Out[3]:

	Passengerld	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	892	3	Kelly, Mr. James	male	34.5	0	0	330911	7.8292	NaN	Q
1	893	3	Wilkes, Mrs. James (Ellen Needs)	female	47.0	1	0	363272	7.0000	NaN	S
2	894	2	Myles, Mr. Thomas Francis	male	62.0	0	0	240276	9.6875	NaN	Q
3	895	3	Wirz, Mr. Albert	male	27.0	0	0	315154	8.6625	NaN	S
4	896	3	Hirvonen, Mrs. Alexander (Helga E Lindqvist)	female	22.0	1	1	3101298	12.2875	NaN	S
413	1305	3	Spector, Mr. Woolf	male	NaN	0	0	A.5. 3236	8.0500	NaN	S
414	1306	1	Oliva y Ocana, Dona. Fermina	female	39.0	0	0	PC 17758	108.9000	C105	С
415	1307	3	Saether, Mr. Simon Sivertsen	male	38.5	0	0	SOTON/O.Q. 3101262	7.2500	NaN	S
416	1308	3	Ware, Mr. Frederick	male	NaN	0	0	359309	8.0500	NaN	S
417	1309	3	Peter, Master. Michael J	male	NaN	1	1	2668	22.3583	NaN	С

418 rows × 11 columns

Out[4]:

	Passengerld	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	S
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th	female	38.0	1	0	PC 17599	71.2833	C85	С
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	S
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	NaN	S
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536	13.0000	NaN	S
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112053	30.0000	B42	S
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W./C. 6607	23.4500	NaN	S
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369	30.0000	C148	С
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376	7.7500	NaN	Q

891 rows × 12 columns

In [5]: ▶ train_df.shape

Out[5]: (418, 11)

Out[6]:

	Passengerld	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	S
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th	female	38.0	1	0	PC 17599	71.2833	C85	С
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	S
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	NaN	S

In [7]: ► test_df.shape

Out[7]: (891, 12)

Out[8]:	<bound< th=""><th>l metho</th><th>d NDFr</th><th>ame.des</th><th>cribe of</th><th>PassengerId</th><th>Pclass</th><th></th><th></th><th>Name</th></bound<>	l metho	d NDFr	ame.des	cribe of	PassengerId	Pclass			Name
	0		892	3			Kelly,	Mr. Jan	nes \	
	1		893	3		Wilkes, Mrs.	James (Ell	en Need	ds)	
	2		894	2		Myles	, Mr. Thoma	s Franc	cis	
	3		895	3			Wirz, M	lr. Albe	ert	
	4		896	3	Hirvonen	, Mrs. Alexander	(Helga E L	indqvi	st)	
	413		1305	3			Spector,	Mr. Woo	olf	
	414		1306	1		Oliva y (Ocana, Dona	. Fermi	ina	
	415		1307	3		Saether,	Mr. Simon	Siverts	sen	
	416		1308	3			Ware, Mr.			
	417		1309	3		Peter	r, Master.	Michael	LJ	
		Cov	Λαο	CibCn	Parch	Ticket	- Eano	Cabin	Embarked	
	0	Sex male	Age 34.5	SibSp 0	0	33091				
		emale	47.0	1	0	363272			Q S	
	2	male	62.0	0	0	240276		_		
	3	male	27.0	0	0	315154			Q S	
		emale	22.0	1	1	3101298			S	
	•	•••								
	413	male	NaN	0	0	A.5. 3236			S	
		emale	39.0	0	0	PC 17758			C	
	415	male	38.5	0		OTON/O.Q. 3101262			S	
	416	male	NaN	0	0	359309			S	
	417	male	NaN	1	1	2668			C	

[418 rows x 11 columns]>

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 418 entries, 0 to 417
Data columns (total 11 columns):

Ducu	COTAMILIS (COC.	ar rr coramiis).							
#	Column	Non-Null Count	Dtype						
0	PassengerId	418 non-null	int64						
1	Pclass	418 non-null	int64						
2	Name	418 non-null	object						
3	Sex	418 non-null	object						
4	Age	332 non-null	float64						
5	SibSp	418 non-null	int64						
6	Parch	418 non-null	int64						
7	Ticket	418 non-null	object						
8	Fare	417 non-null	float64						
9	Cabin	91 non-null	object						
10	Embarked	418 non-null	object						
<pre>dtypes: float64(2), int64(4), object(5)</pre>									

memory usage: 36.1+ KB

In [10]: ► test_df.describe

```
Out[10]: <bound method NDFrame.describe of</pre>
                                                   PassengerId Survived Pclass
                                             3 \
                          1
                          2
          1
                                    1
                                             1
          2
                          3
                                    1
                                             3
                          4
                                             1
          3
                                    1
                          5
                                    0
          4
                                             3
                        . . .
                                   . . .
                                           . . .
          886
                        887
                                    0
                                             2
                                    1
          887
                        888
                                             1
                                    0
                                             3
          888
                        889
          889
                       890
                                    1
                                             1
                                    0
                                             3
          890
                        891
                                                                               Age SibSp
                                                               Name
                                                                         Sex
                                           Braund, Mr. Owen Harris
                                                                        male 22.0
                                                                                         1 \
          0
          1
               Cumings, Mrs. John Bradley (Florence Briggs Th...
                                                                     female
                                                                              38.0
                                                                                         1
          2
                                            Heikkinen, Miss. Laina
                                                                     female
                                                                              26.0
                                                                                         0
          3
                    Futrelle, Mrs. Jacques Heath (Lily May Peel)
                                                                     female
                                                                              35.0
                                                                                         1
                                          Allen, Mr. William Henry
                                                                        male
                                                                              35.0
                                                                                         0
          4
                                                                         . . .
                                                                               . . .
          886
                                             Montvila, Rev. Juozas
                                                                        male
                                                                              27.0
                                                                                         0
                                     Graham, Miss. Margaret Edith
          887
                                                                     female
                                                                             19.0
                         Johnston, Miss. Catherine Helen "Carrie"
          888
                                                                      female
                                                                               NaN
                                                                                         1
          889
                                             Behr, Mr. Karl Howell
                                                                        male 26.0
                                                                                         0
          890
                                               Dooley, Mr. Patrick
                                                                        male 32.0
                                                                                         0
               Parch
                                 Ticket
                                             Fare Cabin Embarked
                              A/5 21171
                                           7.2500
                                                    NaN
          0
                   0
                                                                S
                               PC 17599
                                         71.2833
          1
                                                    C85
                                                                C
                      STON/02. 3101282
                                           7.9250
                                                                S
                                                    NaN
          3
                   0
                                 113803
                                          53.1000
                                                   C123
                                                                S
                                 373450
                                           8.0500
                                                                S
          4
                   0
                                                    NaN
                                     . . .
                                              . . .
                                                     . . .
          . .
                 . . .
          886
                                 211536
                                          13.0000
                                                     NaN
                                                                S
          887
                                                                S
                   0
                                 112053
                                          30.0000
                                                     B42
          888
                   2
                                                                S
                             W./C. 6607
                                          23.4500
                                                     NaN
                                                                C
          889
                   0
                                 111369
                                          30.0000
                                                   C148
          890
                                 370376
                                          7.7500
                                                                Q
                                                    NaN
```

[891 rows x 12 columns]>

```
▶ test_df.info()

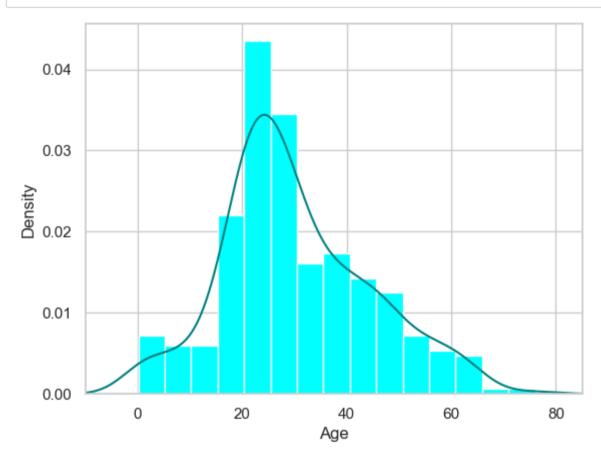
In [11]:
             <class 'pandas.core.frame.DataFrame'>
             RangeIndex: 891 entries, 0 to 890
             Data columns (total 12 columns):
                               Non-Null Count Dtype
                  Column
                  PassengerId 891 non-null
              0
                                               int64
                  Survived
                               891 non-null
                                               int64
              1
                  Pclass
                               891 non-null
              2
                                               int64
                               891 non-null
                                               object
                  Name
                  Sex
                               891 non-null
                                               object
              4
                               714 non-null
                  Age
                                               float64
                  SibSp
                               891 non-null
                                               int64
                  Parch
                               891 non-null
                                               int64
                               891 non-null
                  Ticket
                                               obiect
                  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

    train_df.isnull().sum()

In [12]:
   Out[12]: PassengerId
                              0
             Pclass
                              0
                              0
             Name
             Sex
                              0
             Age
                             86
             SibSp
                              0
             Parch
                              0
                              0
             Ticket
             Fare
                              1
             Cabin
                            327
             Embarked
                              0
             dtype: int64
```

```
Out[13]: PassengerId
                      0
         Survived
                      0
         Pclass
                      0
         Name
                      0
         Sex
                      0
         Age
                    177
         SibSp
                      0
         Parch
                      0
         Ticket
                      0
                      0
         Fare
         Cabin
                    687
         Embarked
                      2
```

dtype: int64



30.272590361445783 27.0