Worksheet for Payroll Analysis

Top management is concerned about the salary expense on the income statement. It appears that the managers are not being paid enough compared to our existing employees and managers in the same position in other companies. They want you to use machine learning techniques to analyze the existing data and to predict what a raise for our managers would mean to the salary expense. They want use to pay all managers 25.00 per hour. Look over the dataset to see if $25.00 per hour would make them the highest paid employees.

1. Currently how much is the top hourly rate? \_\_\_\_\_\_\_\_
2. What is the total gross pay of our data set? \_\_\_\_\_\_\_\_
3. What are the total hours of the dataset? \_\_\_\_\_\_\_\_\_\_
4. What is the shape of the dataset? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ What does it mean? \_\_\_\_\_\_\_\_\_\_\_\_\_
5. What is the mean or average payrate? \_\_\_\_\_\_\_
6. What are the mean hours? \_\_\_\_\_\_
7. What are the minimum hours worked? \_\_\_\_
8. What is the minimum pay rate? \_\_\_\_\_\_
9. What is the average amount of commission? \_\_\_\_\_
10. What are the maximum hours worked? \_\_\_\_\_\_
11. What is the maximum payrate? \_\_\_\_\_\_
12. What is minimum gross pay? \_\_\_\_\_\_
13. What is the maximum gross pay \_\_\_\_
14. What is the coefficient for hours worked? \_\_\_\_\_\_
15. What is the coefficient for payrate? \_\_\_\_\_
16. What is the coefficient for commissions? \_\_\_\_\_\_
17. What does the coefficient tell us? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
18. What is predicted gross pay for our sample of 17 items (20%)? \_\_\_\_\_\_\_\_\_\_
19. What is the actual gross pay for our test sample? \_\_\_\_\_\_\_
20. After making changes to all managers’ salaries, what is the total gross pay? \_\_\_\_\_\_
21. What the total hours worked? \_\_\_\_
22. Total commissions? \_\_\_\_\_\_
23. Compare the actual gross pay with model’s predictions : Dunbar actual\_\_\_\_ prediction \_\_\_
24. Teague actual \_\_\_\_\_ prediction \_\_\_\_\_\_
25. Couch actual \_\_\_\_ prediction \_\_\_\_\_\_
26. Parsons actual \_\_\_\_\_ prediction \_\_\_\_\_
27. Under the dataset describe code, what is the mean hours worked? \_\_\_\_\_\_, mean pay rate? \_\_\_\_, mean commissions? \_\_\_\_
28. Coefficient hours worked. \_\_\_, payrate? \_\_\_\_, comm? \_\_\_
29. What is the predicted gross pay for the 20% dataset? \_\_\_\_, actual? \_\_\_\_\_\_\_
30. MAE? \_\_\_\_, MSE? \_\_\_\_, RMSE? \_\_\_\_
31. Additional gross pay for the additional four employees? \_\_\_\_\_\_