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▼ New Section

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

import matplotlib
vizu=pd.read_csv('/content/agaricus-lepiota.csv')
vizu.head()
```

	poision/edible	cap-shape	cap-surface	cap-color	bruises?	odor	gill attachment
0	p	x	s	n	t	p	
1	e	x	s	y	t	a	
2	e	b	s	w	t	l	

```
types = vizu.dtypes
types
```

```
poision/edible      object
cap-shape           object
cap-surface         object
cap-color           object
bruises?           object
odor                object
gill-attachment     object
gill-spacing        object
gill-size           object
gill-color          object
stalk-shape         object
stalk-root          object
stalk-surface-above-ring  object
stalk-surface-below-ring: object
stalk-color-above-ring  object
stalk-color-below-ring  object
veil-type          object
veil-color         object
ring-number        object
ring-type          object
spore-print-color  object
population         object
habitat            object
dtype: object
```

```
vizu.isnull().sum()
```

```
poision/edible      0
cap-shape           0
cap-surface         0
cap-color           0
bruises?           0
odor                0
gill-attachment     0
gill-spacing        0
gill-size           0
gill-color          0
stalk-shape         0
stalk-root          0
stalk-surface-above-ring  0
stalk-surface-below-ring: 0
stalk-color-above-ring  0
stalk-color-below-ring  0
veil-type          0
veil-color         0
ring-number        0
ring-type          0
spore-print-color  0
```

```

population      0
habitat         0
dtype: int64

```

vizu.info()

```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 8124 entries, 0 to 8123
Data columns (total 23 columns):
#   Column                                Non-Null Count  Dtype
---  ---                                -
0   poison/edible                          8124 non-null   object
1   cap-shape                              8124 non-null   object
2   cap-surface                            8124 non-null   object
3   cap-color                              8124 non-null   object
4   bruises?                               8124 non-null   object
5   odor                                   8124 non-null   object
6   gill-attachment                        8124 non-null   object
7   gill-spacing                           8124 non-null   object
8   gill-size                              8124 non-null   object
9   gill-color                             8124 non-null   object
10  stalk-shape                            8124 non-null   object
11  stalk-root                             8124 non-null   object
12  stalk-surface-above-ring               8124 non-null   object
13  stalk-surface-below-ring:              8124 non-null   object
14  stalk-color-above-ring                 8124 non-null   object
15  stalk-color-below-ring                 8124 non-null   object
16  veil-type                              8124 non-null   object
17  veil-color                             8124 non-null   object
18  ring-number                            8124 non-null   object
19  ring-type                              8124 non-null   object
20  spore-print-color                      8124 non-null   object
21  population                             8124 non-null   object
22  habitat                                8124 non-null   object
dtypes: object(23)
memory usage: 1.4+ MB

```

vizu.describe()

	poision/edible	cap-shape	cap-surface	cap-color	bruises?	odor	att
count	8124	8124	8124	8124	8124	8124	
unique	2	6	4	10	2	9	
top	e	x	y	n	f	n	

vizu.groupby('poision/edible').size()

```

poision/edible
e    4208
p    3916
dtype: int64

```

vizu.count()

```

poision/edible      8124
cap-shape           8124
cap-surface         8124
cap-color           8124
bruises?            8124
odor                8124
gill-attachment     8124
gill-spacing        8124
gill-size           8124
gill-color          8124
stalk-shape         8124
stalk-root          8124
stalk-surface-above-ring 8124
stalk-surface-below-ring: 8124
stalk-color-above-ring 8124
stalk-color-below-ring 8124
veil-type           8124
veil-color          8124
ring-number         8124
ring-type           8124
spore-print-color   8124
population          8124

```

habitat 8124
dtype: int64

```
capshape=vizu[['cap-shape', 'poision/edible']]
capshape
```

	cap-shape	poision/edible
0	x	p
1	x	e
2	b	e
3	x	p
4	x	e
...
8119	k	e
8120	x	e
8121	f	e
8122	k	n

```
capshape.groupby('poision/edible')
```

<pandas.core.groupby.generic.DataFrameGroupBy object at 0x7f6da0587f10>

```
capshape['poision/edible'].value_counts()
```

```
e 4208
p 3916
Name: poision/edible, dtype: int64
```

```
vizu4 = vizu.set_index(['poision/edible'])
```

```
vizu4.value_counts()
```

```

cap-shape  cap-surface  cap-color  bruises?  odor  gill-attachment  gill-spacing  gill-size  gill-color  stalk-shape  stalk-
root  stalk-surface-above-ring  stalk-surface-below-ring:  stalk-color-above-ring  stalk-color-below-ring  veil-type  veil-color
ring-number  ring-type  spore-print-color  population  habitat
b      f      g      f      n      f      w      w      b      g      p      e      w      ?
k      k      k      f      n      w      w      w      b      g      p      e      w      t
p      w      n      g      n      1
x      f      w      f      n      f      w      w      b      p      p      e      w      ?
k      s      w      w      w      1
p      w      s      g      1
s      f      w      w      p      t      e
e      k      a      g      1
f      s      w      w      p      w      o
e      n      s      g      1
a      g      1
..
f      y      g      f      f      f      c      p      b      h      p      e      w      b
k      k      n
l      h      v      p      1
g      1
d      1
n      p      w      o      l      h      y      p      1
x      y      y      t      l      f      c      b      y      w      p      e      1      r
s      y      w      w      p      e      w      o
p      n      y      p      1
Length: 8124, dtype: int64

```

vizu

	poision/edible	cap- shape	cap- surface	cap- color	bruises?	odor	attac
0	p	x	s	n	t	p	
1	e	x	s	y	t	a	
2	e	b	s	w	t	l	
3	p	x	y	w	t	p	
4	e	x	s	g	f	n	
...	
8119	e	k	s	n	f	n	
8120	e	x	s	n	f	n	
8121	e	f	s	n	f	n	
8122	p	k	y	n	f	y	

```
vizud = {key: vizu for (key, vizu) in vizu.groupby('bruises?')}
print(vizud)
```

```
...
8119    1
8120    1
8121    1
8122    1
8123    1
```

```
[4748 rows x 23 columns], 't':
poision/edible cap-shape cap-surface cap-color bruises? odor \
0 p x s n t p
1 e x s y t a
2 e b s w t l
3 p x y w t p
5 e x y y t a
...
7940 e f y g t n
7946 e x y c t n
7952 e f s c t n
7965 e x y n t n
8038 e x y g t n
```

```
gill-attachment gill-spacing gill-size gill-color ... \
0 f c n k ...
1 f c b k ...
2 f c b n ...
3 f c n n ...
5 f c b n ...
...
7940 f c b w ...
7946 f c b w ...
7952 f c b w ...
7965 f c b w ...
8038 f c b w ...
```

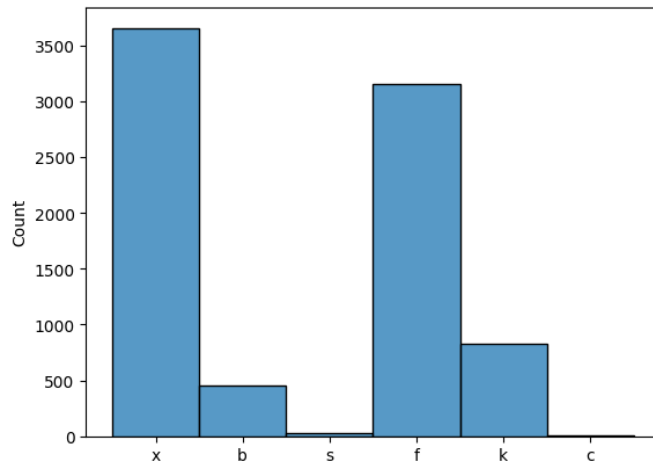
```
stalk-surface-below-ring: stalk-color-above-ring stalk-color-below-ring \
0 s w w
1 s w w
2 s w w
3 s w w
5 s w w
...
7940 s w w
7946 s w w
7952 s w w
7965 s w w
8038 s w w
```

```
veil-type veil-color ring-number ring-type spore-print-color population \
0 p w o p k s
1 p w o p n n
2 p w o p n n
3 p w o p k s
5 p w o p k n
...
7940 p w t p w y
7946 p w t p w v
7952 p w t p w v
7965 p w t p w y
8038 p w t p w y
```

```
capshape=vizu['cap-shape']
```

```
sns.histplot(data=vizu,x='cap-shape',bins=30)
```

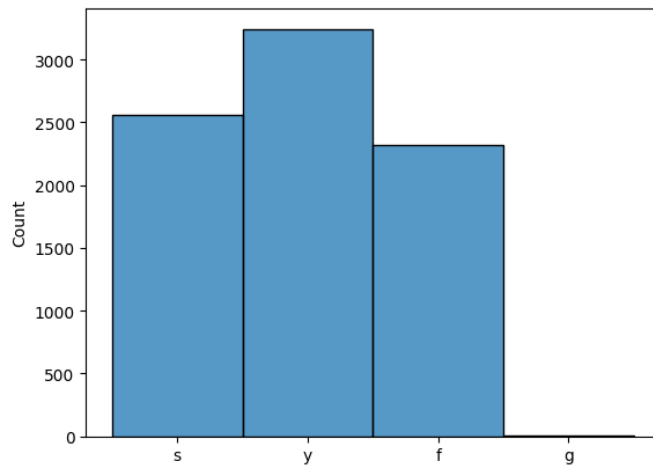
<Axes: xlabel='cap-shape', ylabel='Count'>



```
capsurface=vizu[' cap-surface']
```

```
sns.histplot(data=vizu,x=' cap-surface')
```

<Axes: xlabel=' cap-surface', ylabel='Count'>

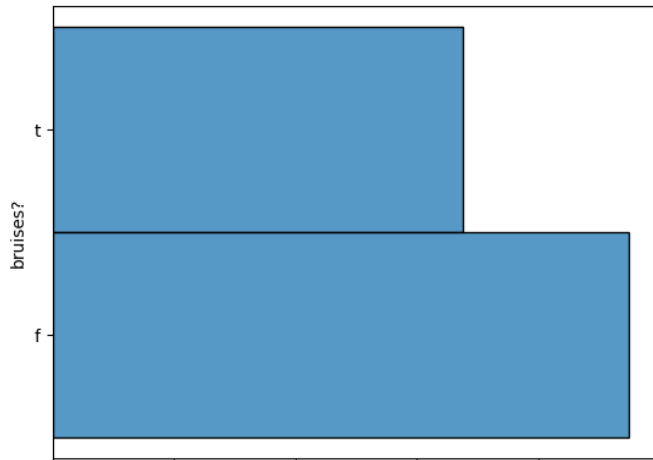


```
capcolor=vizu[' cap-color']
```

```
sns.histplot(data=vizu,x=' cap-color')
```

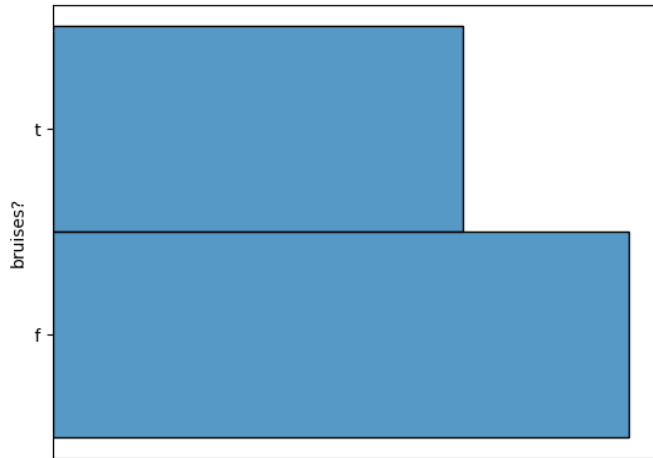
```
<Axes: xlabel=' cap-color', ylabel='Count'>  
sns.histplot(data=vizu, y="bruises?", bins=30,)
```

```
<Axes: xlabel='Count', ylabel='bruises?'>
```



```
sns.histplot(data=vizu, y="bruises?", bins=30,)
```

```
<Axes: xlabel='Count', ylabel='bruises?'>
```



```
odor=vizu[ ' odor']
```

```
sns.histplot(data=vizu,y=" odor", bins=30)
```

<Axes: xlabel='Count', ylabel=' odor'>

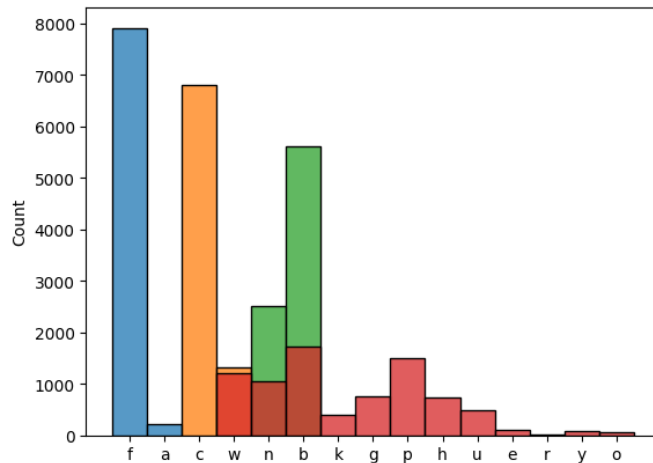


```
gillattachment=vizu['gill-attachment'].count()
gillspacing=vizu['gill-spacing'].count()
gillsize=vizu['gill-size'].count()
gillcolor=vizu['gill-color'].count()
```

```
' |
```

```
sns.histplot(data=vizu, x="gill-attachment", bins=30)
sns.histplot(data=vizu,x="gill-spacing", bins=30)
sns.histplot(data=vizu,x="gill-size",bins=30)
sns.histplot(data=vizu,x="gill-color",bins=30)
```

<Axes: xlabel='gill-attachment', ylabel='Count'>



```
print(vizu['gill-color'].value_counts().sort_index(axis = 0) )
print(vizu['gill-spacing'].value_counts().sort_index(axis = 0) )
```

```
b    1728
e     96
g    752
h    732
k    408
n   1048
o     64
p   1492
r     24
u    492
w   1202
y     86
Name: gill-color, dtype: int64
c    6812
w   1312
Name: gill-spacing, dtype: int64
```

```
vizu.describe()
```

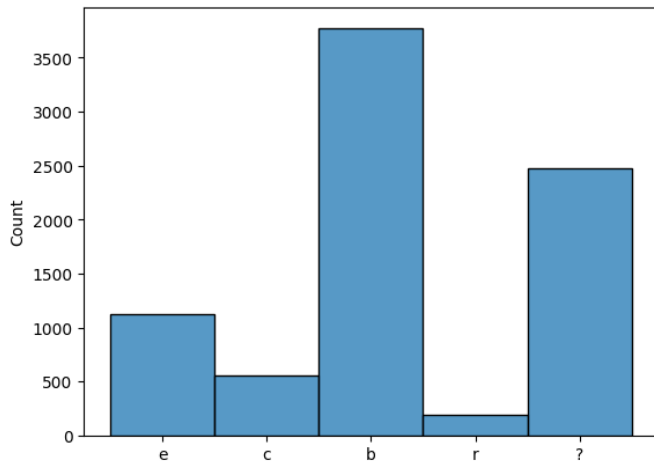
```

poision/edible  cap-  cap-  cap-  bruises?  odor  att
                shape surface color
stalkroot=vizu['stalk-root']
stalkshape=vizu['stalk-shape']
stalksurfaceabovering=vizu['stalk-surface-above-ring']
stalksurfacebelowring=vizu['stalk-surface-below-ring:']
stalkcolorabovering= vizu['stalk-color-above-ring']

```

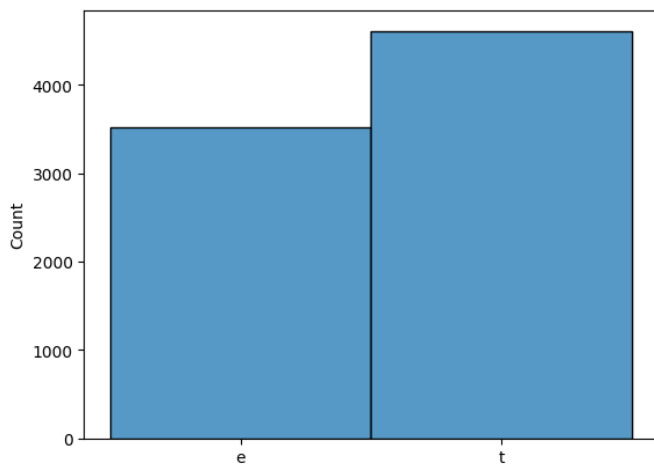
```
sns.histplot(data=vizu,x='stalk-root' ,bins=30)
```

<Axes: xlabel='stalk-root', ylabel='Count'>



```
sns.histplot(data=vizu,x='stalk-shape',bins=30)
```

<Axes: xlabel='stalk-shape', ylabel='Count'>



```
sns.histplot(data=vizu,x='stalk-surface-above-ring',bins=30)
```

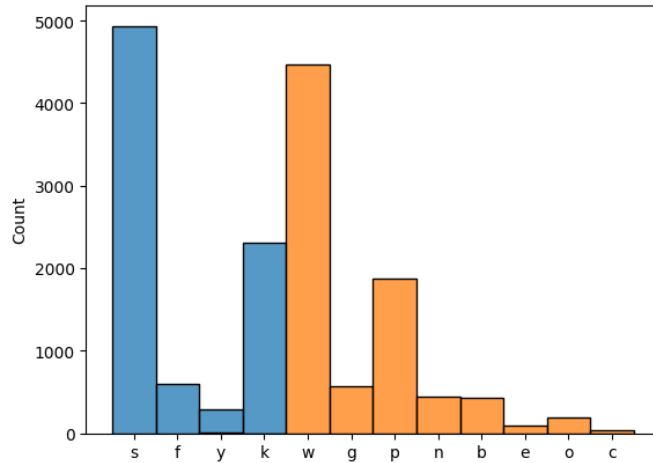


```
<Axes: xlabel='stalk-surface-above-ring', ylabel='Count'>
```



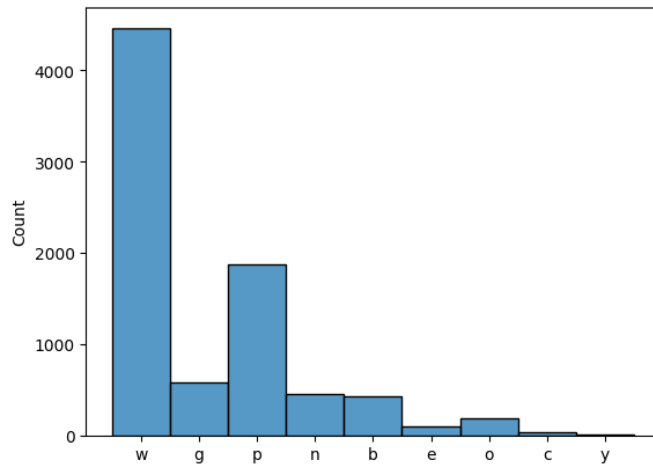
```
sns.histplot(data=vizu,x='stalk-surface-below-ring',bins=30)
```

```
<Axes: xlabel='stalk-surface-below-ring:', ylabel='Count'>
```



```
sns.histplot(data=vizu,x='stalk-color-above-ring',bins=30)
```

```
<Axes: xlabel='stalk-color-above-ring', ylabel='Count'>
```



```
sns.histplot(data=vizu,x='stalk-color-below-ring',bins=30)
```

```
<Axes: xlabel='stalk-color-below-ring', ylabel='Count'>
```

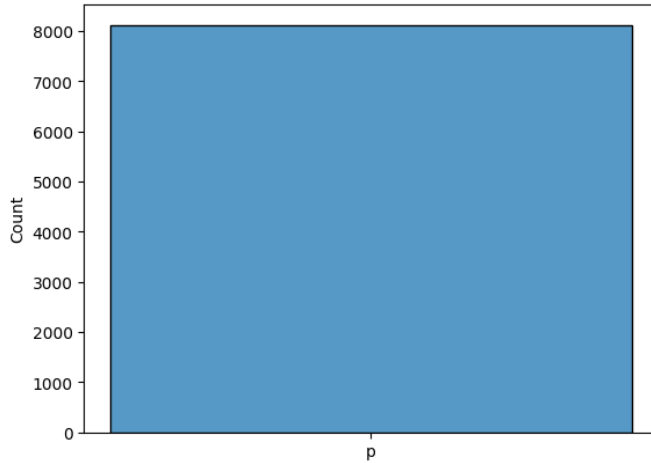


```
veil_type=vizu['veil-type']
veil_color=vizu['veil-color']
```

```
1000 | ██████████ |
```

```
sns.histplot(data=vizu,x='veil-type' ,bins=30)
```

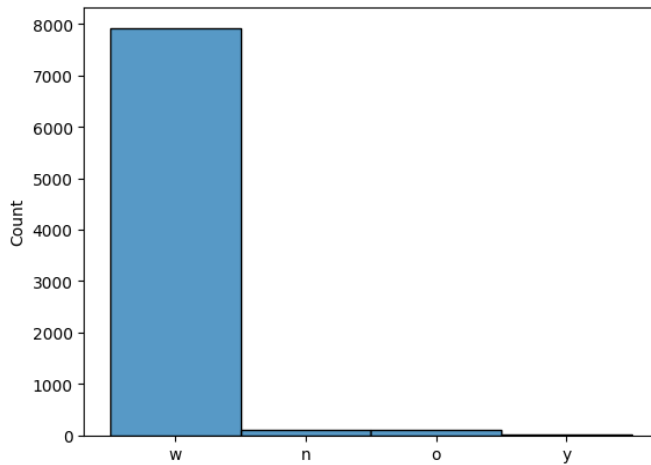
```
<Axes: xlabel='veil-type', ylabel='Count'>
```



```
veilcolor=vizu['veil-color']
```

```
sns.histplot(data=vizu,x='veil-color' ,bins=30)
```

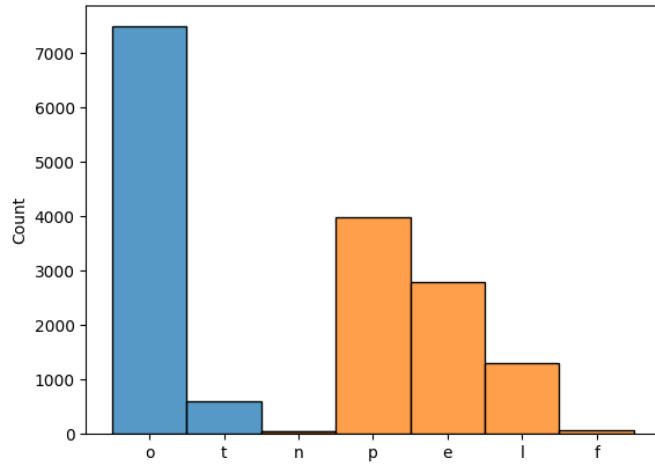
```
<Axes: xlabel='veil-color', ylabel='Count'>
```



```
ringnumber=vizu['ring-number']
ringtype=vizu['ring-type']
```

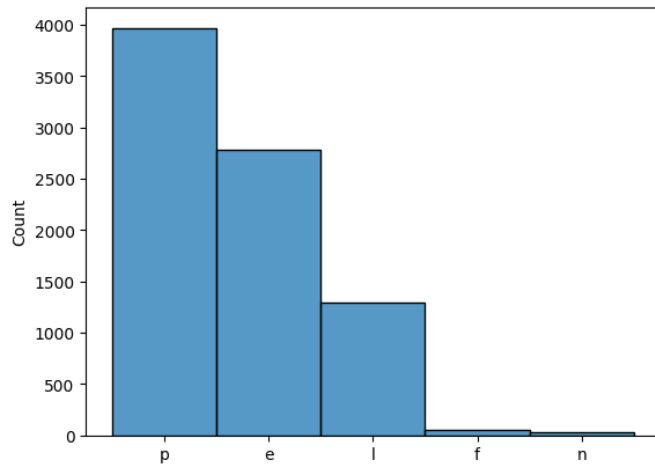
```
sns.histplot(data=vizu,x='ring-number' )
```

```
<Axes: xlabel='ring-number', ylabel='Count'>
```



```
sns.histplot(data=vizu,x='ring-type')
```

```
<Axes: xlabel='ring-type', ylabel='Count'>
```

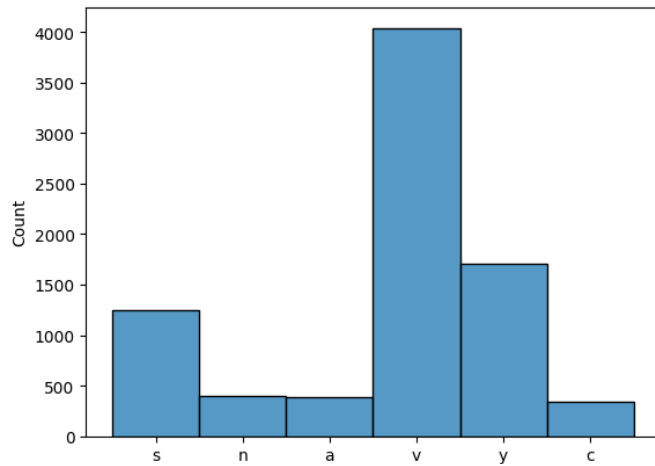


```
sporeprintcolor=vizu['spore-print-color']  
population=vizu['population']  
habitat=vizu['habitat']
```

```
sns.histplot(data=vizu,x='spore-print-color' )
```

```
<Axes: xlabel='species', ylabel='Count'>  
sns.histplot(data=vizu,x='population' )
```

```
<Axes: xlabel='population', ylabel='Count'>
```



```
sns.histplot(data=vizu,x='habitat' )
```

```
<Axes: xlabel='habitat', ylabel='Count'>
```

