

```
In [16]: import pandas as pd
```

```
In [17]: pip install seaborn
```

Collecting seaborn

Downloading seaborn-0.13.2-py3-none-any.whl.metadata (5.4 kB)

Requirement already satisfied: numpy!=1.24.0,>=1.20 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from seaborn) (2.2.6)

Requirement already satisfied: pandas>=1.2 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from seaborn) (2.3.0)

Collecting matplotlib!=3.6.1,>=3.4 (from seaborn)

Downloading matplotlib-3.10.3-cp313-cp313-win\_amd64.whl.metadata (11 kB)

Collecting contourpy>=1.0.1 (from matplotlib!=3.6.1,>=3.4->seaborn)

Downloading contourpy-1.3.2-cp313-cp313-win\_amd64.whl.metadata (5.5 kB)

Collecting cycler>=0.10 (from matplotlib!=3.6.1,>=3.4->seaborn)

Downloading cycler-0.12.1-py3-none-any.whl.metadata (3.8 kB)

Collecting fonttools>=4.22.0 (from matplotlib!=3.6.1,>=3.4->seaborn)

Downloading fonttools-4.58.2-cp313-cp313-win\_amd64.whl.metadata (108 kB)

Collecting kiwisolver>=1.3.1 (from matplotlib!=3.6.1,>=3.4->seaborn)

Downloading kiwisolver-1.4.8-cp313-cp313-win\_amd64.whl.metadata (6.3 kB)

Requirement already satisfied: packaging>=20.0 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (24.2)

Collecting pillow>=8 (from matplotlib!=3.6.1,>=3.4->seaborn)

Downloading pillow-11.2.1-cp313-cp313-win\_amd64.whl.metadata (9.1 kB)

Collecting pyparsing>=2.3.1 (from matplotlib!=3.6.1,>=3.4->seaborn)

Downloading pyparsing-3.2.3-py3-none-any.whl.metadata (5.0 kB)

Requirement already satisfied: python-dateutil>=2.7 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (2.9.0.post0)

Requirement already satisfied: pytz>=2020.1 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from pandas>=1.2->seaborn) (2025.2)

Requirement already satisfied: tzdata>=2022.7 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from pandas>=1.2->seaborn) (2025.2)

Requirement already satisfied: six>=1.5 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from python-dateutil>=2.7->matplotlib!=3.6.1,>=3.4->seaborn) (1.17.0)

Downloading seaborn-0.13.2-py3-none-any.whl (294 kB)

Downloading matplotlib-3.10.3-cp313-cp313-win\_amd64.whl (8.1 MB)

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----- 5.8/8.1 MB 6.9 MB/s eta 0:00:01
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----- 8.1/8.1 MB 6.3 MB/s eta 0:00:00
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Downloading contourpy-1.3.2-cp313-cp313-win\_amd64.whl (223 kB)

Downloading cycler-0.12.1-py3-none-any.whl (8.3 kB)

Downloading fonttools-4.58.2-cp313-cp313-win\_amd64.whl (2.2 MB)

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Downloading kiwisolver-1.4.8-cp313-cp313-win\_amd64.whl (71 kB)

Downloading pillow-11.2.1-cp313-cp313-win\_amd64.whl (2.7 MB)

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Downloading pyparsing-3.2.3-py3-none-any.whl (111 kB)

Installing collected packages: pyparsing, pillow, kiwisolver, fonttools, cycler, contourpy, matplotlib, seaborn

Successfully installed contourpy-1.3.2 cycler-0.12.1 fonttools-4.58.2 kiwisolver-

1.4.8 matplotlib-3.10.3 pillow-11.2.1 pyparsing-3.2.3 seaborn-0.13.2

Note: you may need to restart the kernel to use updated packages.

[notice] A new release of pip is available: 25.0.1 -> 25.1.1

[notice] To update, run: python.exe -m pip install --upgrade pip

In [19]: `pip install --upgrade pip`

Requirement already satisfied: pip in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (25.0.1)

Collecting pip

Downloading pip-25.1.1-py3-none-any.whl.metadata (3.6 kB)

Downloading pip-25.1.1-py3-none-any.whl (1.8 MB)

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----- 0.3/1.8 MB ? eta -:-:--

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----- 1.8/1.8 MB 5.1 MB/s eta 0:00:00

Installing collected packages: pip

Attempting uninstall: pip

Found existing installation: pip 25.0.1

Uninstalling pip-25.0.1:

Successfully uninstalled pip-25.0.1

Successfully installed pip-25.1.1

Note: you may need to restart the kernel to use updated packages.

In [20]: `pip install matplotlib`

Requirement already satisfied: matplotlib in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (3.10.3)

Requirement already satisfied: contourpy>=1.0.1 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from matplotlib) (1.3.2)

Requirement already satisfied: cycler>=0.10 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from matplotlib) (0.12.1)

Requirement already satisfied: fonttools>=4.22.0 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from matplotlib) (4.58.2)

Requirement already satisfied: kiwisolver>=1.3.1 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from matplotlib) (1.4.8)

Requirement already satisfied: numpy>=1.23 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from matplotlib) (2.2.6)

Requirement already satisfied: packaging>=20.0 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from matplotlib) (24.2)

Requirement already satisfied: pillow>=8 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from matplotlib) (11.2.1)

Requirement already satisfied: pyparsing>=2.3.1 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from matplotlib) (3.2.3)

Requirement already satisfied: python-dateutil>=2.7 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from matplotlib) (2.9.0.post0)

Requirement already satisfied: six>=1.5 in c:\users\asus\appdata\local\programs\python\python313\lib\site-packages (from python-dateutil>=2.7->matplotlib) (1.17.0)

Note: you may need to restart the kernel to use updated packages.

In [2]: `#Load and Inspect the Data`  
`df = pd.read_csv("train.csv")`

In [3]: `df`

Out[3]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599 7
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803 5
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450
...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536 1
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112053 3
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W./C. 6607 2
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369 3
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376

891 rows × 12 columns



In [11]: df.head()

Out[11]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.25
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...)	female	38.0	1	0	PC 17599	71.28
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.92
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.10
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.05

In [5]:

```
df.head()
```

Out[5]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.25
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...)	female	38.0	1	0	PC 17599	71.28
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.92
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.10
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.05

```
In [6]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 891 entries, 0 to 890
Data columns (total 12 columns):
#   Column      Non-Null Count  Dtype
---  -
0   PassengerId  891 non-null    int64
1   Survived     891 non-null    int64
2   Pclass       891 non-null    int64
3   Name         891 non-null    object
4   Sex          891 non-null    object
5   Age          714 non-null    float64
6   SibSp        891 non-null    int64
7   Parch        891 non-null    int64
8   Ticket       891 non-null    object
9   Fare         891 non-null    float64
10  Cabin        204 non-null    object
11  Embarked     889 non-null    object
dtypes: float64(2), int64(5), object(5)
memory usage: 83.7+ KB
```

```
In [9]: df.describe()
```

Out[9]:

	PassengerId	Survived	Pclass	Age	SibSp	Parch	
count	891.000000	891.000000	891.000000	714.000000	891.000000	891.000000	891.000000
mean	446.000000	0.383838	2.308642	29.699118	0.523008	0.381594	32.200000
std	257.353842	0.486592	0.836071	14.526497	1.102743	0.806057	49.693000
min	1.000000	0.000000	1.000000	0.420000	0.000000	0.000000	0.000000
25%	223.500000	0.000000	2.000000	20.125000	0.000000	0.000000	7.910000
50%	446.000000	0.000000	3.000000	28.000000	0.000000	0.000000	14.450000
75%	668.500000	1.000000	3.000000	38.000000	1.000000	0.000000	31.000000
max	891.000000	1.000000	3.000000	80.000000	8.000000	6.000000	512.320000

```
In [10]: df.isnull().sum()
```

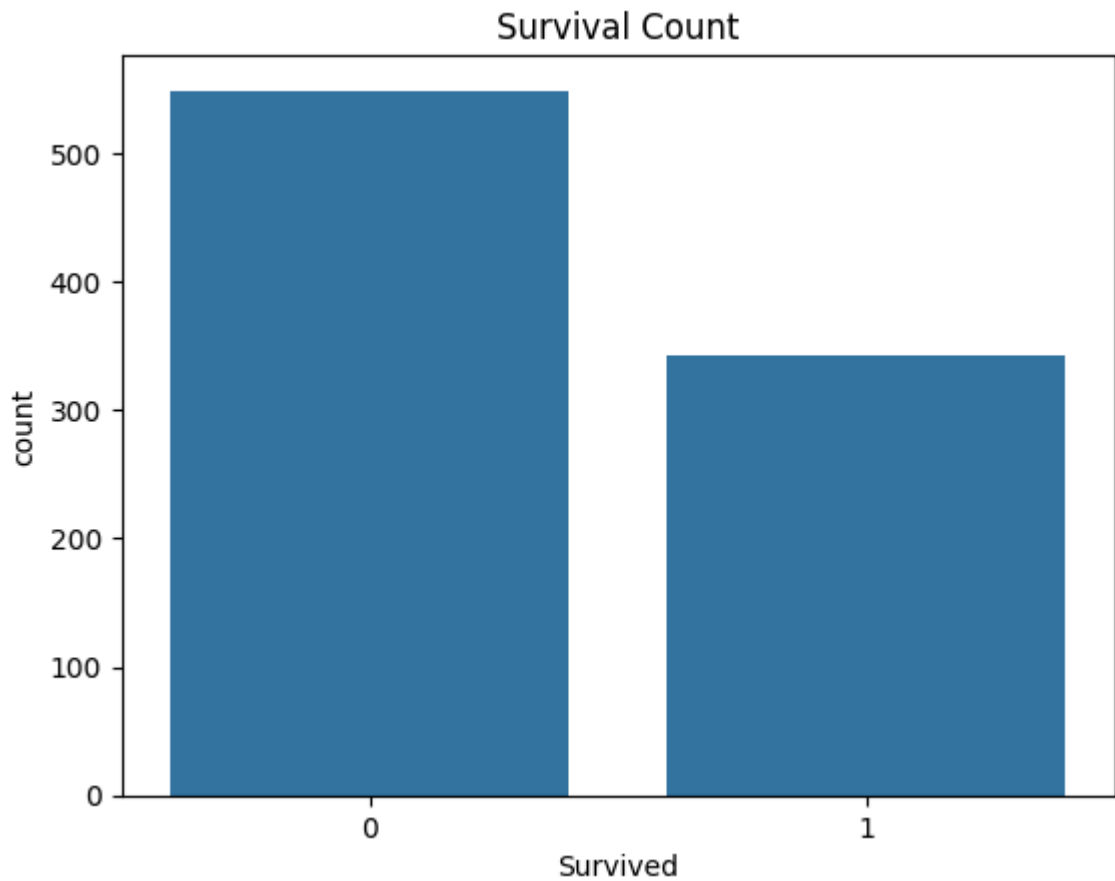
Out[10]:

PassengerId	0
Survived	0
Pclass	0
Name	0
Sex	0
Age	177
SibSp	0
Parch	0
Ticket	0
Fare	0
Cabin	687
Embarked	2

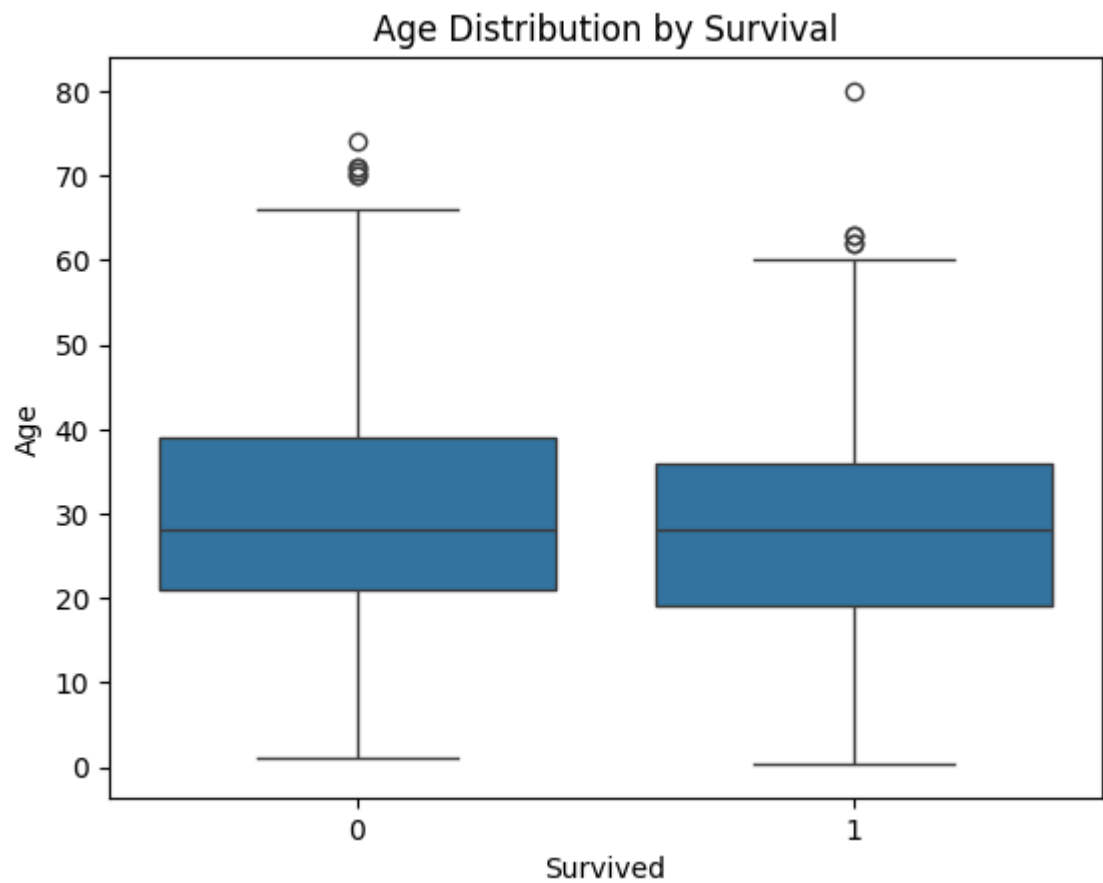
dtype: int64

```
In [21]: import seaborn as sns
import matplotlib.pyplot as plt
```

```
In [25]: #Plot bar charts, pie charts, histograms
sns.countplot(x='Survived', data=df)
plt.title("Survival Count")
plt.show()
```



```
In [27]: # Survivors were generally younger. Non-survivors had a wider age range and more
sns.boxplot(x='Survived', y='Age', data=df.dropna(subset=['Age']))
plt.title("Age Distribution by Survival")
plt.show()
```



```
In [2]: jupyter nbconvert --to html your_notebook.ipynb
```

```
Cell In[2], line 1
    jupyter nbconvert --to html your_notebook.ipynb
    ^
SyntaxError: invalid syntax
```

```
In [ ]:
```