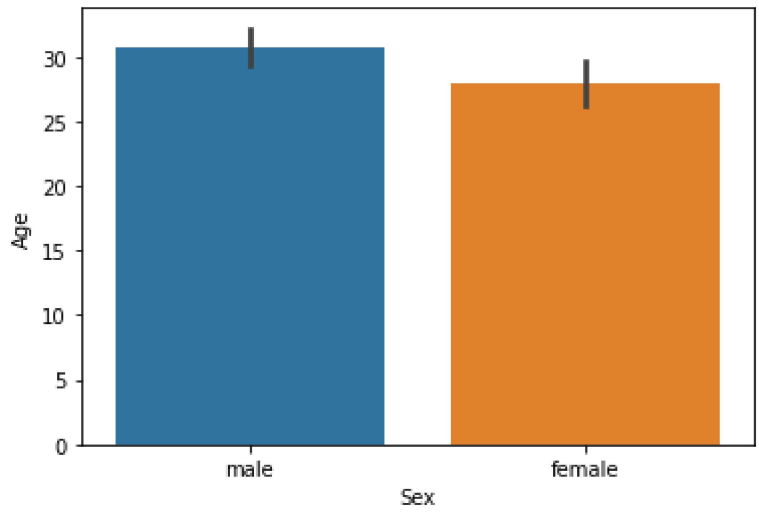
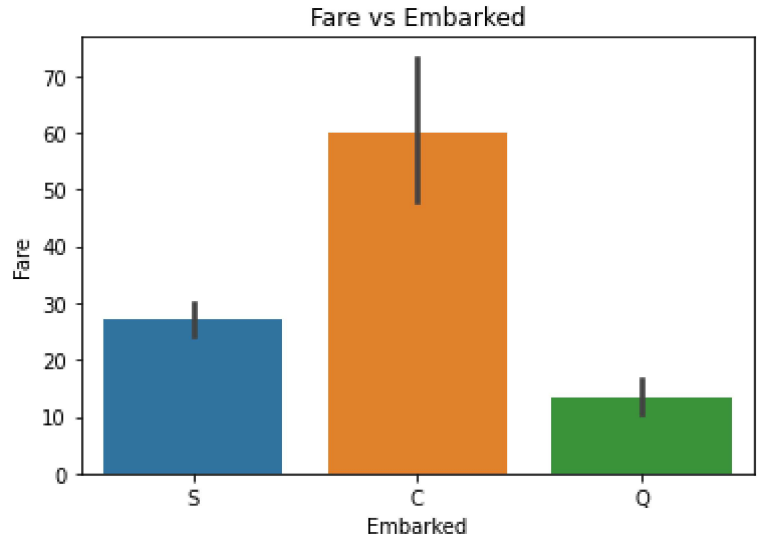
In [137]:
```
sb.barplot(x='Sex',y='Age',data=titanic);
```



In [141]:
```
sb.barplot(x='Embarked',y='Fare',data=titanic);
plt.title('Fare vs Embarked');
```



In [139]:
```
titanic.groupby('Embarked')['Fare'].mean()
```

Out[139]:
```
Embarked
C    59.954144
Q    13.276030
S    27.079812
Name: Fare, dtype: float64
```

Use HR data to plot countplot and barplot and report your results (On countplot show the frequency of features with low cardinality and relationship between various categorical variables), on barplot show relationship between

categorical and continuous variables and report all the results

In [142]:
```
HR=pd.read_csv('C:/Users/TIMOH/Downloads/HR_DATA.csv')
HR.head(5)
```

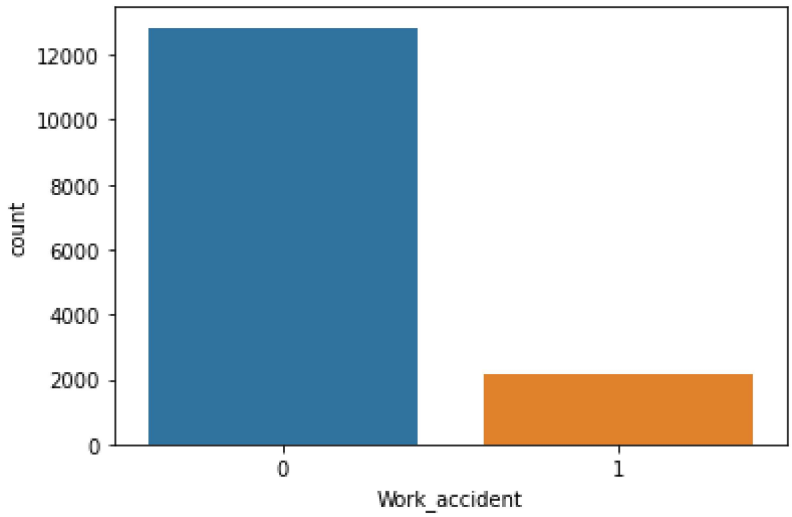
Out[142]:

	satisfaction_level	last_evaluation	number_project	average_montly_hours	time_spend_company
0	0.38	0.53	2	157	3
1	0.80	0.86	5	262	6
2	0.11	0.88	7	272	4
3	0.72	0.87	5	223	5
4	0.37	0.52	2	159	3

In [143]:
```
HR.nunique()
```

Out[143]:
```
satisfaction_level        92
last_evaluation           65
number_project             6
average_montly_hours     215
time_spend_company         8
Work_accident              2
left                       2
promotion_last_5years      2
Department                10
salary                     3
dtype: int64
```

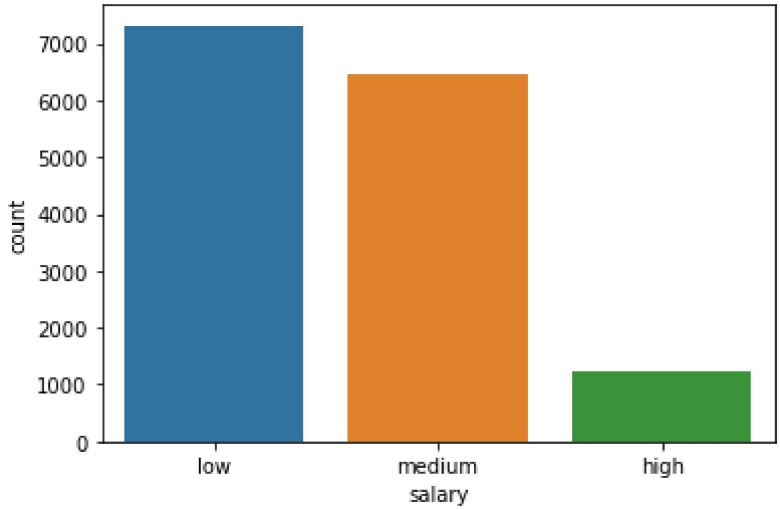
In [144]:
```
#countplot
sb.countplot('Work_accident',data=HR);
```



There was a higher number of workers who didnt encounter work_accident as compared to those

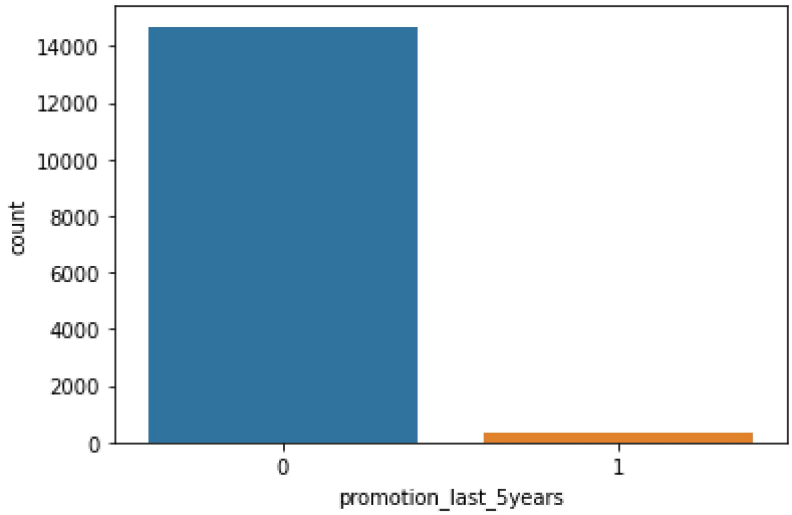
who encountered.

In [155]:
```
sb.countplot('salary',data=HR);
```



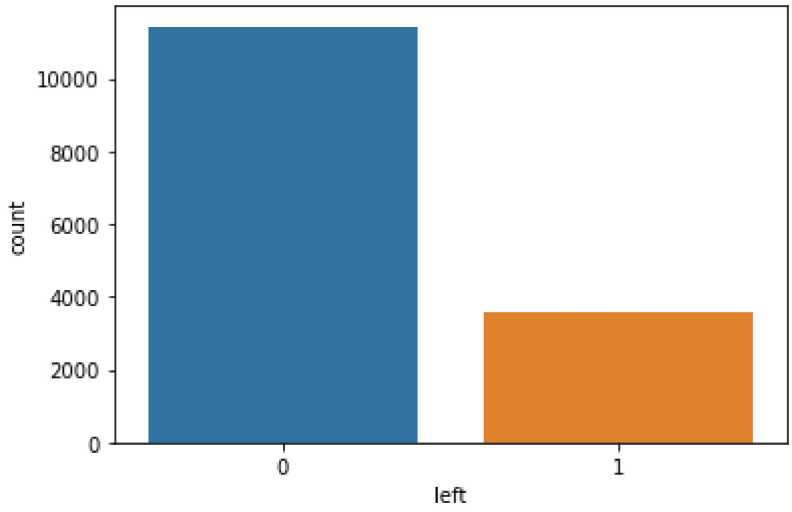
most of the workers were earning low salary followed by those earning medium salary. A few of the workers earned high salary.

In [156]:
```
sb.countplot('promotion_last_5years',data=HR);
```



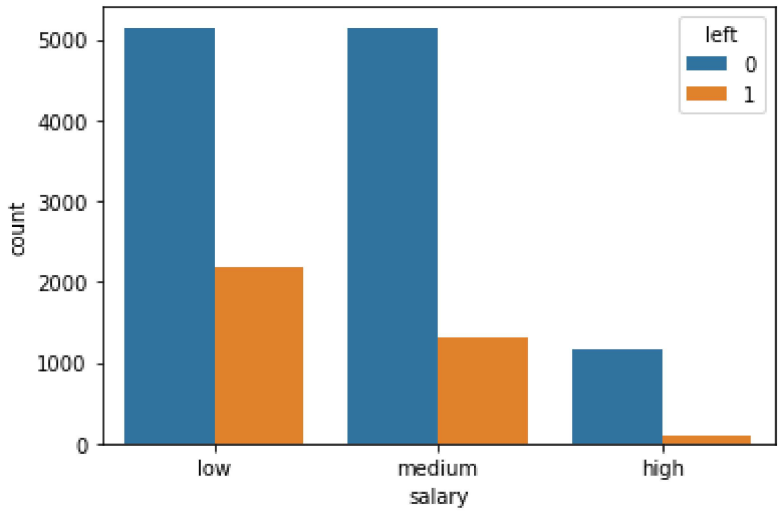
Based on the graph its clear that promotion for the last 5 years was very minimal as compared to when workers were being promoted.

In [184]:
```
sb.countplot('left',data=HR);
```



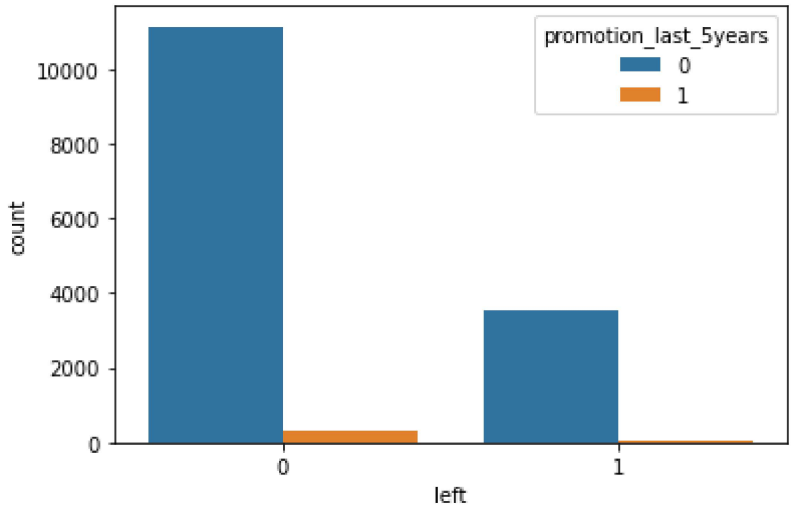
There were very few workers who left as compared to those who did not leave.

In [174]:
```
sb.countplot(x='salary',hue='left',data=HR);
```



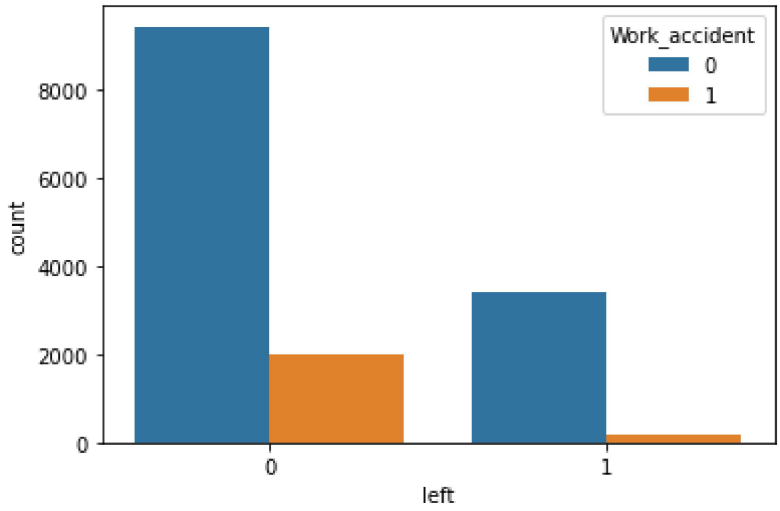
Based on those who did not leave the company most earned low salary followed by those earning medium salary and a few earned high salary,while those who left the company also most earned low salary,a few earned medium salary and very few earned high salary.

In [159]:
```
sb.countplot(x='left',hue='promotion_last_5years',data=HR);
```



Workers who did not leave and were not promoted were more than those who left and were not promoted while those who did not leave and were promoted were few as compared to those who left and were being promoted since they were very few.

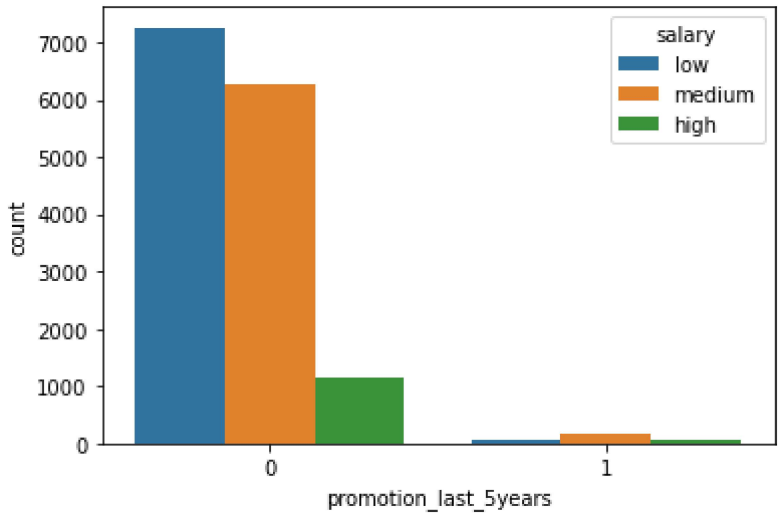
In [186]:
```
sb.countplot(x='left',hue='Work_accident',data=HR);
```



Those who did not leave and did not encounter work_accident were more than those who left and did not encounter work_accident.Those who did not leave and encountered work_accident

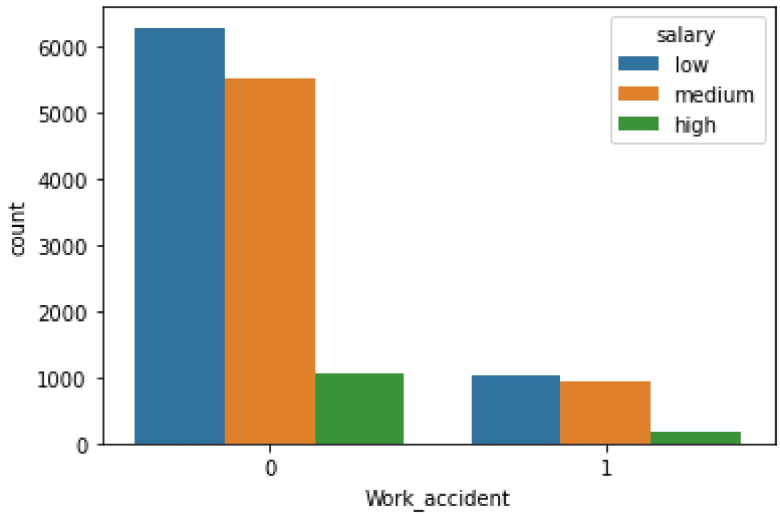
were also more compared to a few who left and encountered work aaccident.

In [187]:
```
sb.countplot(x='promotion_last_5years',hue='salary',data=HR);
```



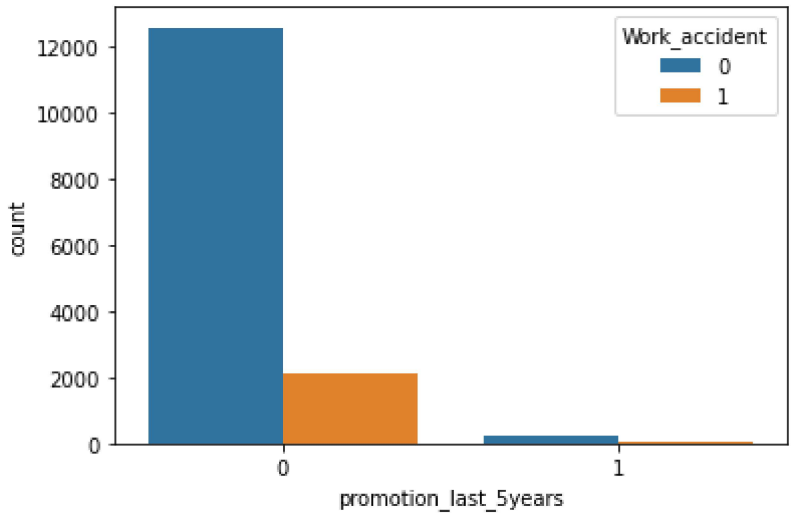
Those who were not promoted were more than those who got promotion.Most of those not promoted earned low salary followed by those earning medium salary and the least were those earning high salary.Based on those who got promotion a few earned medium salary while both earning low and high salary were very few.

In [188]:
```
sb.countplot(x='Work_accident',hue='salary',data=HR);
```



Most of the employees who did not encounter work_accident earned low salary followed by those earning medium salary and the last being those earning high salary.Those who encountered work_accident majority earned low salary followed by those who earned medium and finally workers with high salary.

In [189]:
```
sb.countplot(x='promotion_last_5years',hue='Work_accident',data=HR);
```

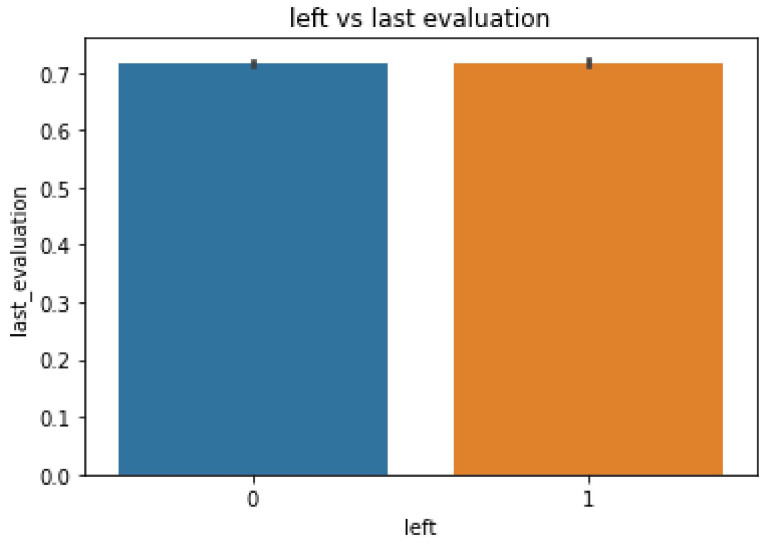


Based on those who were not promoted most of them did not encounter work_accident as compared to a few who encountered,while those who were promoted a few did not encounter work_ accident and very few encountered work_accident.

In [190]:
```
HR.nunique()
```

Out[190]:
```
satisfaction_level        92
last_evaluation           65
number_project             6
average_montly_hours     215
time_spend_company         8
Work_accident              2
left                       2
promotion_last_5years      2
Department                10
salary                     3
dtype: int64
```

In [150]:
```
#Barplot
sb.barplot(x='left',y='last_evaluation',data=HR);
plt.title('left vs last evaluation');
```

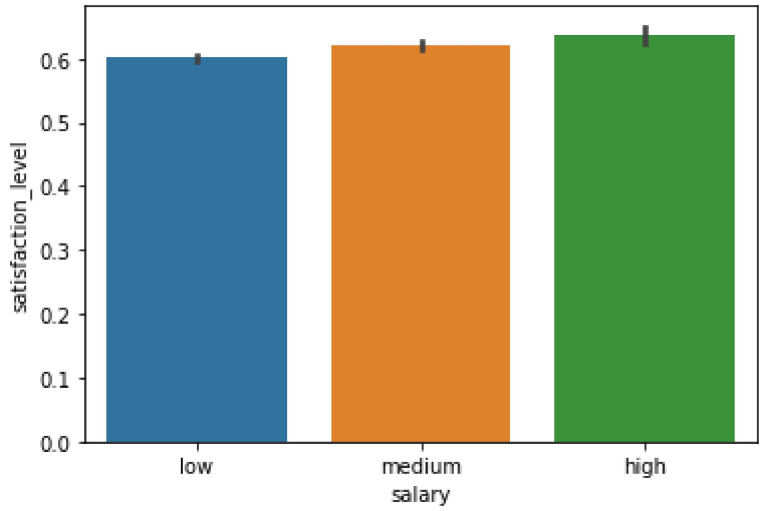


In [151]:
```
HR.groupby('left')['last_evaluation'].mean()
```

Out[151]:
```
left
0    0.715473
1    0.718113
Name: last_evaluation, dtype: float64
```

Those who left the company had an average of 0.718113 during the last_evaluation while those who did not leave had an average of 0.715473 during the last _evaluation.

In [162]:
```
sb.barplot(x='salary',y='satisfaction_level',data=HR);
```

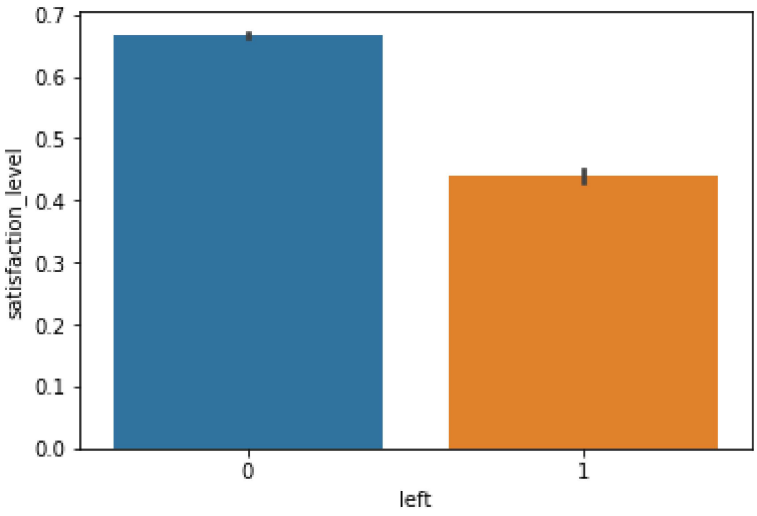


In [163]:
```
HR.groupby('salary')['satisfaction_level'].mean()
```

Out[163]:
```
salary
high      0.637470
low       0.600753
medium    0.621817
Name: satisfaction_level, dtype: float64
```

Those earning high salary had the highest satisfaction_level with an average of 0.637470 while those earning medium salary had a satisfaction_level having an average of 0.621817.Employees earning low salary had the lowest average satisfaction_level of 0.600753.

In [164]:
```
sb.barplot(x='left',y='satisfaction_level',data=HR);
```

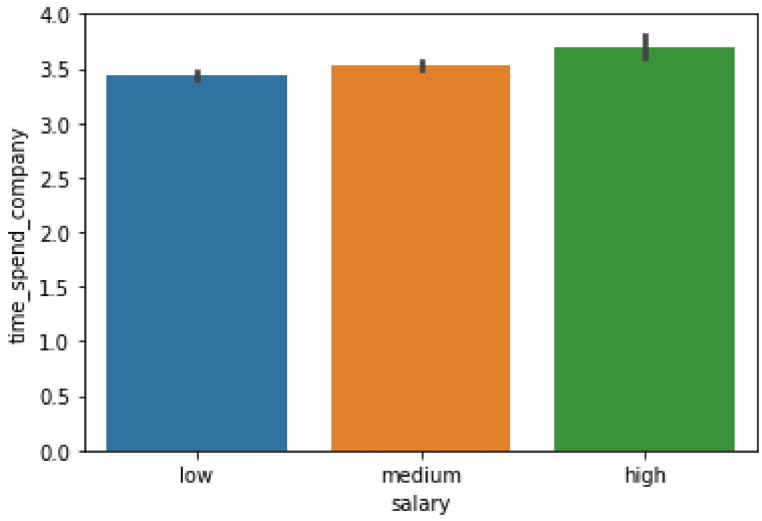


In [166]:
```
HR.groupby('left')['satisfaction_level'].mean()
```

Out[166]:
```
left
0    0.666810
1    0.440098
Name: satisfaction_level, dtype: float64
```

Employees who did not leave the company had the highest satisfaction_level with an average of 0.666810 while those who left had an average satisfaction_level of 0.440098.

In [167]:
```
sb.barplot(x='salary',y='time_spend_company',data=HR);
```



In [169]:
```
HR.groupby('salary')['time_spend_company'].mean()
```

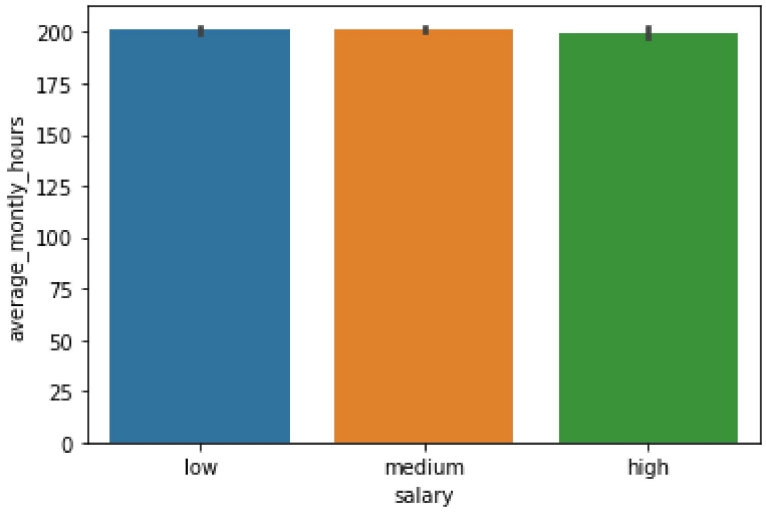
Out[169]:
```
salary
high      3.692805
low       3.438218
medium    3.529010
Name: time_spend_company, dtype: float64
```

Employees earning high salary had the highest average time spend in the company of 3.692805,those earning medium had an average of 3.529010 time spend while those with the low salary also had the lowest average of 3.438218 time spend in company.

In [194]:
```
HR.columns
```

Out[194]:
```
Index(['satisfaction_level', 'last_evaluation', 'number_project',
       'average_montly_hours', 'time_spend_company', 'Work_accident', 'left',
       'promotion_last_5years', 'Department', 'salary'],
      dtype='object')
```

In [195]:
```
sb.barplot(x='salary',y='average_montly_hours',data=HR);
```

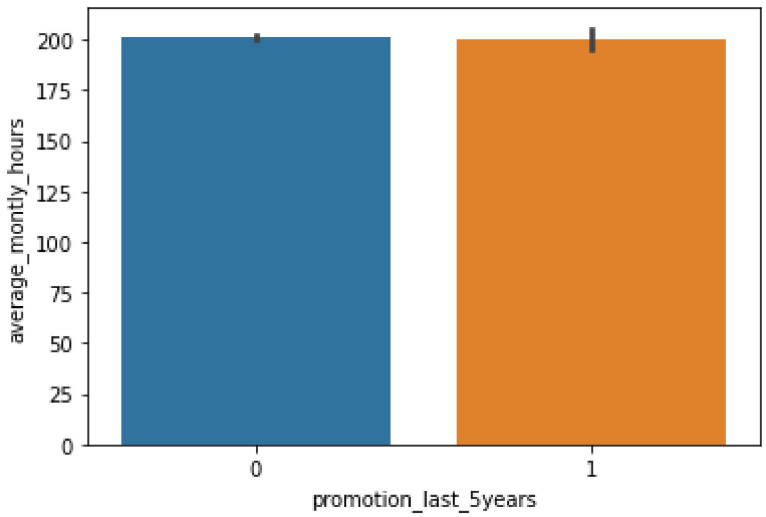


In [196]:
```
HR.groupby('salary')['average_montly_hours'].mean()
```

Out[196]:
```
salary
high      199.867421
low       200.996583
medium    201.338349
Name: average_montly_hours, dtype: float64
```

Those earning medium salary had the highest average of 201.338349 monthly hours while those who had the least average of monthly hours of 199.867421 were earning high salary.Those earning low salary had an average of 200.996583 monthly hours.

In [198]:
```
sb.barplot(x='promotion_last_5years',y='average_montly_hours',data=HR);
```



In [200]:
```
HR.groupby('promotion_last_5years')['average_montly_hours'].mean()
```

Out[200]:
```
promotion_last_5years
0    201.076431
1    199.849530
Name: average_montly_hours, dtype: float64
```

Those who were not promoted for the last 5 years had an average of 201.076431 monthly hours while those promoted had an average of 199.849530 monthly hours.

In [ ]:
```

```