In [1]:

```
import plotly
import cufflinks as cf
import pandas as pd
import numpy as np
```

In [2]:

```
train = pd.read_csv("titanic/train.csv")
train
```

Out[2]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500
...	...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536	13.0000
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112053	30.0000
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W./C. 6607	23.4500
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369	30.0000
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376	7.7500

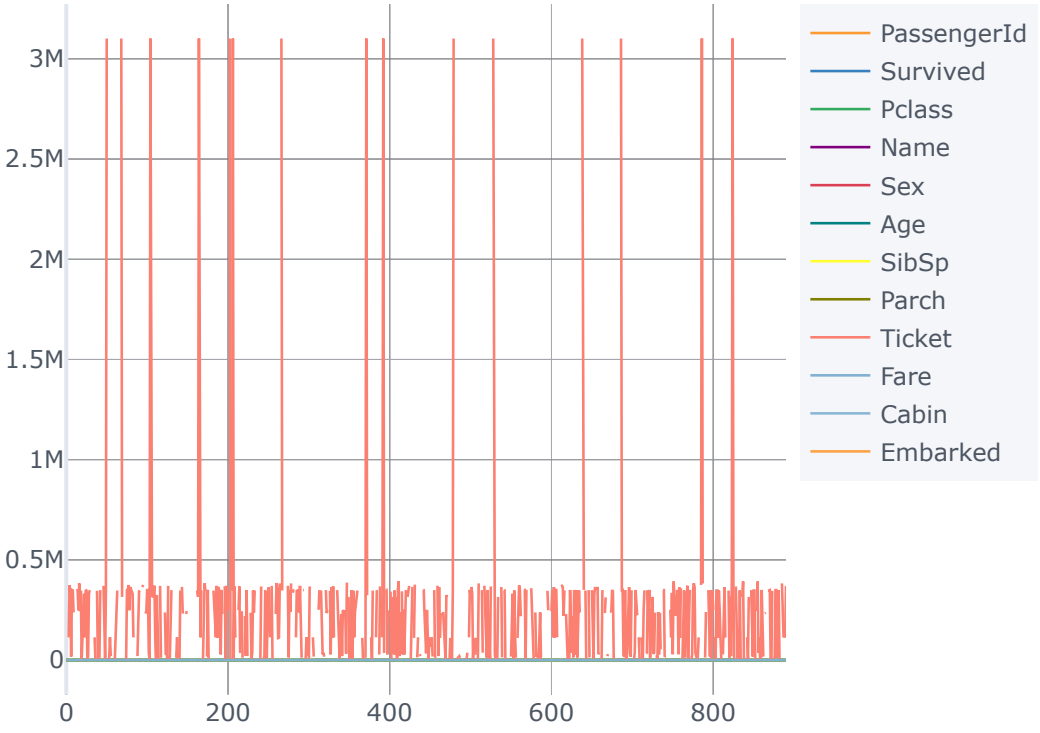
891 rows × 12 columns

In [3]:

```
# 오프라인 모드에서도 인터렉티브한 그래픽을 가능하도록 하기
# Enabling the offline mode for interactive plotting locally
from plotly.offline import download_plotlyjs,init_notebook_mode,plot,iplot
init_notebook_mode(connected=True)
cf.go_offline()
```

In [4]:

```
train.iplot()
```



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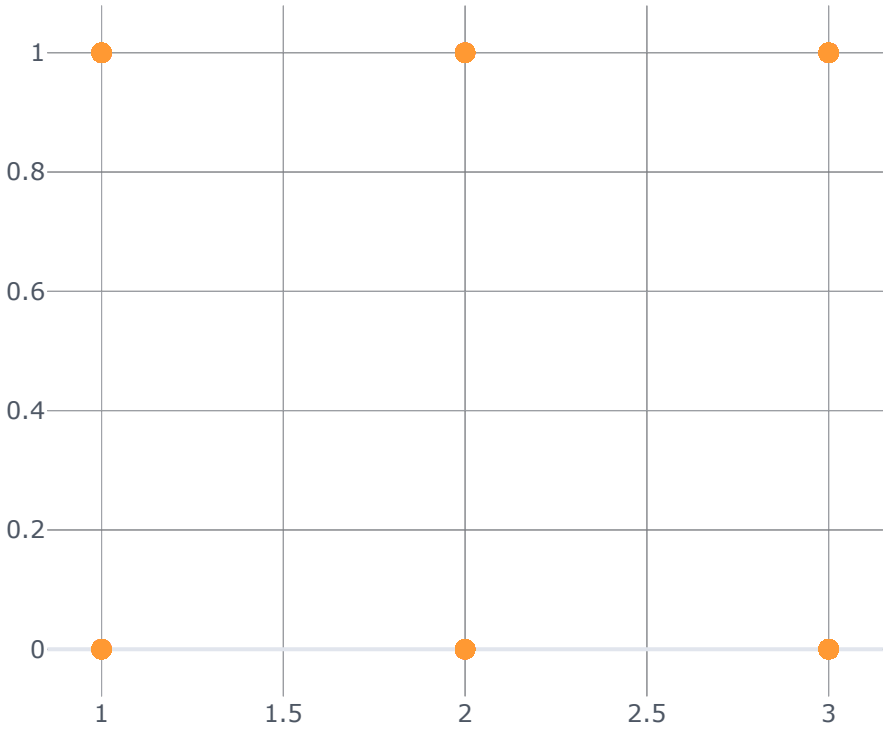
- 컬럼이 12개 있다.

In [5]:

```
train.iplot(kind='scatter', x='Pclass', y='Survived', mode="markers", size=10)
```



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- Pclass는 1,2,3의 값이 있다.
- Survived는 0,1의 값이 있다.

In [6]:

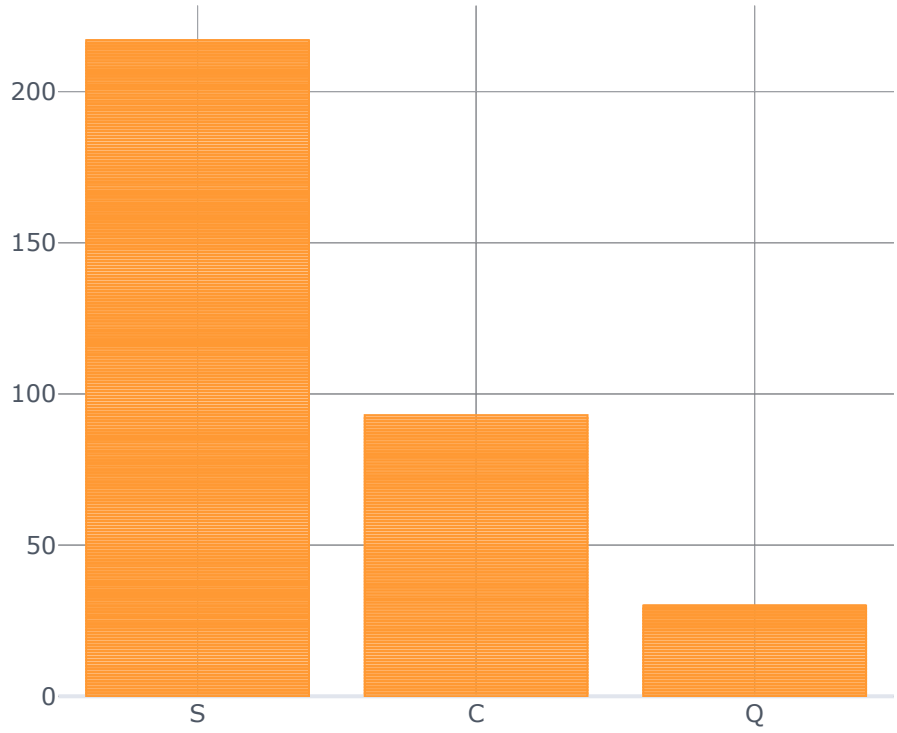
```
train.info()
```

```
<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
```

승선항 시각화

In [7]:

```
train.iplot(kind="bar", x="Embarked", y='Survived')
```



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- 승선항 S, C, Q이 있다.
- S에서 승선한 사람이 많이 살았다.
  - 왜 S에서 승선한 사람이 많이 살았을까?

In [8]:

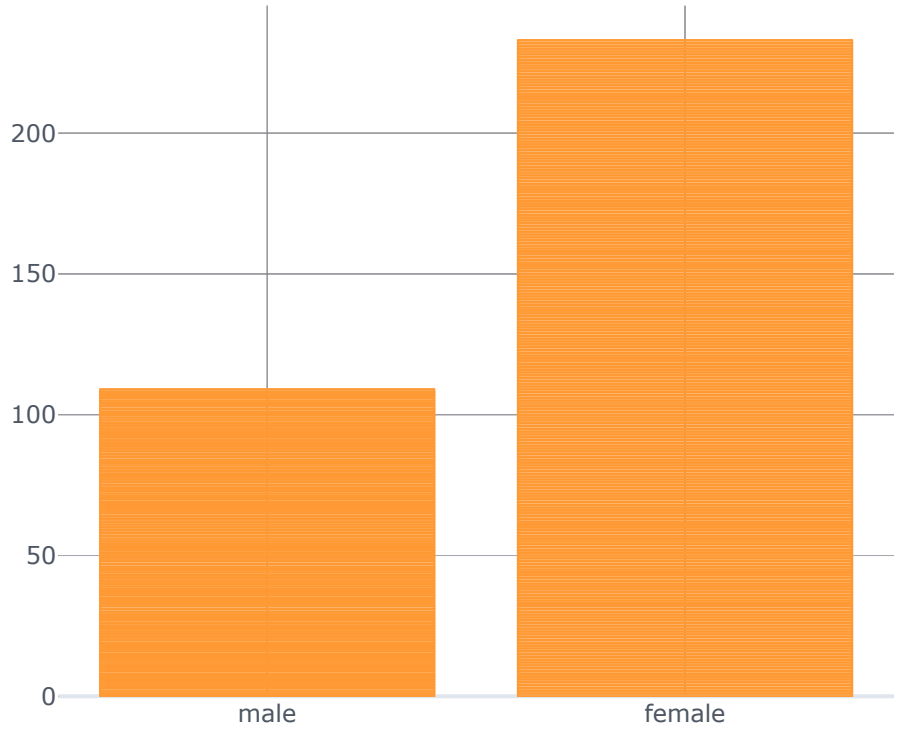
```
train.columns
```

Out[8]:

```
Index(['PassengerId', 'Survived', 'Pclass', 'Name', 'Sex', 'Age', 'SibSp',
       'Parch', 'Ticket', 'Fare', 'Cabin', 'Embarked'],
      dtype='object')
```

In [9]:

```
train.iplot(kind="bar", x="Sex", y='Survived')
```



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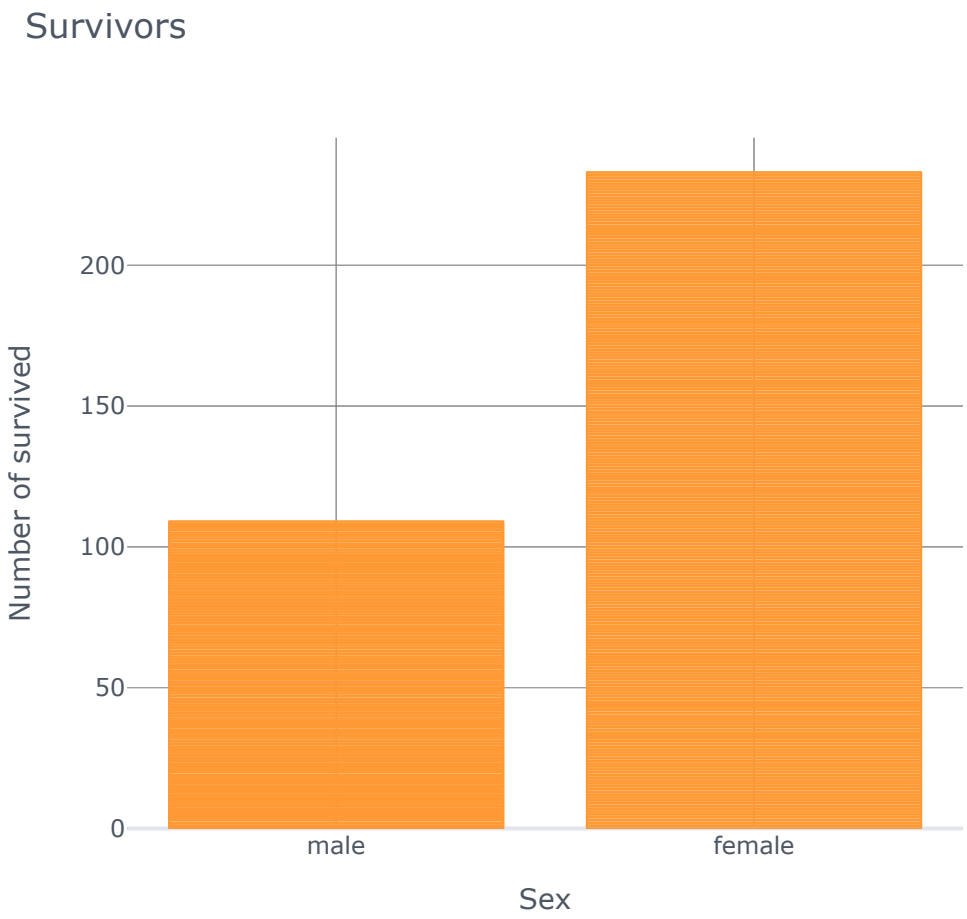
In [10]:

```
# x축 y축 레이블 넣기,
train.iplot(kind = "bar",
            x = "Sex", y = "Survived",
            title = "Survivors",
            xTitle = "Sex",
            yTitle = "Number of survived")
```



- 여성이 많이 살았다.
- 2배이상의 차이가 있다.

In [11]:

```
train.columns
```

Out[11]:

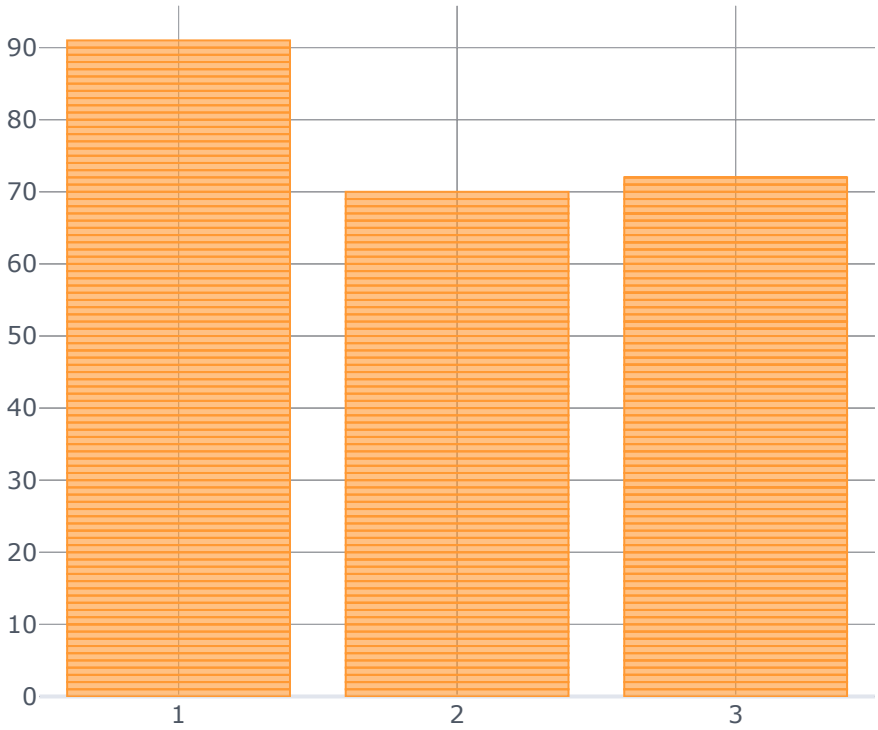
```
Index(['PassengerId', 'Survived', 'Pclass', 'Name', 'Sex', 'Age', 'SibSp',
       'Parch', 'Ticket', 'Fare', 'Cabin', 'Embarked'],
      dtype='object')
```

In [12]:

```
## 여성만 뽑기
female_train = train[train.Sex=='female']
```

In [13]:

```
# 여성들 중의 pclass
female_train.iplot(kind="bar", x="Pclass", y='Survived')
```



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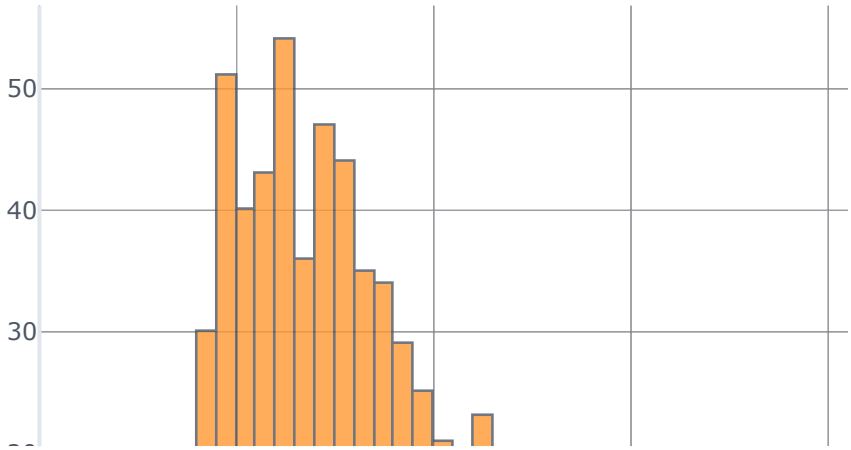
- 여성들 중의 1등급이 좀 더 많이 살아남았다.

In [14]:

```
train['Age'].iplot(kind='hist')
```



- 나이대가 보통 20~40대 가장 많고, 80대 이상도 보인다.

In [15]:

```
train['Pclass'].iplot(kind='hist')
```

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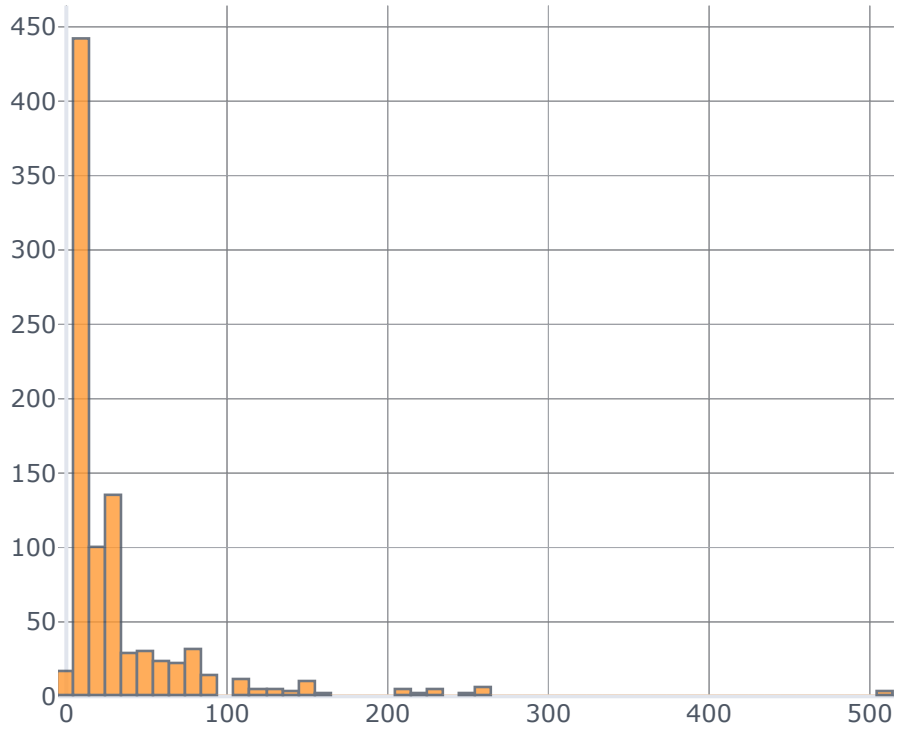
- Pclass가 3인 사람이 많다.

In [16]:

```
train.Fare.iplot(kind='hist')
```



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요금이 200, 500인 사람도 일부 있다.

In [17]:

```
train.columns
```

Out[17]:

```
Index(['PassengerId', 'Survived', 'Pclass', 'Name', 'Sex', 'Age', 'SibSp',
       'Parch', 'Ticket', 'Fare', 'Cabin', 'Embarked'],
      dtype='object')
```

In [18]:

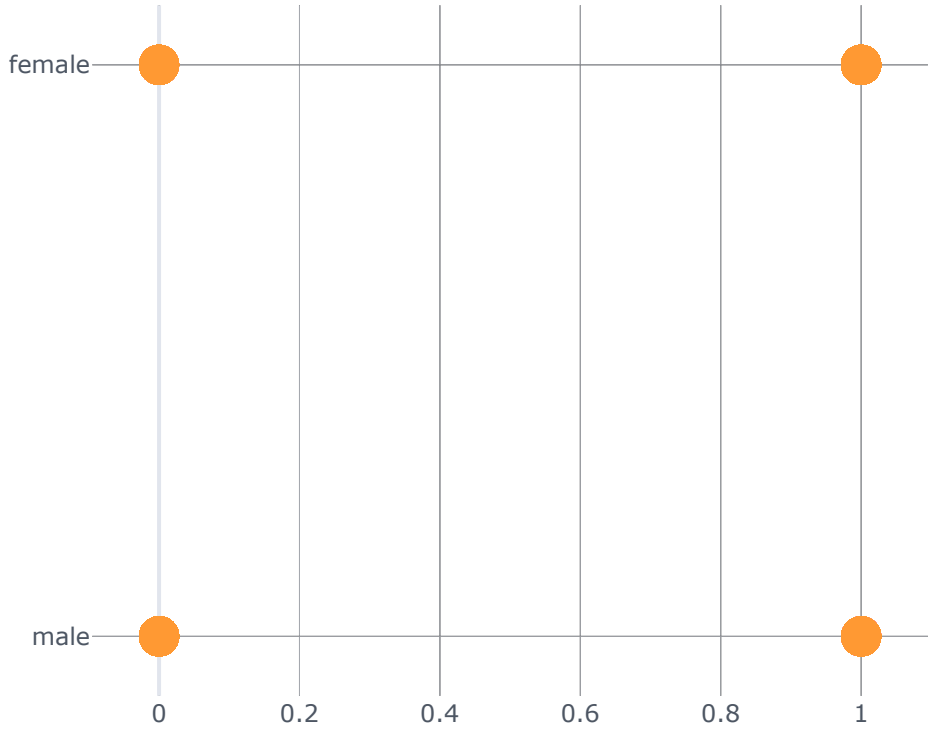
```
train.Ticket
```

Out[18]:

```
0             A/5 21171
1              PC 17599
2      STON/02. 3101282
3                113803
4                373450
             ...
886              211536
887              112053
888          W./C. 6607
889              111369
890              370376
Name: Ticket, Length: 891, dtype: object
```

In [19]:

```
train.iplot(kind='scatter', x='Survived',y='Sex',mode='markers',size=20)
```



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질문 20~40대 중에 얼마나 생존했나?

REF

- https://stackabuse.com/using-plotly-library-for-interactive-data-visualization-in-python/ (https://stackabuse.com/using-plotly-library-for-interactive-data-visualization-in-python/)

In [ ]: