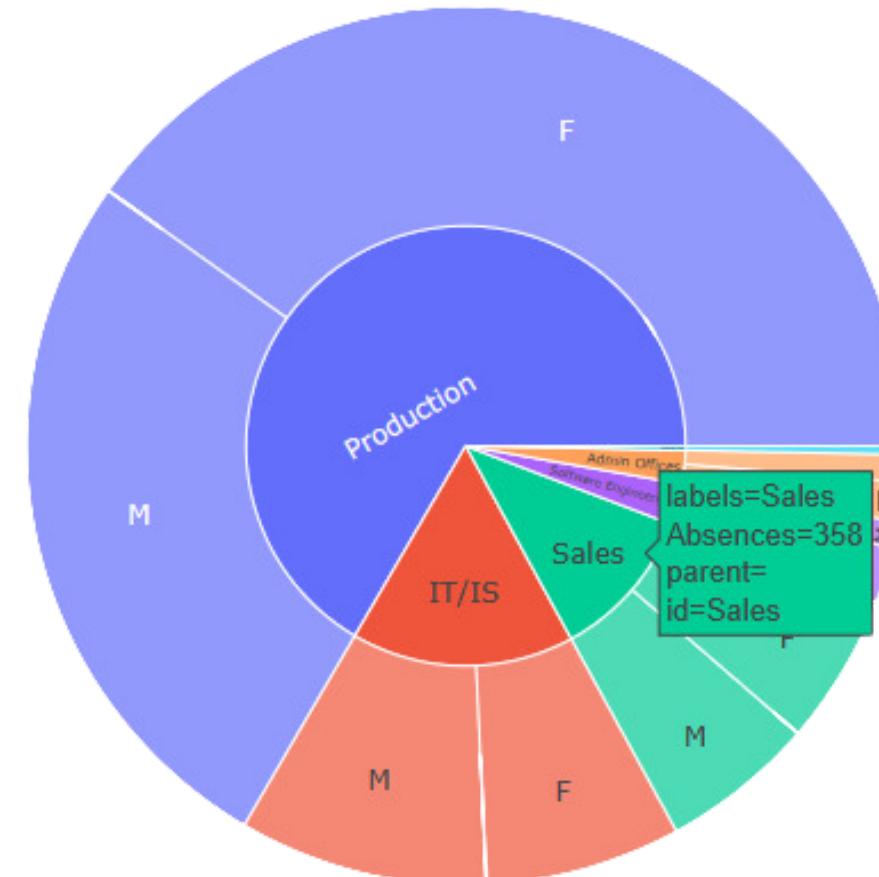
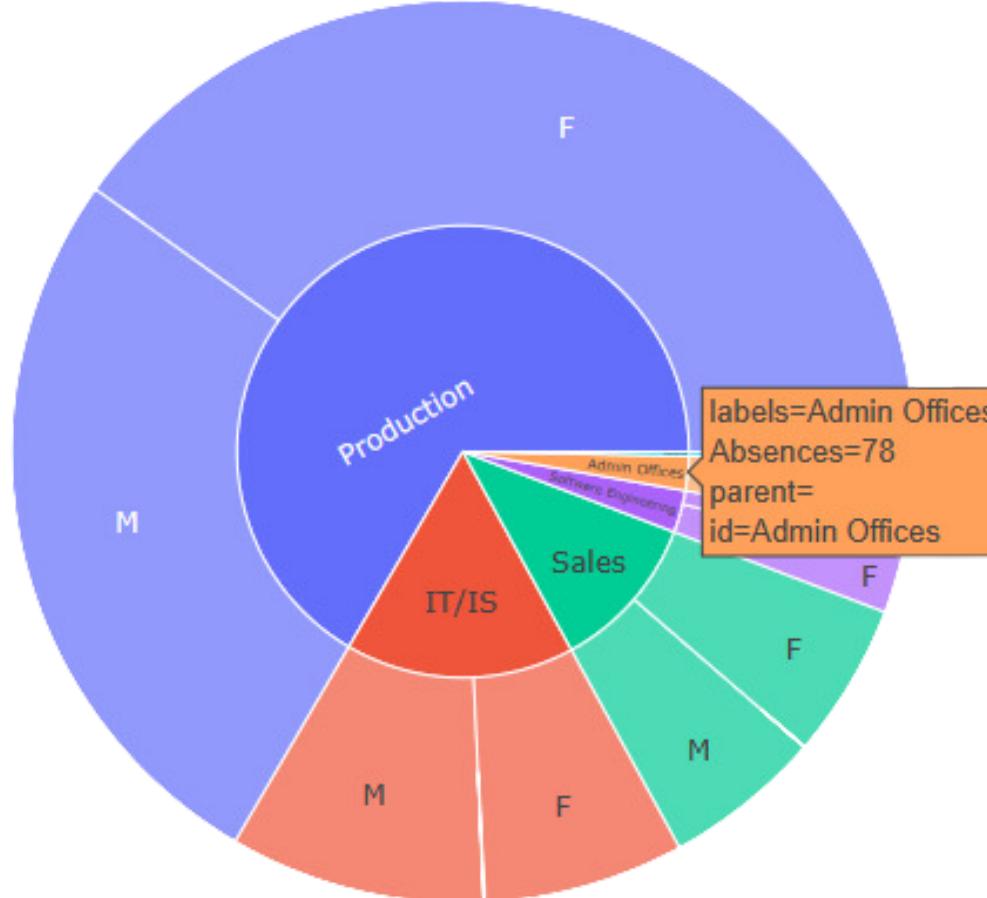
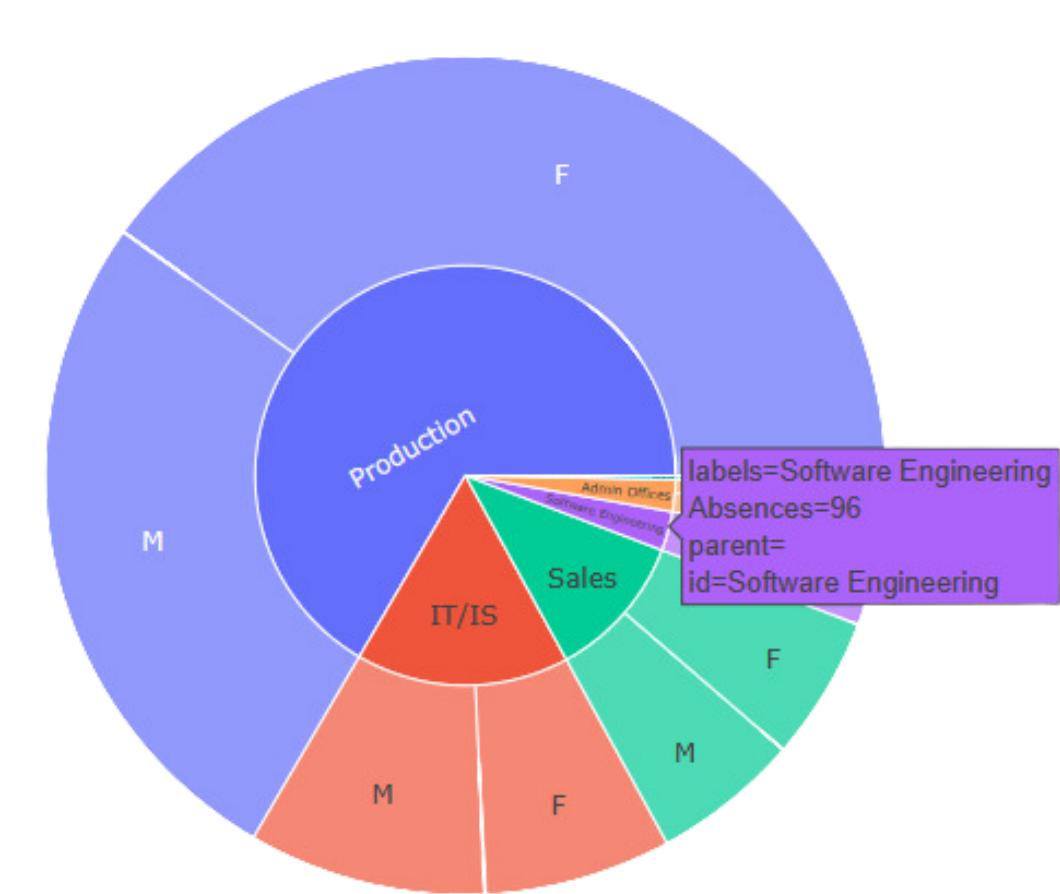
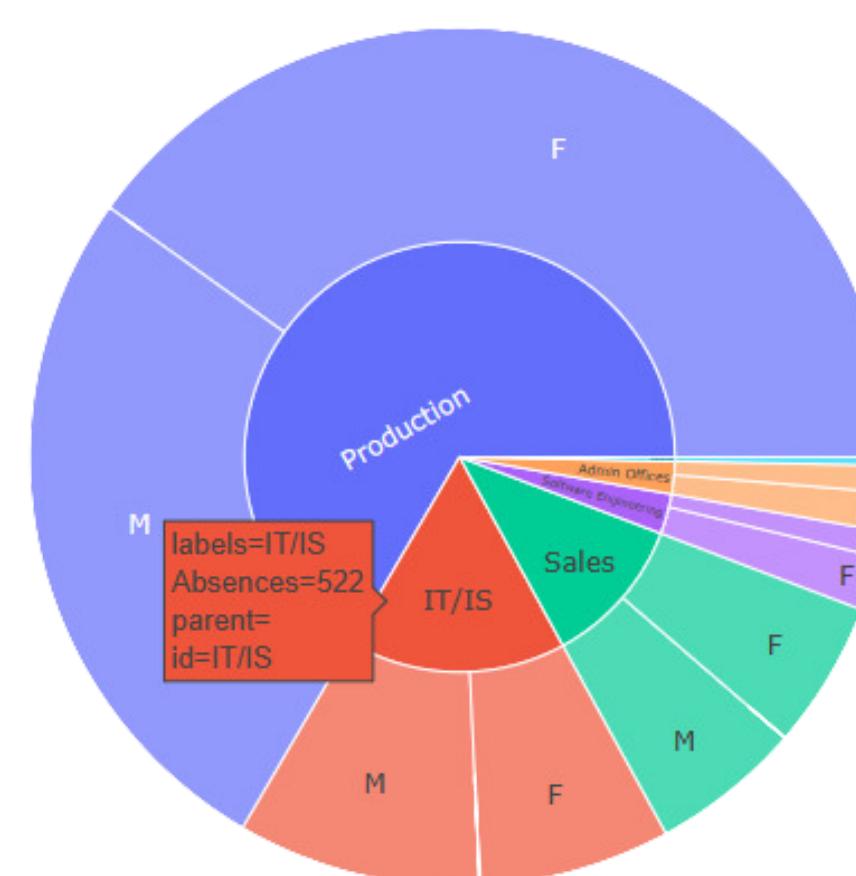
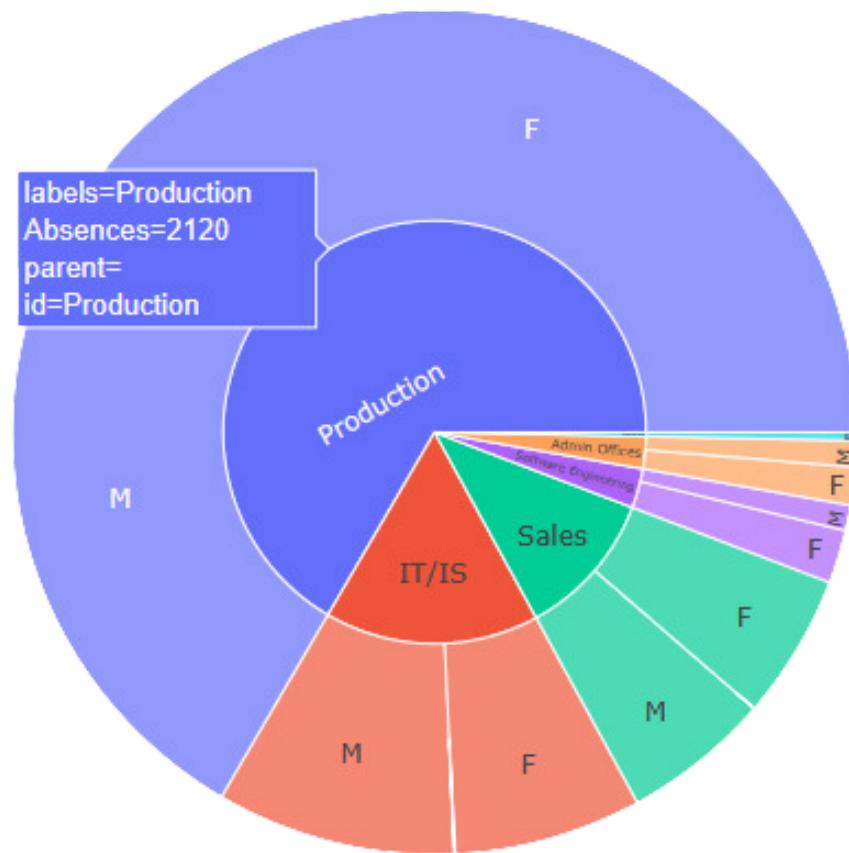
**MARITAL STATUS VS
ABSENTEEISM**

Single employees have the highest level of absenteeism while widowed employees have the lowest.

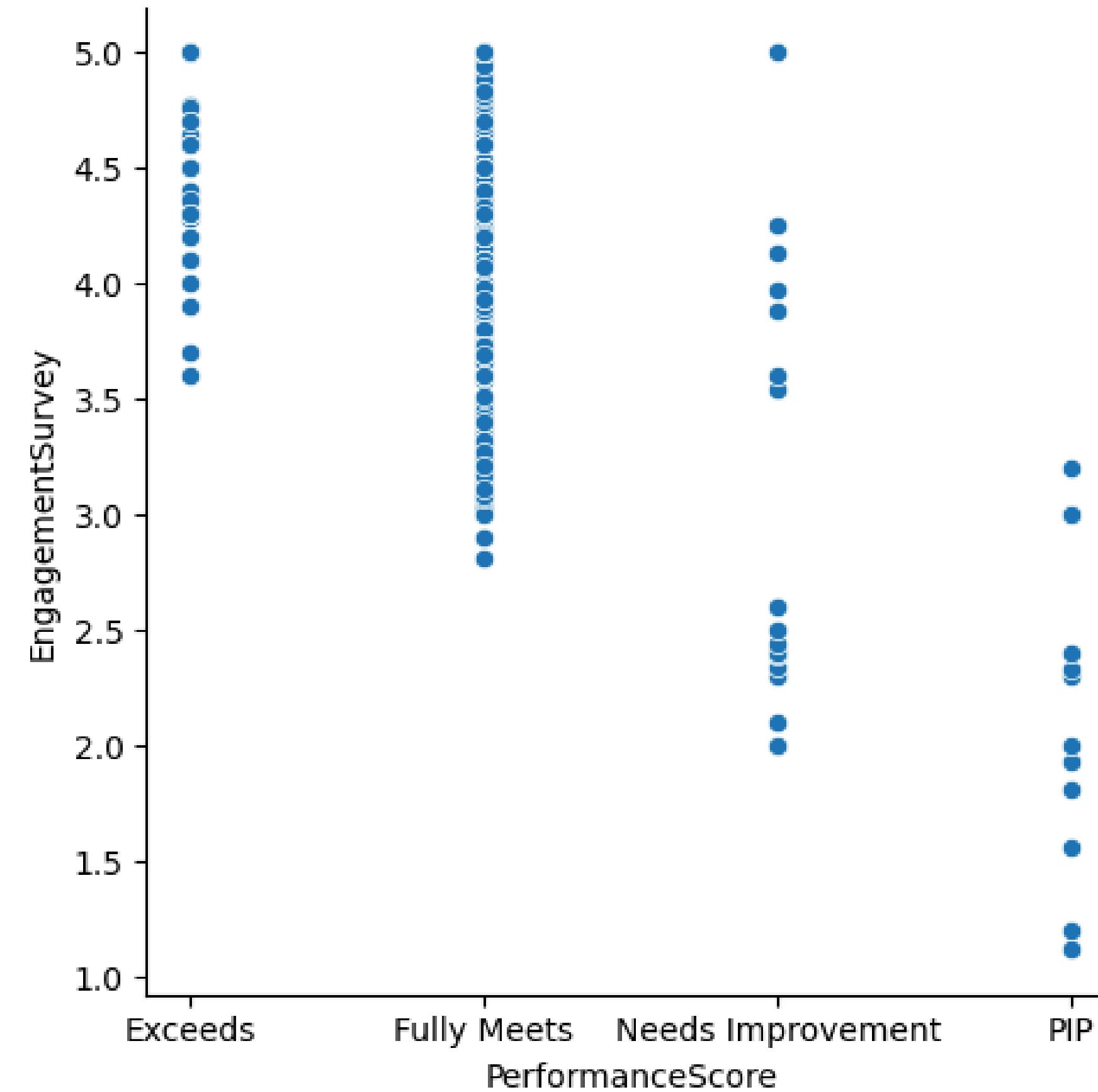
The Amount of Absences for Each Marital Status





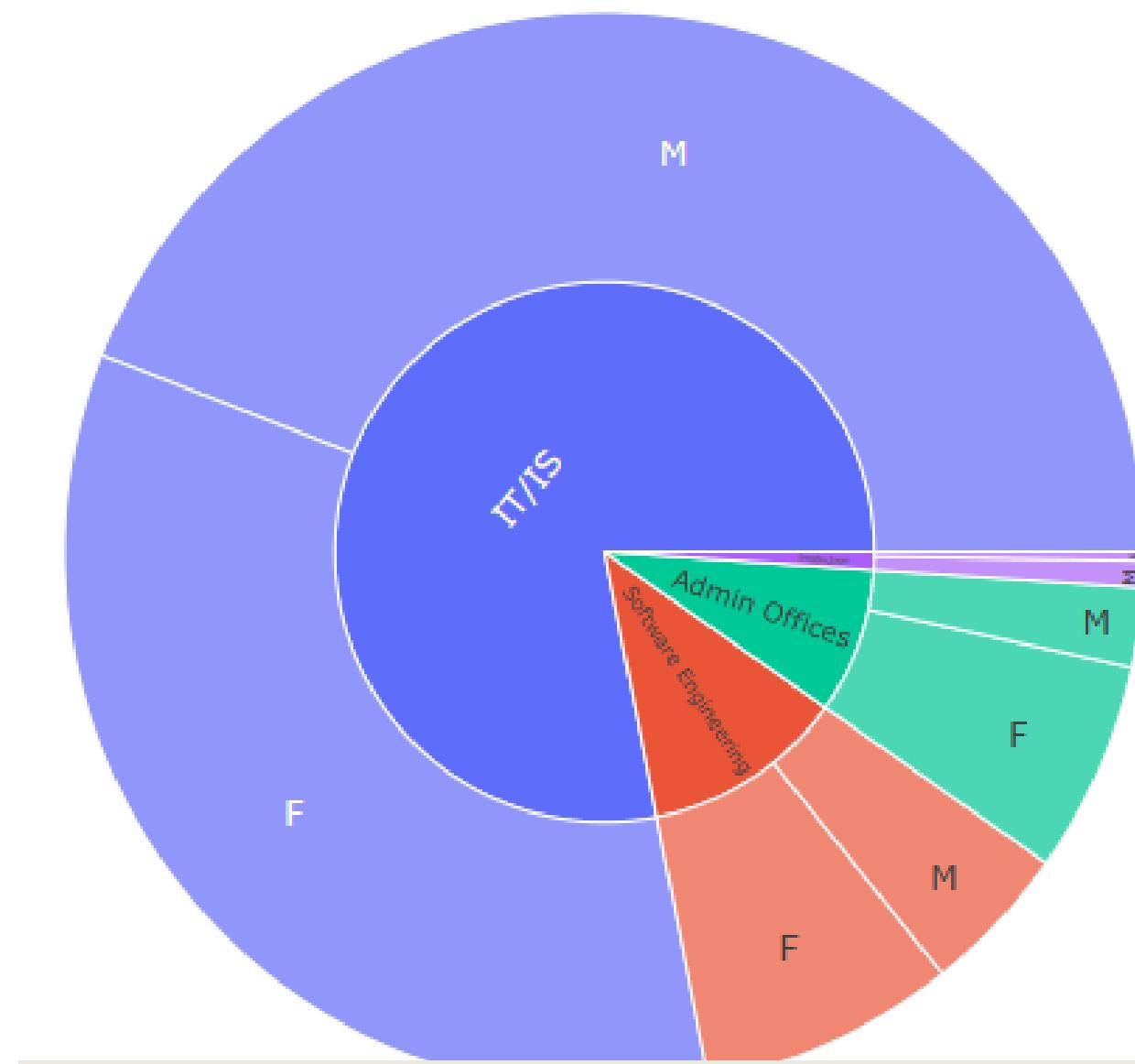


Engagement Level in Relation to Performance Score



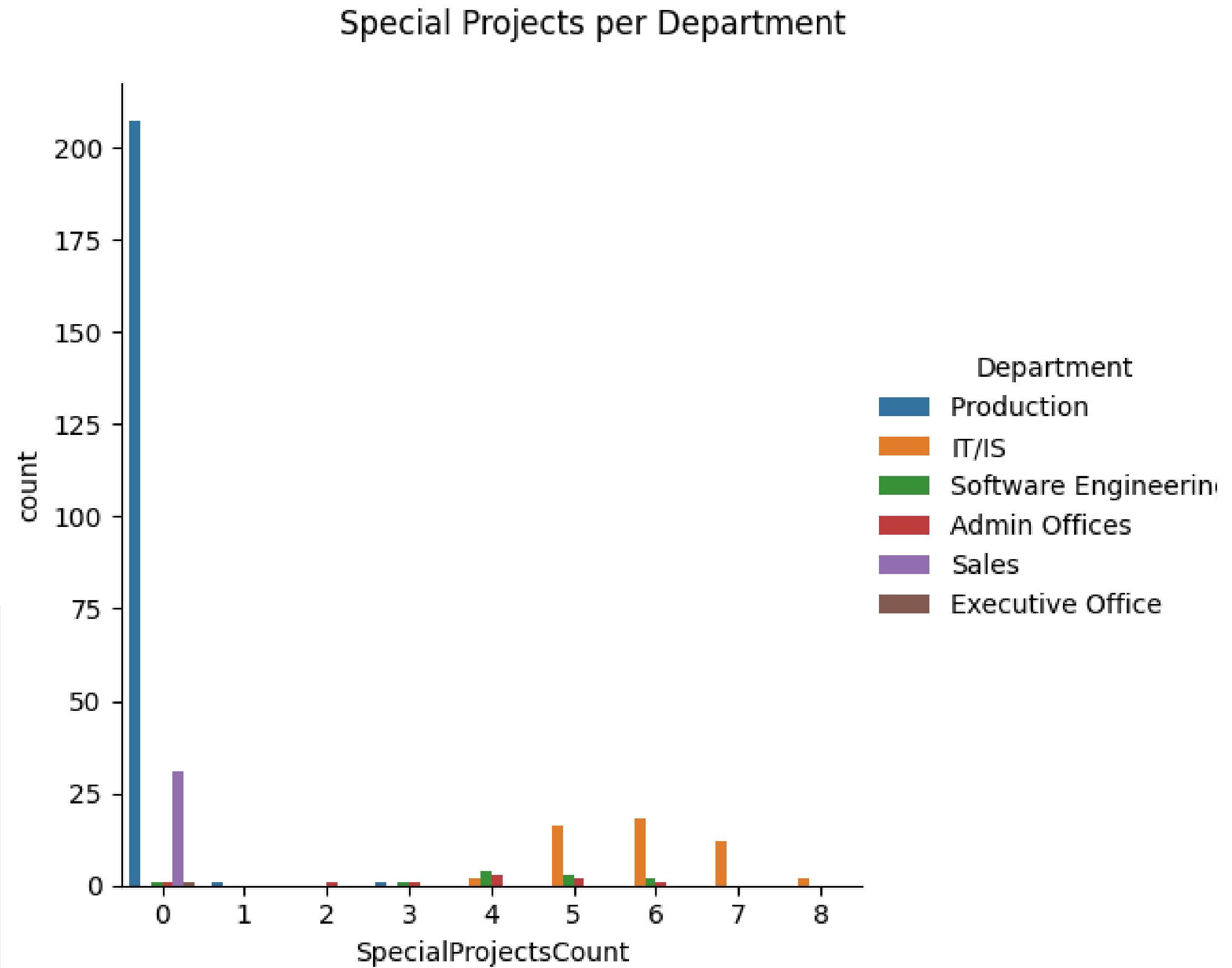
ENGAGEMENT LEVEL AND PERFORMANCE SCORE

Generally, we can see that persons whose performance exceeds expectations have a higher engagement range. As the performance level decreases so does the engagement range decrease.



SPECIAL PROJECTS AMONG DEPARTMENTS

The Production department has no special projects. On the other hand, the IT department has the most special projects.

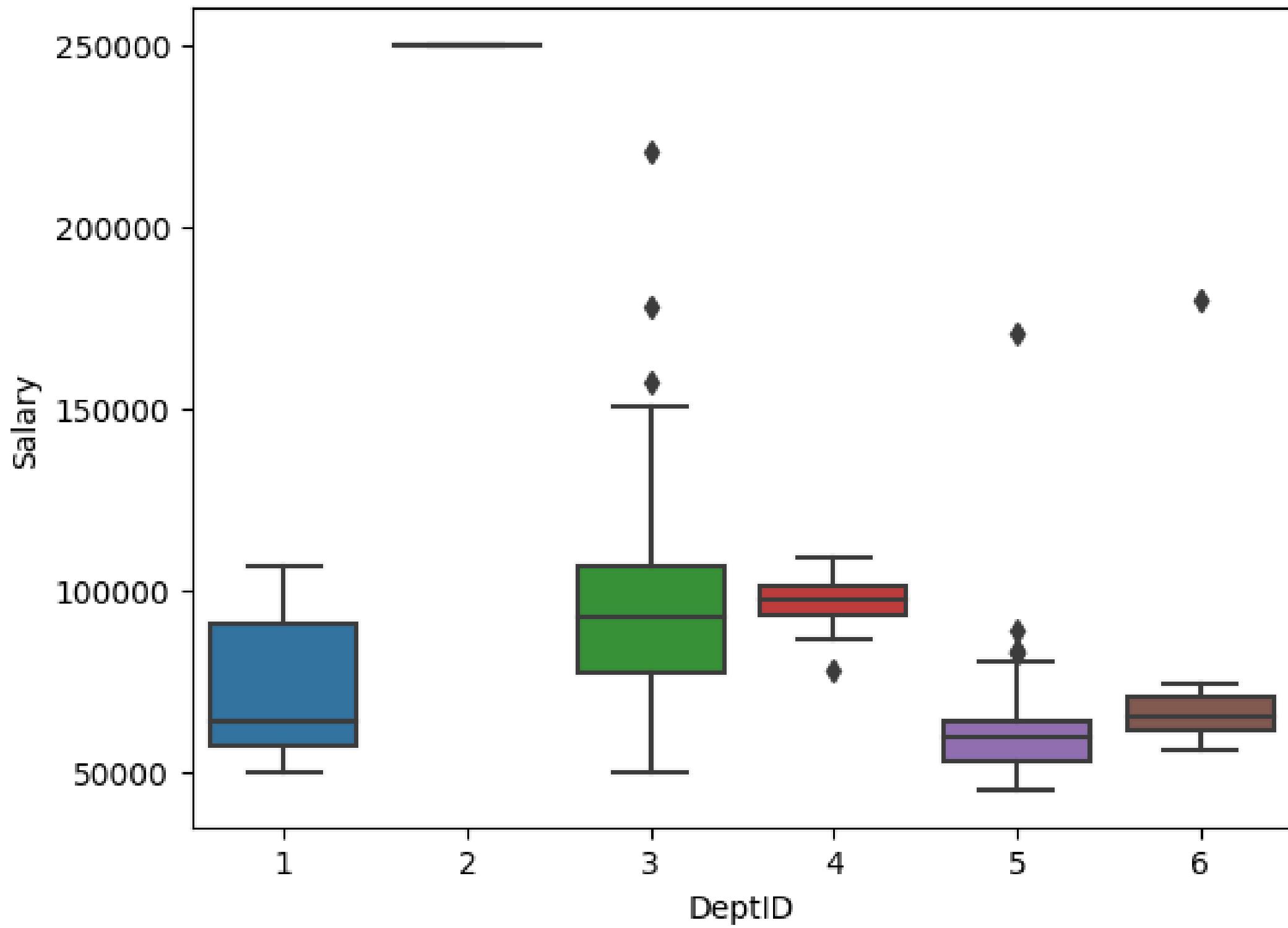


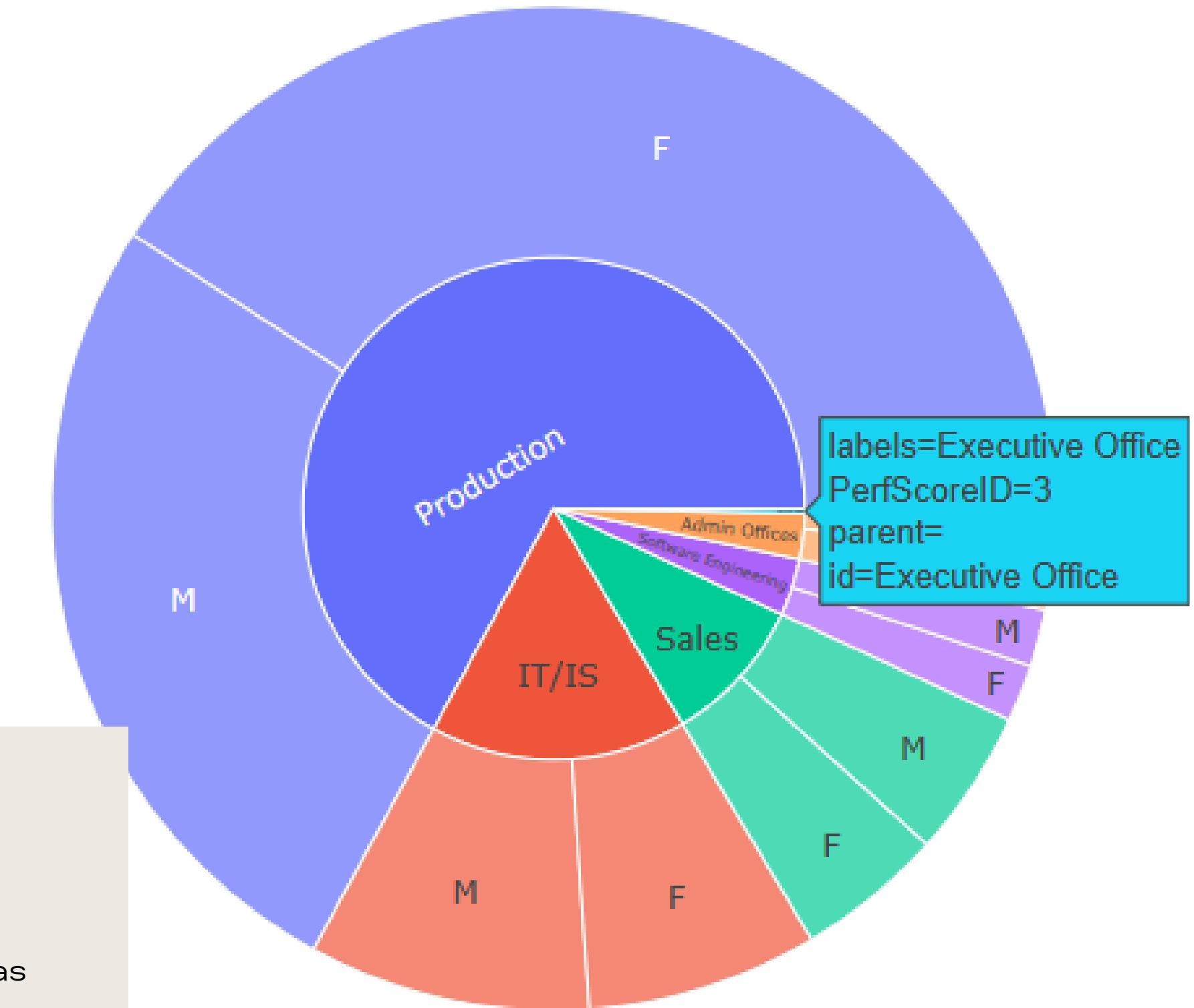
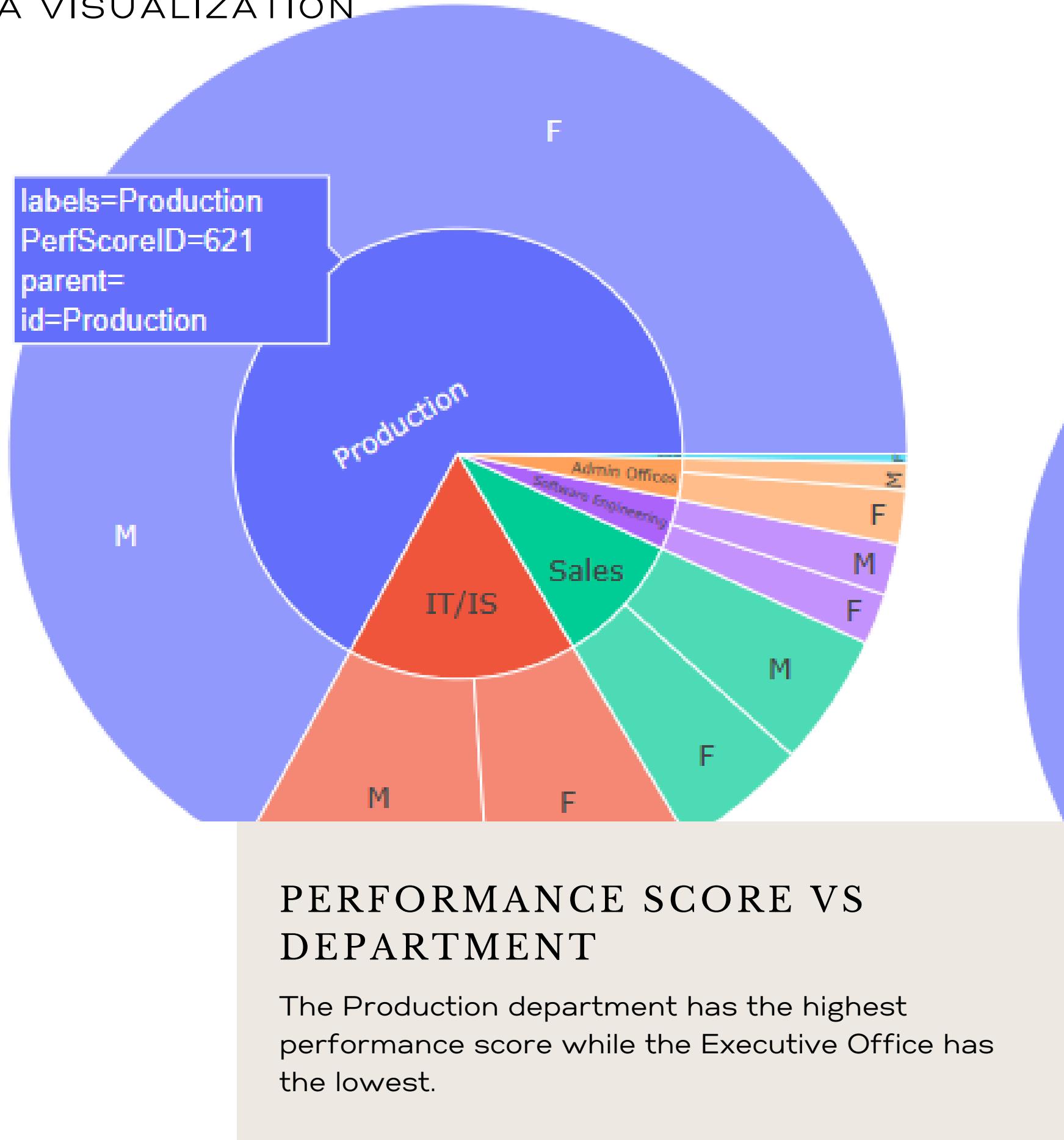
SALARY IN THE DEPARTMENTS

The Executive Office has the highest salary. The IT department has the largest salary range and the Production department has the lowest minimum salary.

DEPARTMENT KEY

- 1- Administrative Office
- 2- Executive Office
- 3- IT/IS
- 4- Software Engineering
- 5- Production
- 6- Sales



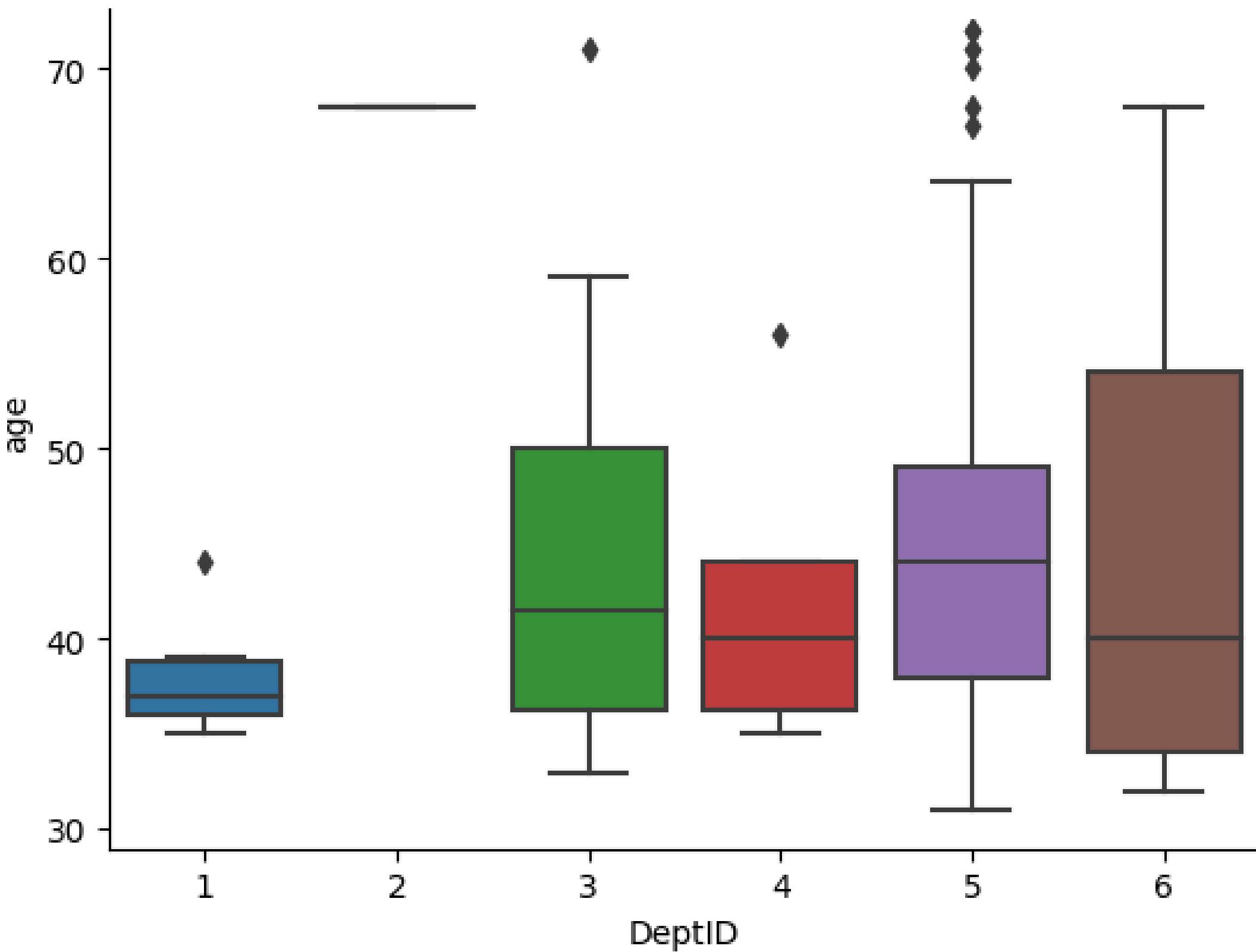


AGE IN THE DEPARTMENTS

In the IT, Executive Office, Production and Sales departments there are maximum ages of 60 and above. The other two departments have a maximum employee age that is less than 60.

DEPARTMENT KEY

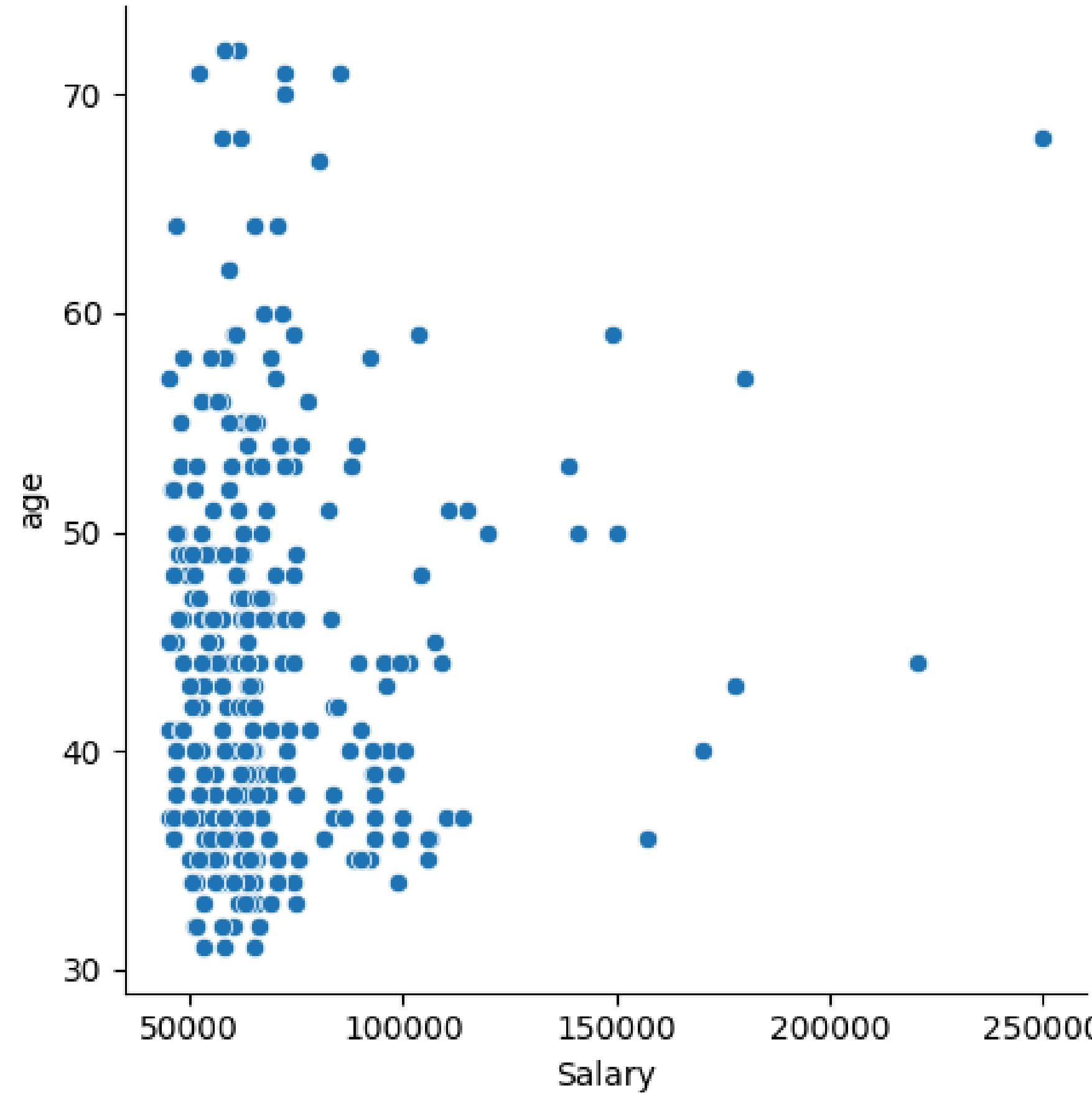
- 1- Administrative Office
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- 4- Software Engineering
- 5- Production
- 6- Sales



Salary in Relation to Age

SALARY VS AGE

There is no correlation between an employee's age and the salary they receive.





INFERENCE

INFERENCES



AGE OF EMPLOYEES

There are mostly middle aged and upwards employees at XYZ Technologies which means an emphasis on health, family and retirement benefits is needed.



ENGAGEMENT & PERFORMANCE

The more engaged the employees are, the better their performance becomes. The managers can seek to heighten the engagement of the employees in order to see improvement in their performance.



EFFICIENT DEPARTMENT

Most of the company's special projects are done by the IT/IS department. I would say that the IT department is most efficient because of this and still having a good performance scores. This could also be why they have the highest maximum pay aside from the executive officer.



GENDER AND MARITAL STATUS

This company has mostly singles and mostly females. Both of these categories have a high level of absenteeism.

THANK YOU!

