```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

```
data=pd.read_csv('/content/sample_data/employees.csv')
```

```
data.head(20)
```

	satisfactoryLevel	lastEvaluation	numberOfProjects	avgMonthlyHours	timeSpent.company	workAccident	left	promotionInLast5years
0	0.38	0.53	2	157	3	0	1	0
1	0.80	0.86	5	262	6	0	1	0
2	0.11	0.88	7	272	4	0	1	0
3	0.37	0.52	2	159	3	0	1	0
4	0.41	0.50	2	153	3	0	1	0
5	0.10	0.77	6	247	4	0	1	0
6	0.92	0.85	5	259	5	0	1	0
7	0.42	0.53	2	142	3	0	1	0
8	0.45	0.54	2	135	3	0	1	0
9	0.11	0.81	6	305	4	0	1	0
10	0.36	0.56	2	137	3	0	1	0
11	0.38	0.54	2	143	3	0	1	0
12	0.45	0.47	2	160	3	0	1	0
13	0.78	0.99	4	255	6	0	1	0
14	0.76	0.89	5	262	5	0	1	0
15	0.11	0.83	6	282	4	0	1	0
16	0.09	0.95	6	304	4	0	1	0
17	0.46	0.57	2	139	3	0	1	0
18	0.40	0.53	2	158	3	0	1	0
19	0.89	0.92	5	242	5	0	1	0

```
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 14999 entries, 0 to 14998
Data columns (total 10 columns):
 #   Column                 Non-Null Count  Dtype
---  ------                 --------------  -----
 0   satisfactoryLevel      14999 non-null  float64
 1   lastEvaluation         14999 non-null  float64
 2   numberOfProjects       14999 non-null  int64
 3   avgMonthlyHours        14999 non-null  int64
 4   timeSpent.company      14999 non-null  int64
 5   workAccident           14999 non-null  int64
 6   left                   14999 non-null  int64
 7   promotionInLast5years  14999 non-null  int64
 8   dept                   14999 non-null  object
 9   salary                 14999 non-null  object
dtypes: float64(2), int64(6), object(2)
memory usage: 1.1+ MB
```

```
data.shape
```

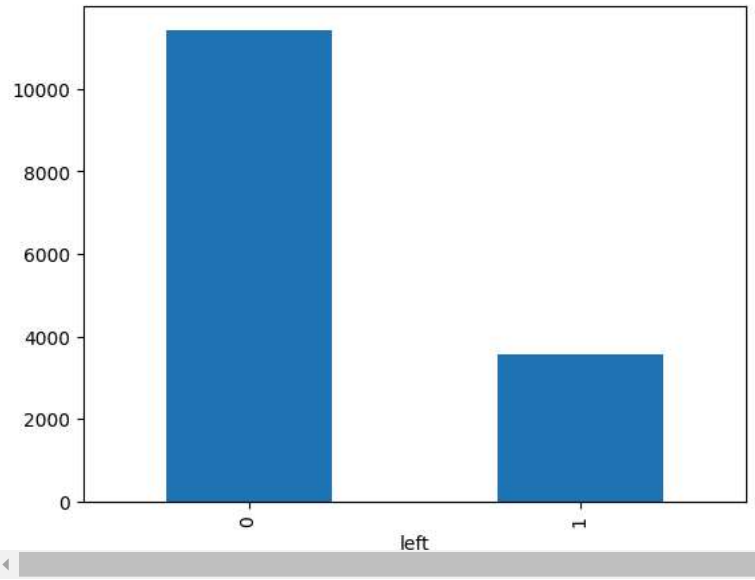
```
(14999, 10)
```

```
data.left.value_counts()
```

left	count
0	11428
1	3571

```
data.left.value_counts().plot(kind="bar")
```

```
<Axes: xlabel='left'>
```




```
data.isna().sum()
```

	0
satisfactoryLevel	0
lastEvaluation	0
numberOfProjects	0
avgMonthlyHours	0
timeSpent.company	0
workAccident	0
left	0
promotionInLast5years	0
dept	0
salary	0

```
data.duplicated().sum()
```

```
3008
```

```
data=data.drop_duplicates(keep="first")
```

```
data.shape
```

```
(11991, 10)
```

```
from sklearn.preprocessing import LabelEncoder
```

```
le=LabelEncoder()
```

```
data["dept"]=le.fit_transform(data['dept'])
data['salary']=le.fit_transform(data['salary'])
```

```
data.dept.value_counts()
```

dept	count
7	3239
9	2244
8	1821
0	976
1	694
6	686
5	673
2	621
3	601
4	436

```
data.salary.value_counts()
```

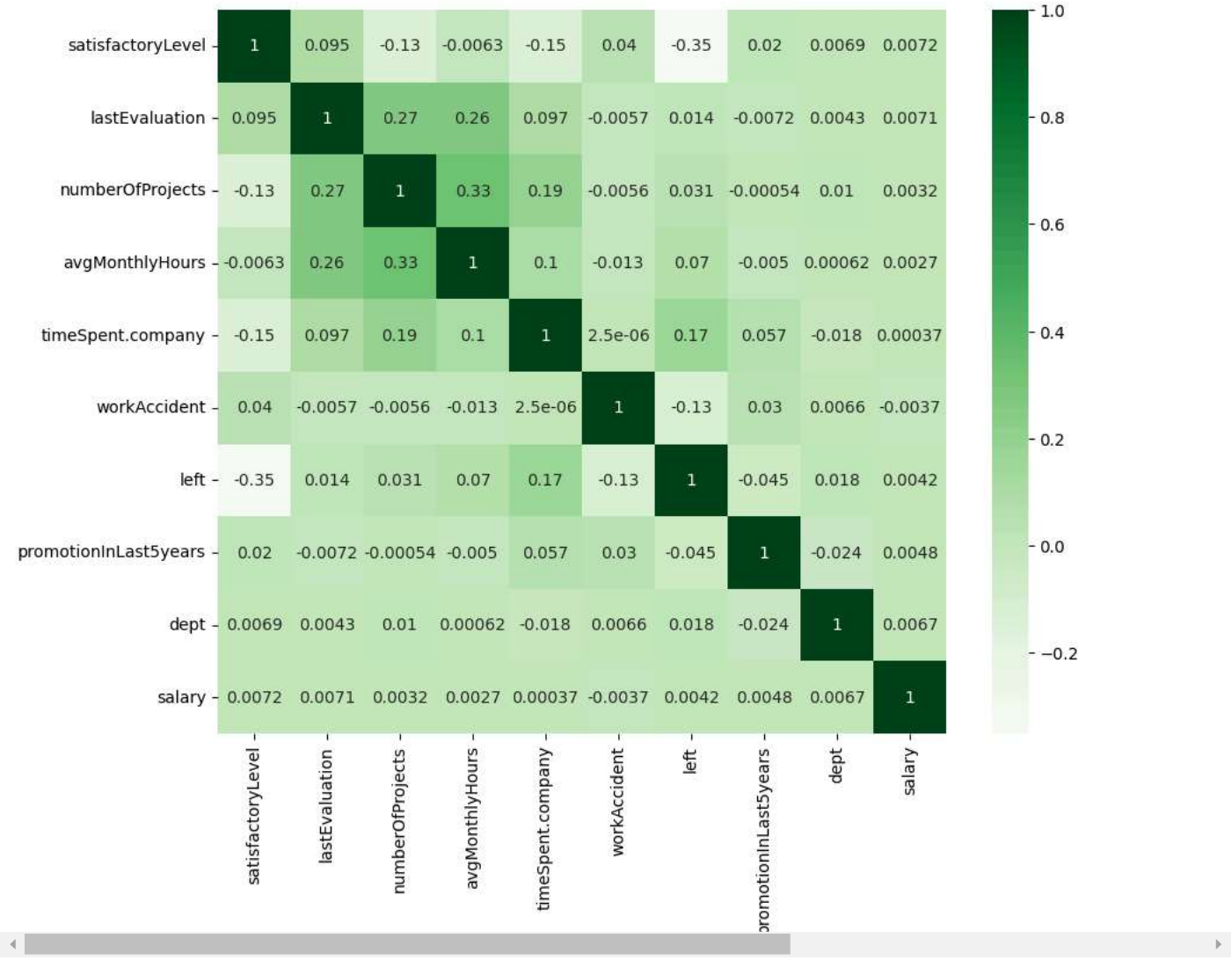
salary	count
1	5740
2	5261
0	990

```
data.corr()
```

	satisfactoryLevel	lastEvaluation	numberOfProjects	avgMonthlyHours	timeSpent.company	workAccident	left	p
satisfactoryLevel	1.000000	0.095186	-0.133246	-0.006252	-0.152915	0.039940	-0.350558	
lastEvaluation	0.095186	1.000000	0.270256	0.264678	0.096829	-0.005695	0.013520	
numberOfProjects	-0.133246	0.270256	1.000000	0.331516	0.188837	-0.005612	0.030928	
avgMonthlyHours	-0.006252	0.264678	0.331516	1.000000	0.102875	-0.012860	0.070409	
timeSpent.company	-0.152915	0.096829	0.188837	0.102875	1.000000	0.000003	0.173295	
workAccident	0.039940	-0.005695	-0.005612	-0.012860	0.000003	1.000000	-0.125436	
left	-0.350558	0.013520	0.030928	0.070409	0.173295	-0.125436	1.000000	
promotionInLast5years	0.019789	-0.007206	-0.000544	-0.004964	0.056828	0.029852	-0.044657	
dept	0.006941	0.004309	0.010101	0.000623	-0.017806	0.006560	0.018286	
salary	0.007216	0.007091	0.003199	0.002727	0.000369	-0.003654	0.004224	

```
plt.figure(figsize=(10,8))
sns.heatmap(data.corr(),annot=True,cmap="Greens")
```

<Axes: >



Start coding or generate with AI.