



Info:

```
<class 'pandas.core.frame.DataFrame'>
```

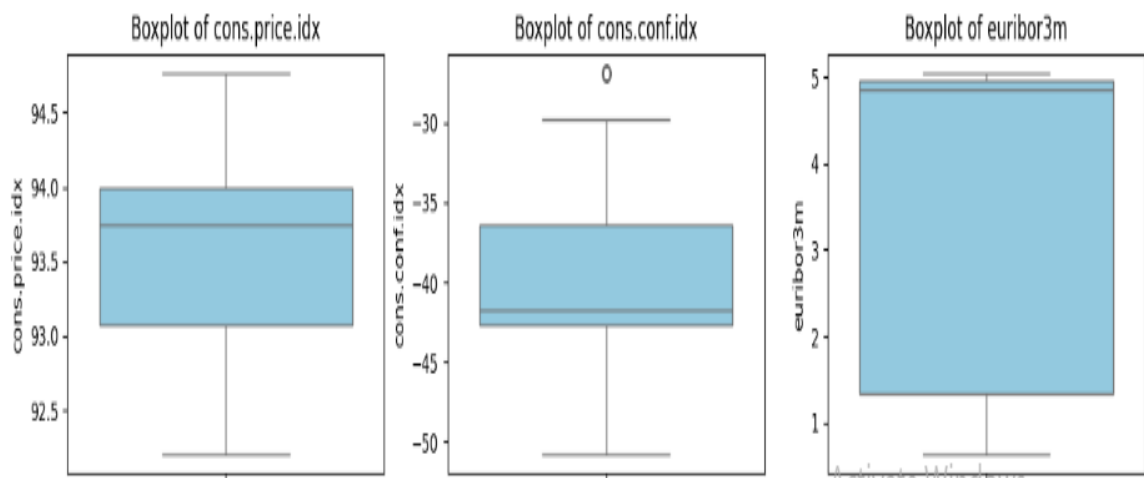
```
RangeIndex: 4119 entries, 0 to 4118
```

```
Data columns (total 21 columns):
```

#	Column	Non-Null Count	Dtype
0	age	4119 non-null	int64
1	job	4119 non-null	object
2	marital	4119 non-null	object
3	education	4119 non-null	object
4	default	4119 non-null	object
5	housing	4119 non-null	object
6	loan	4119 non-null	object
7	contact	4119 non-null	object
8	month	4119 non-null	object
9	day_of_week	4119 non-null	object
10	duration	4119 non-null	int64
11	campaign	4119 non-null	int64
12	pdays	4119 non-null	int64
13	previous	4119 non-null	int64
14	poutcome	4119 non-null	object
15	emp.var.rate	4119 non-null	float64
16	cons.price.idx	4119 non-null	float64
17	cons.conf.idx	4119 non-null	float64
18	euribor3m	4119 non-null	float64
19	nr.employed	4119 non-null	float64
20	y	4119 non-null	object

```
dtypes: float64(5), int64(5), object(11)
```

```
memory usage: 675.9+ KB
```



Activate Windows

```

Accuracy: 0.8713592233009708
Confusion Matrix:
[[675  57]
 [ 49  43]]
Classification Report:
              precision    recall  f1-score   support

     0       0.93      0.92      0.93       732
     1       0.43      0.47      0.45        92

 accuracy      0.87      0.87      0.87      824
 macro avg     0.68      0.69      0.69      824
weighted avg     0.88      0.87      0.87      824

Prediction for new customer: no

```

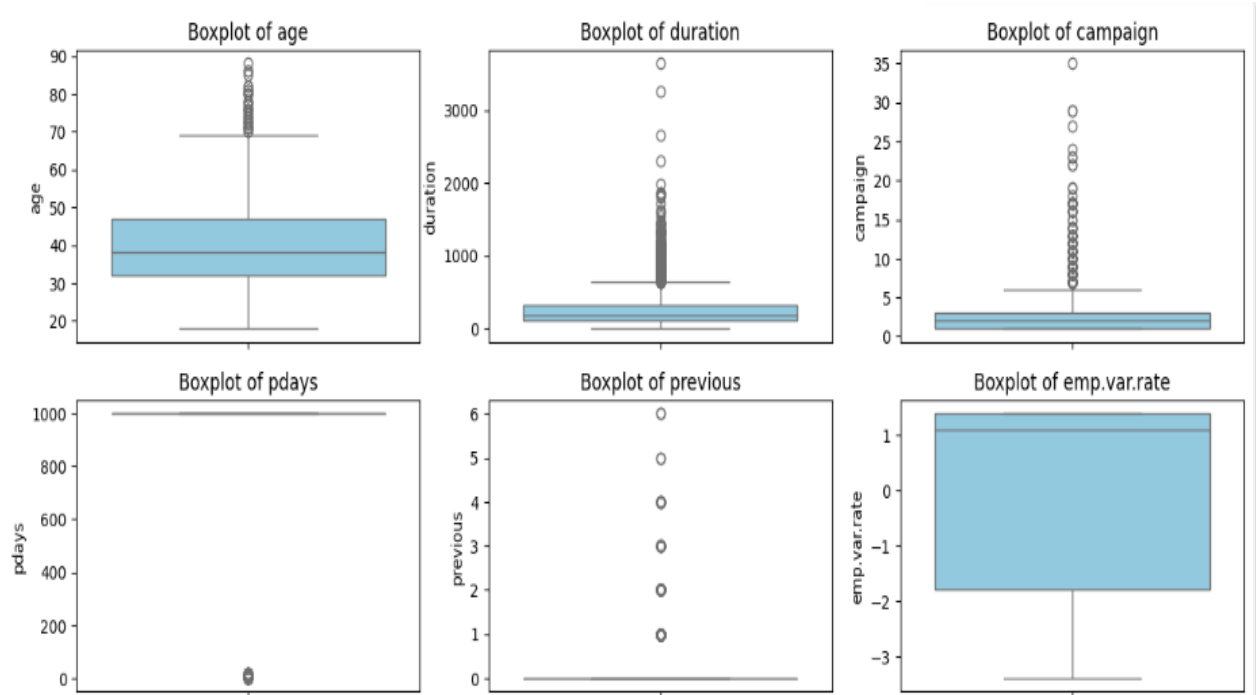
```

Dataset shape: (4119, 21)
Columns: Index(['age', 'job', 'marital', 'education', 'default', 'housing', 'loan',
               'contact', 'month', 'day_of_week', 'duration', 'campaign', 'pdays',
               'previous', 'poutcome', 'emp.var.rate', 'cons.price.idx',
               'cons.conf.idx', 'euribor3m', 'nr.employed', 'y'],
              dtype='object')
Data types:
  object      11
  int64        5
  float64       5
Name: count, dtype: int64

Info:
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 4119 entries, 0 to 4118
Data columns (total 21 columns):
#   Column                Non-Null Count  Dtype
---  -
0   age                   4119 non-null  int64
1   job                   4119 non-null  object
2   marital               4119 non-null  object
3   education             4119 non-null  object
4   default               4119 non-null  object
5   housing               4119 non-null  object
6   loan                  4119 non-null  object
7   contact               4119 non-null  object
8   month                 4119 non-null  object
9   day_of_week           4119 non-null  object
10  duration              4119 non-null  int64
11  campaign              4119 non-null  int64

```

↓



Model Evaluation:

Accuracy: 0.8798543689320388

Confusion Matrix:

[[684 48]

[51 41]]

Classification Report:

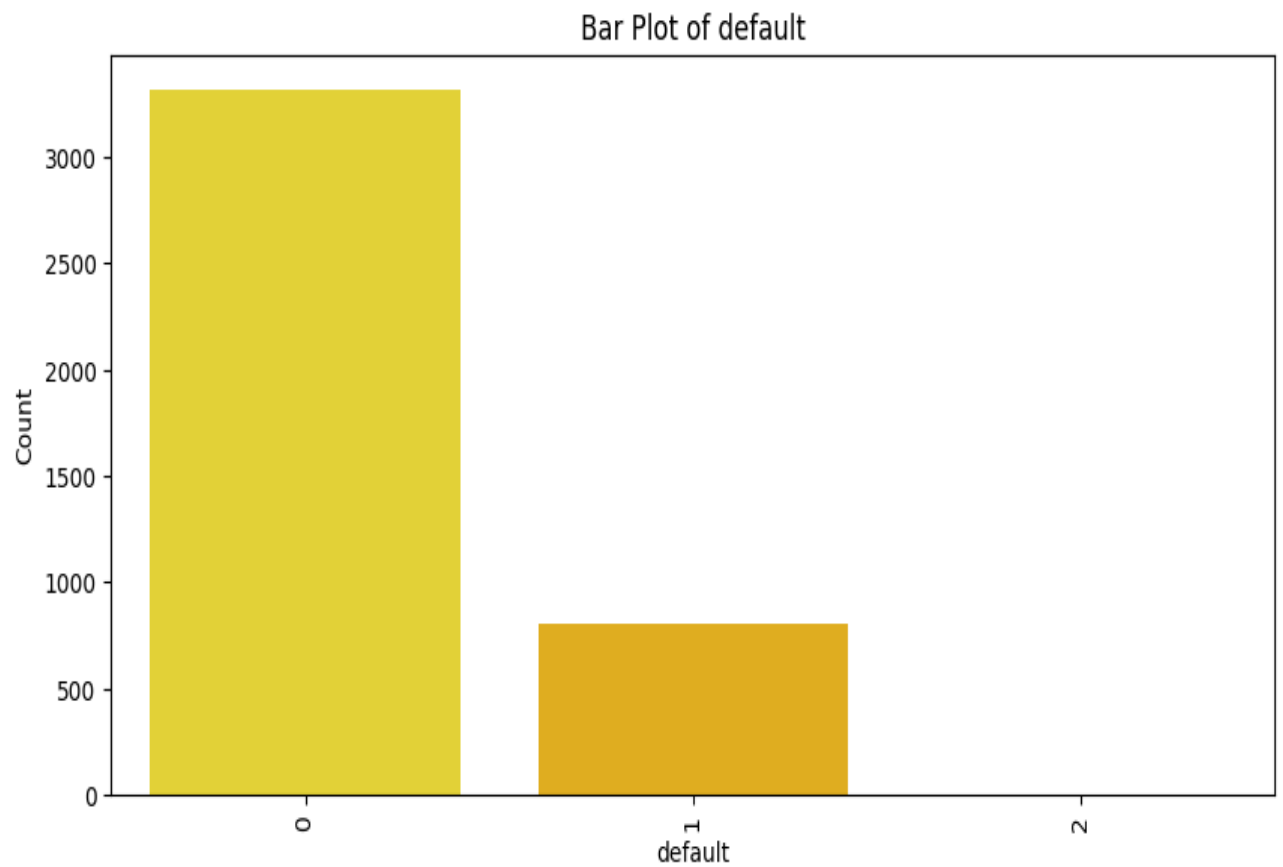
	precision	recall	f1-score	support
no	0.93	0.93	0.93	732
yes	0.46	0.45	0.45	92
accuracy			0.88	824
macro avg	0.70	0.69	0.69	824
weighted avg	0.88	0.88	0.88	824



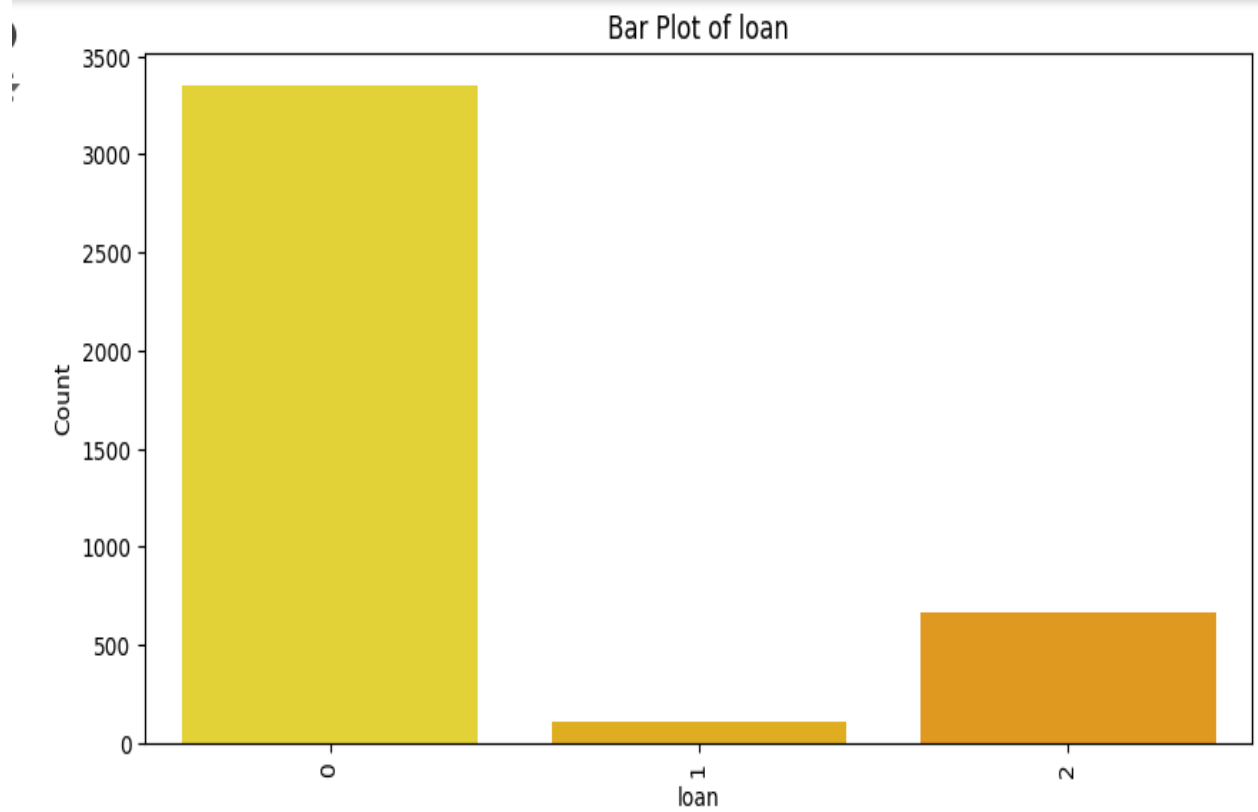
Duplicates: 0

Missing values:

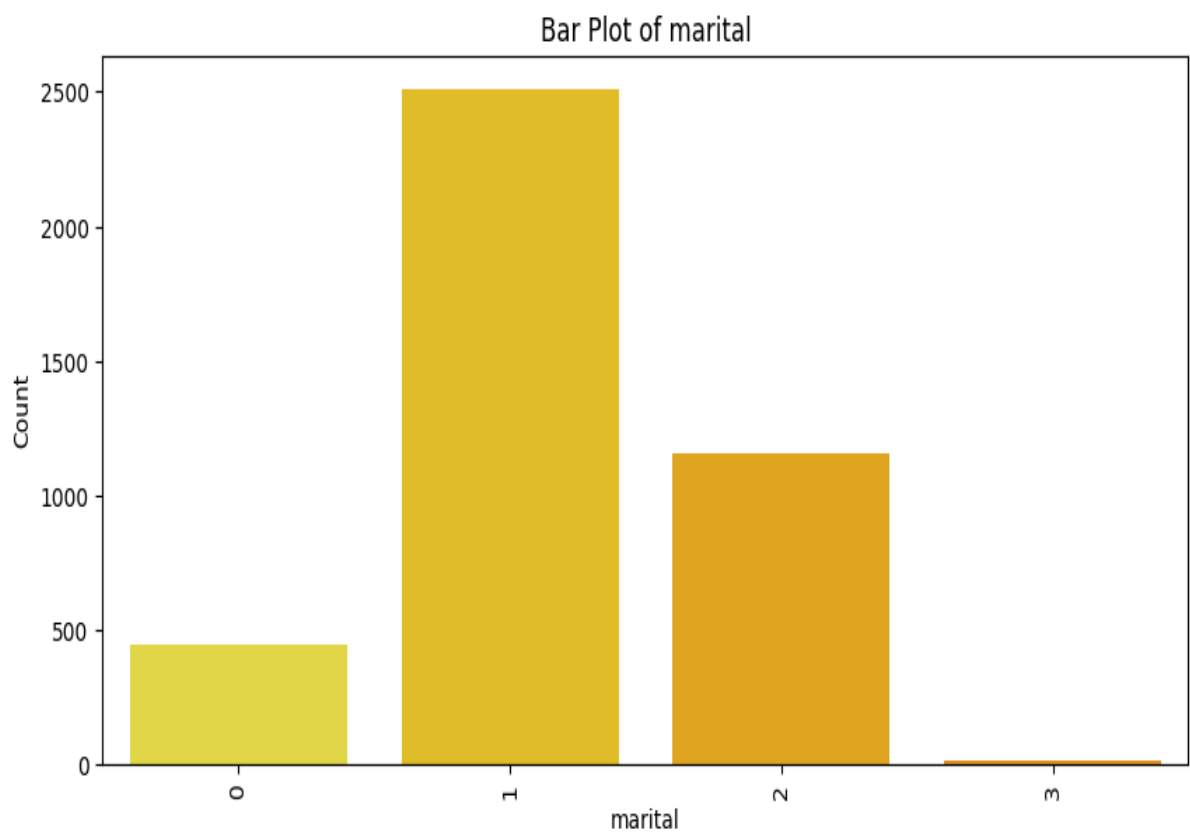
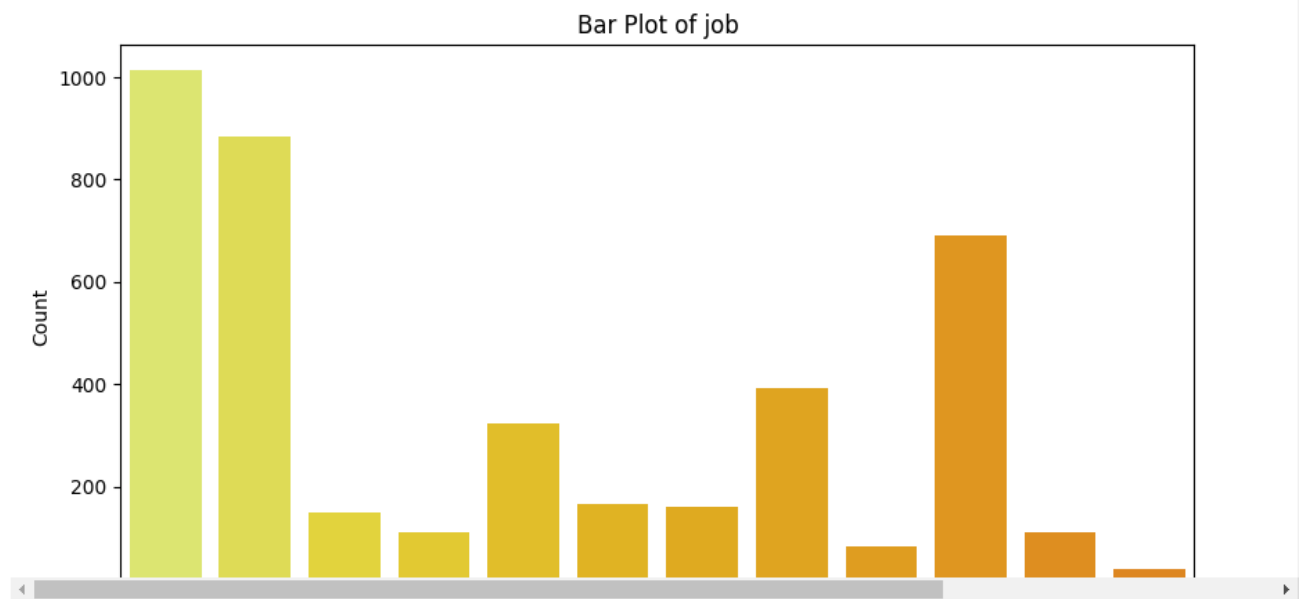
age	0
job	0
marital	0
education	0
default	0
housing	0
loan	0
contact	0
month	0
day_of_week	0
duration	0
campaign	0
pdays	0
previous	0
poutcome	0
emp.var.rate	0
cons.price.idx	0
cons.conf.idx	0
euribor3m	0
nr.employed	0
y	0
dtype:	int64

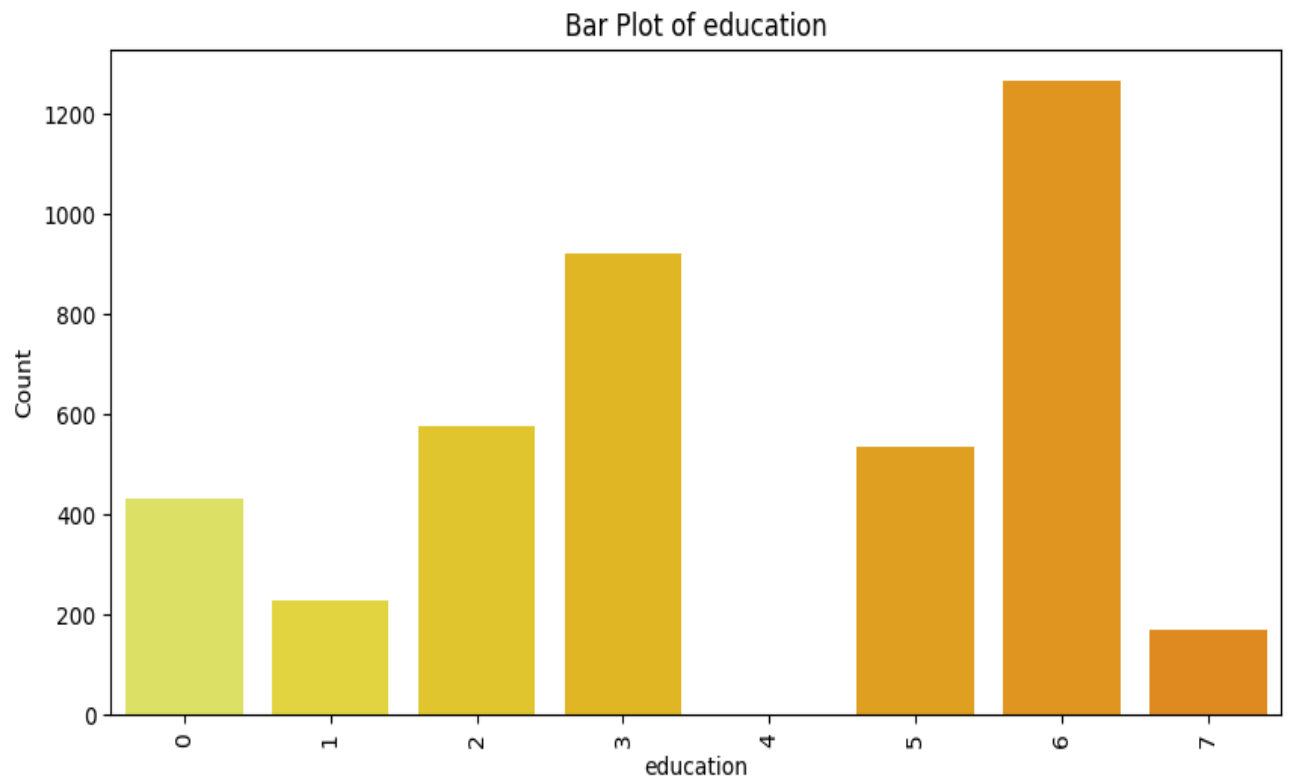


<ipython-input-16-2ecd3e7acf78>:54: FutureWarning:

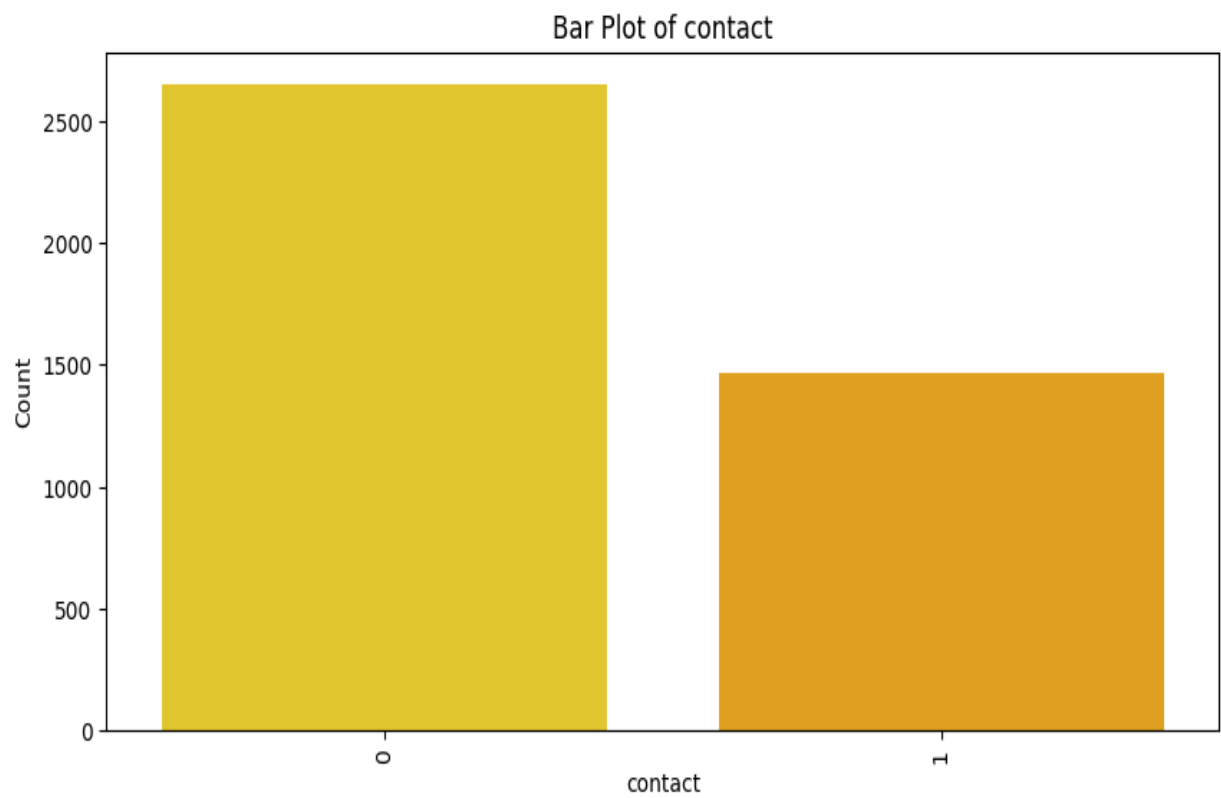


<ipython-input-16-2ecd3e7acf78>:54: FutureWarning:

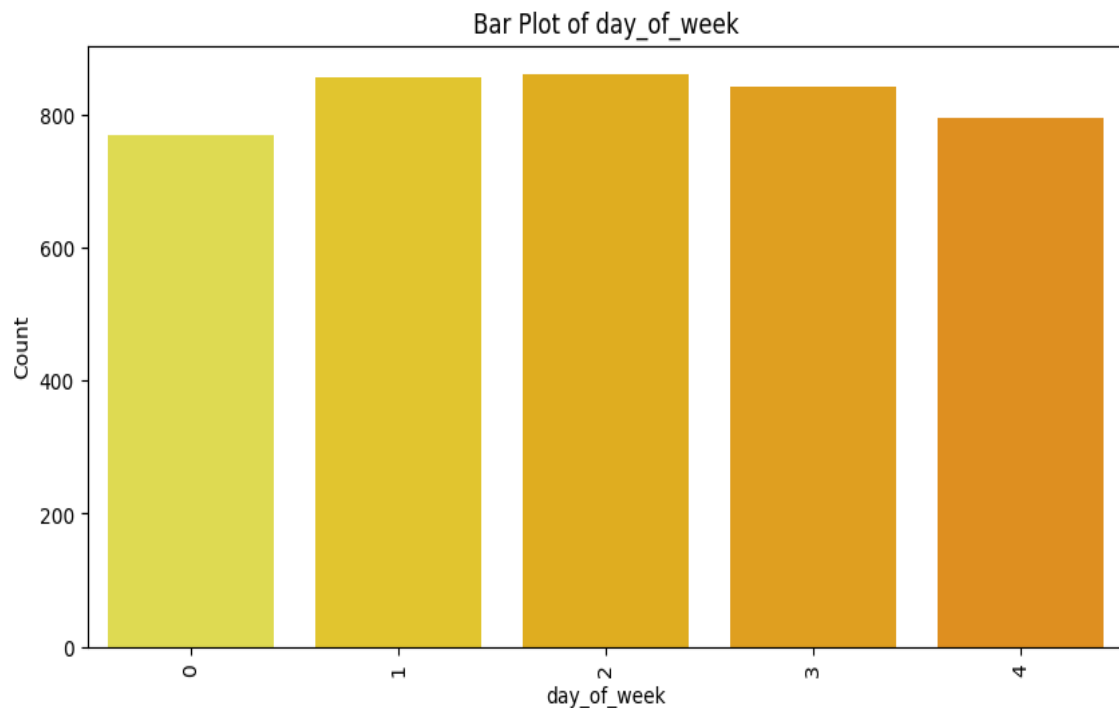




<ipython-input-16-2ecd3e7acf78>:54: FutureWarning:



<ipython-input-16-2ecd3e7acf78>:54: FutureWarning:



<ipython-input-16-2ecd3e7acf78>:54: FutureWarning:

Activate Windows

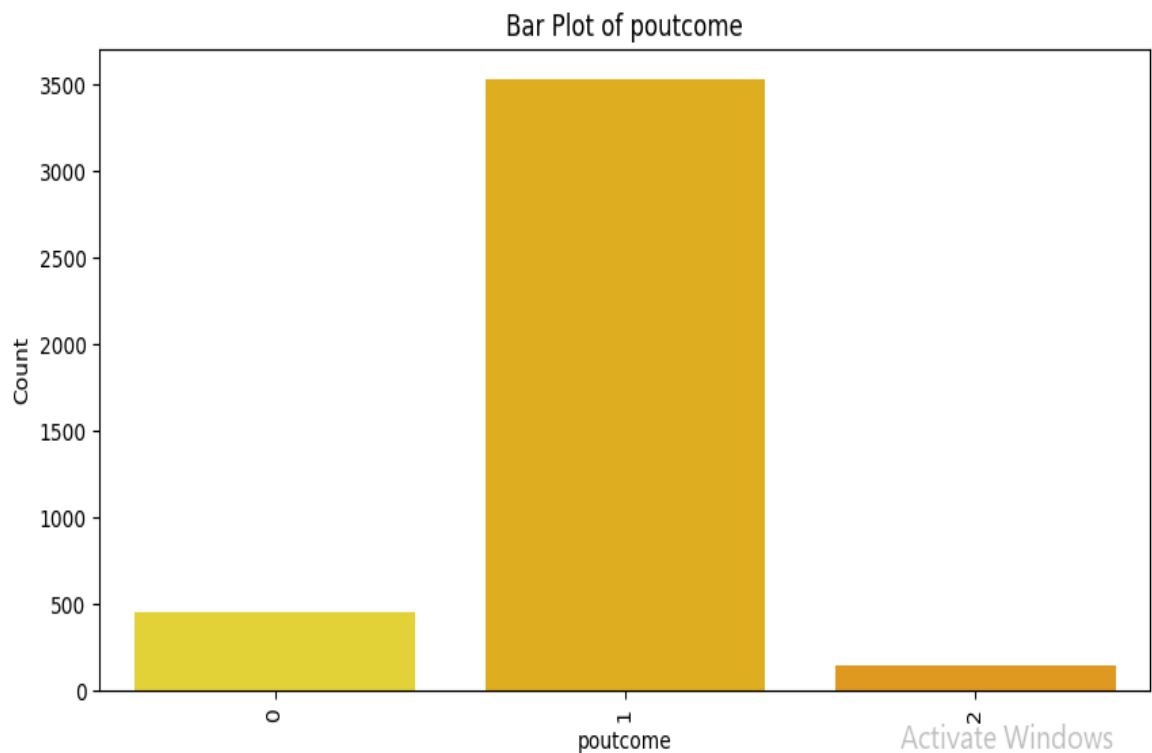
Go to Settings to activate Windows.

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue`



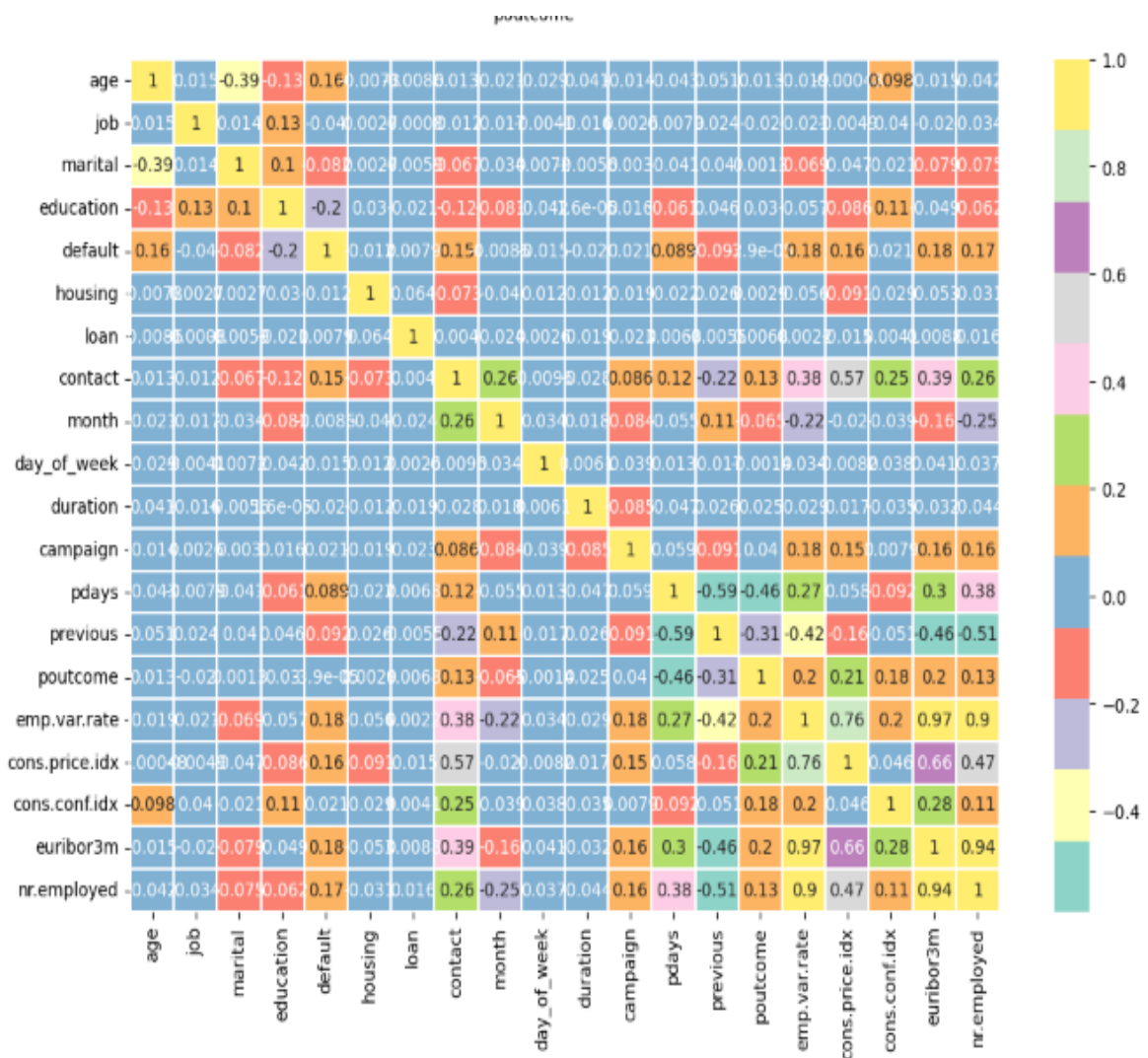
Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `h`

```
sns.countplot(x=feature, data=X, palette='Wistia')
```



Activate Windows

Go to Settings to activate Windows.



➡ Accuracy: 0.8713592233009708

Confusion Matrix:

[[675 57]

[49 43]]

Classification Report:

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0	0.93	0.92	0.93	732
1	0.43	0.47	0.45	92
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