In [6]:
```python
import pandas as pd
import numpy as np
import matplotlib as mp
import seaborn as sns
```

In [21]:
```python
data = pd.read_csv(r"C:\Users\ganga\Downloads/tested.csv")
```

In [21]:
```python
## understanding the data - To display the first 5 columns in the dataset
data.head()
```

Out[21]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fa
0	892	0	3	Kelly, Mr. James	male	34.5	0	0	330911	7.82
1	893	1	3	Wilkes, Mrs. James (Ellen Needs)	female	47.0	1	0	363272	7.00
2	894	0	2	Myles, Mr. Thomas Francis	male	62.0	0	0	240276	9.68
3	895	0	3	Wirz, Mr. Albert	male	27.0	0	0	315154	8.66
4	896	1	3	Hirvonen, Mrs. Alexander (Helga E Lindqvist)	female	22.0	1	1	3101298	12.28

In [27]:
```python
## To display the last 5 columns
data.tail()
```

Out[27]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
413	1305	0	3	Spector, Mr. Woolf	male	NaN	0	0	A.5. 3236
414	1306	1	1	Oliva y Ocana, Dona. Fermina	female	39.0	0	0	PC 17758
415	1307	0	3	Saether, Mr. Simon Sivertsen	male	38.5	0	0	SOTON/O.Q. 3101262
416	1308	0	3	Ware, Mr. Frederick	male	NaN	0	0	359309
417	1309	0	3	Peter, Master. Michael J	male	NaN	1	1	2668

In [31]:
```python
### To know the shape of the dataset
data.shape
```

Out[31]: (418, 12)

In [33]:
```python
data.describe()
```

Out[33]:

	PassengerId	Survived	Pclass	Age	SibSp	Parch	
count	418.000000	418.000000	418.000000	332.000000	418.000000	418.000000	417.000
mean	1100.500000	0.363636	2.265550	30.272590	0.447368	0.392344	35.627
std	120.810458	0.481622	0.841838	14.181209	0.896760	0.981429	55.907
min	892.000000	0.000000	1.000000	0.170000	0.000000	0.000000	0.000
25%	996.250000	0.000000	1.000000	21.000000	0.000000	0.000000	7.895
50%	1100.500000	0.000000	3.000000	27.000000	0.000000	0.000000	14.454
75%	1204.750000	1.000000	3.000000	39.000000	1.000000	0.000000	31.500
max	1309.000000	1.000000	3.000000	76.000000	8.000000	9.000000	512.329

In [35]:
```python
data.columns
```

Out[35]: Index(['PassengerId', 'Survived', 'Pclass', 'Name', 'Sex', 'Age', 'SibSp',
       'Parch', 'Ticket', 'Fare', 'Cabin', 'Embarked'],
      dtype='object')

In [41]:
```python
data.nunique()
```

Out[41]: PassengerId   418
          Survived   2
          Pclass   3
          Name   418
          Sex   2
          Age   79
          SibSp   7
          Parch   8
          Ticket   363
          Fare   169
          Cabin   76
          Embarked   3
          dtype: int64

In [43]: ```python
data['Ticket'].unique() ## To display the unique values
```

```
Out[43]:  array(['330911', '363272', '240276', '315154', '3101298', '7538',
                 '330972', '248738', '2657', 'A/4 48871', '349220', '694', '21228',
                 '24065', 'W.E.P. 5734', 'SC/PARIS 2167', '233734', '2692',
                 'STON/O2. 3101270', '2696', 'PC 17603', 'C 17368', 'PC 17598',
                 'PC 17597', 'PC 17608', 'A/5. 3337', '113509', '2698', '113054',
                 '2662', 'SC/AH 3085', 'C.A. 31029', 'C.A. 2315', 'W./C. 6607',
                 '13236', '2682', '342712', '315087', '345768', '1601', '349256',
                 '113778', 'SOTON/O.Q. 3101263', '237249', '11753',
                 'STON/O 2. 3101291', 'PC 17594', '370374', '11813', 'C.A. 37671',
                 '13695', 'SC/PARIS 2168', '29105', '19950', 'SC/A.3 2861',
                 '382652', '349230', '348122', '386525', '349232', '237216',
                 '347090', '334914', 'F.C.C. 13534', '330963', '113796', '2543',
                 '382653', '349211', '3101297', 'PC 17562', '113503', '359306',
                 '11770', '248744', '368702', '2678', 'PC 17483', '19924', '349238',
                 '240261', '2660', '330844', 'A/4 31416', '364856', '29103',
                 '347072', '345498', 'F.C. 12750', '376563', '13905', '350033',
                 '19877', 'STON/O 2. 3101268', '347471', 'A./5. 3338', '11778',
                 '228414', '365235', '347070', '2625', 'C 4001', '330920', '383162',
                 '3410', '248734', '237734', '330968', 'PC 17531', '329944', '2680',
                 '2681', 'PP 9549', '13050', 'SC/AH 29037', 'C.A. 33595', '367227',
                 '392095', '368783', '371362', '350045', '367226', '211535',
                 '342441', 'STON/OQ. 369943', '113780', '4133', '2621', '349226',
                 '350409', '2656', '248659', 'SOTON/OQ 392083', 'CA 2144', '113781',
                 '244358', '17475', '345763', '17463', 'SC/A4 23568', '113791',
                 '250651', '11767', '349255', '3701', '350405', '347077',
                 'S.O./P.P. 752', '347469', '110489', 'SOTON/O.Q. 3101315',
                 '335432', '2650', '220844', '343271', '237393', '315153',
                 'PC 17591', 'W./C. 6608', '17770', '7548', 'S.O./P.P. 251', '2670',
                 '2673', '29750', 'C.A. 33112', '230136', 'PC 17756', '233478',
                 '113773', '7935', 'PC 17558', '239059', 'S.O./P.P. 2', 'A/4 48873',
                 'CA. 2343', '28221', '226875', '111163', 'A/5. 851', '235509',
                 '28220', '347465', '16966', '347066', 'C.A. 31030', '65305',
                 '36568', '347080', 'PC 17757', '26360', 'C.A. 34050', 'F.C. 12998',
                 '9232', '28034', 'PC 17613', '349250', 'SOTON/O.Q. 3101308',
                 'S.O.C. 14879', '347091', '113038', '330924', '36928', '32302',
                 'SC/PARIS 2148', '342684', 'W./C. 14266', '350053', 'PC 17606',
                 '2661', '350054', '370368', 'C.A. 6212', '242963', '220845',
                 '113795', '3101266', '330971', 'PC 17599', '350416', '110813',
                 '2679', '250650', 'PC 17761', '112377', '237789', '3470', '17464',
                 '26707', 'C.A. 34651', 'SOTON/O2 3101284', '13508', '7266',
                 '345775', 'C.A. 42795', 'AQ/4 3130', '363611', '28404', '345501',
                 '345572', '350410', 'C.A. 34644', '349235', '112051', 'C.A. 49867',
                 'A. 2. 39186', '315095', '368573', '370371', '2676', '236853',
                 'SC 14888', '2926', 'CA 31352', 'W./C. 14260', '315085', '364859',
                 '370129', 'A/5 21175', 'SOTON/O.Q. 3101314', '2655', 'A/5 1478',
                 'PC 17607', '382650', '2652', '33638', '345771', '349202',
                 'SC/Paris 2123', '113801', '347467', '347079', '237735', '315092',
                 '383123', '112901', '392091', '12749', '350026', '315091', '2658',
                 'LP 1588', '368364', 'PC 17760', 'AQ/3. 30631', 'PC 17569',
                 '28004', '350408', '347075', '2654', '244368', '113790', '24160',
                 'SOTON/O.Q. 3101309', 'PC 17585', '2003', '236854', 'PC 17580',
                 '2684', '2653', '349229', '110469', '244360', '2675', '2622',
                 'C.A. 15185', '350403', 'PC 17755', '348125', '237670', '2688',
                 '248726', 'F.C.C. 13528', 'PC 17759', 'F.C.C. 13540', '113044',
                 '11769', '1222', '368402', '349910', 'S.C./PARIS 2079', '315083',
                 '11765', '2689', '3101295', '112378', 'SC/PARIS 2147', '28133',
                 '112058', '248746', '315152', '29107', '680', '366713', '330910',
                 '364498', '376566', 'SC/PARIS 2159', '349911', '244346', '364858',
                 '349909', 'PC 17592', 'C.A. 2673', 'C.A. 30769', '371109', '13567',
                 '347065', '21332', '28664', '113059', '17765', 'SC/PARIS 2166',
```

```
                    '28666', '334915', '365237', '19928', '347086', 'A.5. 3236',
                    'PC 17758', 'SOTON/O.Q. 3101262', '359309', '2668'], dtype=object)
```

In [47]: `data['Age'].unique()`

Out[47]:
```
array([34.5 , 47.  , 62.  , 27.  , 22.  , 14.  , 30.  , 26.  , 18.  ,
       21.  ,  nan, 46.  , 23.  , 63.  , 24.  , 35.  , 45.  , 55.  ,
        9.  , 48.  , 50.  , 22.5 , 41.  , 33.  , 18.5 , 25.  , 39.  ,
       60.  , 36.  , 20.  , 28.  , 10.  , 17.  , 32.  , 13.  , 31.  ,
       29.  , 28.5 , 32.5 ,  6.  , 67.  , 49.  ,  2.  , 76.  , 43.  ,
       16.  ,  1.  , 12.  , 42.  , 53.  , 26.5 , 40.  , 61.  , 60.5 ,
        7.  , 15.  , 54.  , 64.  , 37.  , 34.  , 11.5 ,  8.  ,  0.33,
       38.  , 57.  , 40.5 ,  0.92, 19.  , 36.5 ,  0.75,  0.83, 58.  ,
        0.17, 59.  , 14.5 , 44.  ,  5.  , 51.  ,  3.  , 38.5 ])
```

In [49]: `data['Name'].unique()`

```
Out[49]:  array(['Kelly, Mr. James', 'Wilkes, Mrs. James (Ellen Needs)',
                 'Myles, Mr. Thomas Francis', 'Wirz, Mr. Albert',
                 'Hirvonen, Mrs. Alexander (Helga E Lindqvist)',
                 'Svensson, Mr. Johan Cervin', 'Connolly, Miss. Kate',
                 'Caldwell, Mr. Albert Francis',
                 'Abrahim, Mrs. Joseph (Sophie Halaut Easu)',
                 'Davies, Mr. John Samuel', 'Ilieff, Mr. Ylio',
                 'Jones, Mr. Charles Cresson',
                 'Snyder, Mrs. John Pillsbury (Nelle Stevenson)',
                 'Howard, Mr. Benjamin',
                 'Chaffee, Mrs. Herbert Fuller (Carrie Constance Toogood)',
                 'del Carlo, Mrs. Sebastiano (Argenia Genovesi)',
                 'Keane, Mr. Daniel', 'Assaf, Mr. Gerios',
                 'Ilmakangas, Miss. Ida Livija',
                 'Assaf Khalil, Mrs. Mariana (Miriam")"', 'Rothschild, Mr. Martin',
                 'Olsen, Master. Artur Karl',
                 'Flegenheim, Mrs. Alfred (Antoinette)',
                 'Williams, Mr. Richard Norris II',
                 'Ryerson, Mrs. Arthur Larned (Emily Maria Borie)',
                 'Robins, Mr. Alexander A', 'Ostby, Miss. Helene Ragnhild',
                 'Daher, Mr. Shedid', 'Brady, Mr. John Bertram',
                 'Samaan, Mr. Elias', 'Louch, Mr. Charles Alexander',
                 'Jefferys, Mr. Clifford Thomas',
                 'Dean, Mrs. Bertram (Eva Georgetta Light)',
                 'Johnston, Mrs. Andrew G (Elizabeth Lily" Watson)"',
                 'Mock, Mr. Philipp Edmund',
                 'Katavelas, Mr. Vassilios (Catavelas Vassilios")"',
                 'Roth, Miss. Sarah A', 'Cacic, Miss. Manda', 'Sap, Mr. Julius',
                 'Hee, Mr. Ling', 'Karun, Mr. Franz', 'Franklin, Mr. Thomas Parham',
                 'Goldsmith, Mr. Nathan', 'Corbett, Mrs. Walter H (Irene Colvin)',
                 'Kimball, Mrs. Edwin Nelson Jr (Gertrude Parsons)',
                 'Peltomaki, Mr. Nikolai Johannes', 'Chevre, Mr. Paul Romaine',
                 'Shaughnessy, Mr. Patrick',
                 'Bucknell, Mrs. William Robert (Emma Eliza Ward)',
                 'Coutts, Mrs. William (Winnie Minnie" Treanor)"',
                 'Smith, Mr. Lucien Philip', 'Pulbaum, Mr. Franz',
                 'Hocking, Miss. Ellen Nellie""', 'Fortune, Miss. Ethel Flora',
                 'Mangiavacchi, Mr. Serafino Emilio', 'Rice, Master. Albert',
                 'Cor, Mr. Bartol', 'Abelseth, Mr. Olaus Jorgensen',
                 'Davison, Mr. Thomas Henry', 'Chaudanson, Miss. Victorine',
                 'Dika, Mr. Mirko', 'McCrae, Mr. Arthur Gordon',
                 'Bjorklund, Mr. Ernst Herbert', 'Bradley, Miss. Bridget Delia',
                 'Ryerson, Master. John Borie',
                 'Corey, Mrs. Percy C (Mary Phyllis Elizabeth Miller)',
                 'Burns, Miss. Mary Delia', 'Moore, Mr. Clarence Bloomfield',
                 'Tucker, Mr. Gilbert Milligan Jr',
                 'Fortune, Mrs. Mark (Mary McDougald)', 'Mulvihill, Miss. Bertha E',
                 'Minkoff, Mr. Lazar', 'Nieminen, Miss. Manta Josefina',
                 'Ovies y Rodriguez, Mr. Servando', 'Geiger, Miss. Amalie',
                 'Keeping, Mr. Edwin', 'Miles, Mr. Frank',
                 'Cornell, Mrs. Robert Clifford (Malvina Helen Lamson)',
                 'Aldworth, Mr. Charles Augustus', 'Doyle, Miss. Elizabeth',
                 'Boulos, Master. Akar', 'Straus, Mr. Isidor',
                 'Case, Mr. Howard Brown', 'Demetri, Mr. Marinko',
                 'Lamb, Mr. John Joseph', 'Khalil, Mr. Betros',
                 'Barry, Miss. Julia', 'Badman, Miss. Emily Louisa',
                 "O'Donoghue, Ms. Bridget", 'Wells, Master. Ralph Lester',
                 'Dyker, Mrs. Adolf Fredrik (Anna Elisabeth Judith Andersson)',
                 'Pedersen, Mr. Olaf', 'Davidson, Mrs. Thornton (Orian Hays)',
                 'Guest, Mr. Robert', 'Birnbaum, Mr. Jakob',
```

'Tenglin, Mr. Gunnar Isidor',
'Cavendish, Mrs. Tyrell William (Julia Florence Siegel)',
'Makinen, Mr. Kalle Edvard', 'Braf, Miss. Elin Ester Maria',
'Nancarrow, Mr. William Henry',
'Stengel, Mrs. Charles Emil Henry (Annie May Morris)',
'Weisz, Mr. Leopold', 'Foley, Mr. William',
'Johansson Palmquist, Mr. Oskar Leander',
'Thomas, Mrs. Alexander (Thamine Thelma")"',
'Holthen, Mr. Johan Martin', 'Buckley, Mr. Daniel',
'Ryan, Mr. Edward', 'Willer, Mr. Aaron (Abi Weller")"',
'Swane, Mr. George', 'Stanton, Mr. Samuel Ward',
'Shine, Miss. Ellen Natalia', 'Evans, Miss. Edith Corse',
'Buckley, Miss. Katherine',
'Straus, Mrs. Isidor (Rosalie Ida Blun)',
'Chronopoulos, Mr. Demetrios', 'Thomas, Mr. John',
'Sandstrom, Miss. Beatrice Irene', 'Beattie, Mr. Thomson',
'Chapman, Mrs. John Henry (Sara Elizabeth Lawry)',
'Watt, Miss. Bertha J', 'Kiernan, Mr. John',
'Schabert, Mrs. Paul (Emma Mock)', 'Carver, Mr. Alfred John',
'Kennedy, Mr. John', 'Cribb, Miss. Laura Alice',
'Brobeck, Mr. Karl Rudolf', 'McCoy, Miss. Alicia',
'Bowenur, Mr. Solomon', 'Petersen, Mr. Marius',
'Spinner, Mr. Henry John', 'Gracie, Col. Archibald IV',
'Lefebre, Mrs. Frank (Frances)', 'Thomas, Mr. Charles P',
'Dintcheff, Mr. Valtcho', 'Carlsson, Mr. Carl Robert',
'Zakarian, Mr. Mapriededer', 'Schmidt, Mr. August',
'Drapkin, Miss. Jennie', 'Goodwin, Mr. Charles Frederick',
'Goodwin, Miss. Jessie Allis', 'Daniels, Miss. Sarah',
'Ryerson, Mr. Arthur Larned', 'Beauchamp, Mr. Henry James',
'Lindeberg-Lind, Mr. Erik Gustaf (Mr Edward Lingrey")"',
'Vander Planke, Mr. Julius', 'Hilliard, Mr. Herbert Henry',
'Davies, Mr. Evan', 'Crafton, Mr. John Bertram',
'Lahtinen, Rev. William', 'Earnshaw, Mrs. Boulton (Olive Potter)',
'Matinoff, Mr. Nicola', 'Storey, Mr. Thomas',
'Klasen, Mrs. (Hulda Kristina Eugenia Lofqvist)',
'Asplund, Master. Filip Oscar', 'Duquemin, Mr. Joseph',
'Bird, Miss. Ellen', 'Lundin, Miss. Olga Elida',
'Borebank, Mr. John James', 'Peacock, Mrs. Benjamin (Edith Nile)',
'Smyth, Miss. Julia', 'Touma, Master. Georges Youssef',
'Wright, Miss. Marion', 'Pearce, Mr. Ernest',
'Peruschitz, Rev. Joseph Maria',
'Kink-Heilmann, Mrs. Anton (Luise Heilmann)', 'Brandeis, Mr. Emil',
'Ford, Mr. Edward Watson',
'Cassebeer, Mrs. Henry Arthur Jr (Eleanor Genevieve Fosdick)',
'Hellstrom, Miss. Hilda Maria', 'Lithman, Mr. Simon',
'Zakarian, Mr. Ortin', 'Dyker, Mr. Adolf Fredrik',
'Torfa, Mr. Assad', 'Asplund, Mr. Carl Oscar Vilhelm Gustafsson',
'Brown, Miss. Edith Eileen', 'Sincock, Miss. Maude',
'Stengel, Mr. Charles Emil Henry',
'Becker, Mrs. Allen Oliver (Nellie E Baumgardner)',
'Compton, Mrs. Alexander Taylor (Mary Eliza Ingersoll)',
'McCrie, Mr. James Matthew', 'Compton, Mr. Alexander Taylor Jr',
'Marvin, Mrs. Daniel Warner (Mary Graham Carmichael Farquarson)',
'Lane, Mr. Patrick',
'Douglas, Mrs. Frederick Charles (Mary Helene Baxter)',
'Maybery, Mr. Frank Hubert',
'Phillips, Miss. Alice Frances Louisa', 'Davies, Mr. Joseph',
'Sage, Miss. Ada', 'Veal, Mr. James', 'Angle, Mr. William A',
'Salomon, Mr. Abraham L', 'van Billiard, Master. Walter John',
'Lingane, Mr. John', 'Drew, Master. Marshall Brines',

'Karlsson, Mr. Julius Konrad Eugen',
'Spedden, Master. Robert Douglas', 'Nilsson, Miss. Berta Olivia',
'Baimbrigge, Mr. Charles Robert',
'Rasmussen, Mrs. (Lena Jacobsen Solvang)', 'Murphy, Miss. Nora',
'Danbom, Master. Gilbert Sigvard Emanuel',
'Astor, Col. John Jacob', 'Quick, Miss. Winifred Vera',
'Andrew, Mr. Frank Thomas', 'Omont, Mr. Alfred Fernand',
'McGowan, Miss. Katherine', 'Collett, Mr. Sidney C Stuart',
'Rosenbaum, Miss. Edith Louise', 'Delalic, Mr. Redjo',
'Andersen, Mr. Albert Karvin', 'Finoli, Mr. Luigi',
'Deacon, Mr. Percy William',
'Howard, Mrs. Benjamin (Ellen Truelove Arman)',
'Andersson, Miss. Ida Augusta Margareta', 'Head, Mr. Christopher',
'Mahon, Miss. Bridget Delia', 'Wick, Mr. George Dennick',
'Widener, Mrs. George Dunton (Eleanor Elkins)',
'Thomson, Mr. Alexander Morrison',
'Duran y More, Miss. Florentina', 'Reynolds, Mr. Harold J',
'Cook, Mrs. (Selena Rogers)', 'Karlsson, Mr. Einar Gervasius',
'Candee, Mrs. Edward (Helen Churchill Hungerford)',
'Moubarek, Mrs. George (Omine Amenia" Alexander)"',
'Asplund, Mr. Johan Charles', 'McNeill, Miss. Bridget',
'Everett, Mr. Thomas James', 'Hocking, Mr. Samuel James Metcalfe',
'Sweet, Mr. George Frederick', 'Willard, Miss. Constance',
'Wiklund, Mr. Karl Johan', 'Linehan, Mr. Michael',
'Cumings, Mr. John Bradley', 'Vendel, Mr. Olof Edvin',
'Warren, Mr. Frank Manley', 'Baccos, Mr. Raffull',
'Hiltunen, Miss. Marta',
'Douglas, Mrs. Walter Donald (Mahala Dutton)',
'Lindstrom, Mrs. Carl Johan (Sigrid Posse)',
'Christy, Mrs. (Alice Frances)', 'Spedden, Mr. Frederic Oakley',
'Hyman, Mr. Abraham', 'Johnston, Master. William Arthur Willie""',
'Kenyon, Mr. Frederick R', 'Karnes, Mrs. J Frank (Claire Bennett)',
'Drew, Mr. James Vivian',
'Hold, Mrs. Stephen (Annie Margaret Hill)',
'Khalil, Mrs. Betros (Zahie Maria" Elias)"',
'West, Miss. Barbara J',
'Abrahamsson, Mr. Abraham August Johannes',
'Clark, Mr. Walter Miller', 'Salander, Mr. Karl Johan',
'Wenzel, Mr. Linhart', 'MacKay, Mr. George William',
'Mahon, Mr. John', 'Niklasson, Mr. Samuel',
'Bentham, Miss. Lilian W', 'Midtsjo, Mr. Karl Albert',
'de Messemaeker, Mr. Guillaume Joseph',
'Nilsson, Mr. August Ferdinand',
'Wells, Mrs. Arthur Henry (Addie" Dart Trevaskis)"',
'Klasen, Miss. Gertrud Emilia',
'Portaluppi, Mr. Emilio Ilario Giuseppe', 'Lyntakoff, Mr. Stanko',
'Chisholm, Mr. Roderick Robert Crispin',
'Warren, Mr. Charles William', 'Howard, Miss. May Elizabeth',
'Pokrnic, Mr. Mate', 'McCaffry, Mr. Thomas Francis',
'Fox, Mr. Patrick',
'Clark, Mrs. Walter Miller (Virginia McDowell)',
'Lennon, Miss. Mary', 'Saade, Mr. Jean Nassr',
'Bryhl, Miss. Dagmar Jenny Ingeborg ',
'Parker, Mr. Clifford Richard', 'Faunthorpe, Mr. Harry',
'Ware, Mr. John James', 'Oxenham, Mr. Percy Thomas',
'Oreskovic, Miss. Jelka', 'Peacock, Master. Alfred Edward',
'Fleming, Miss. Honora', 'Touma, Miss. Maria Youssef',
'Rosblom, Miss. Salli Helena', 'Dennis, Mr. William',
'Franklin, Mr. Charles (Charles Fardon)',
'Snyder, Mr. John Pillsbury', 'Mardirosian, Mr. Sarkis',

'Ford, Mr. Arthur', 'Rheims, Mr. George Alexander Lucien',
'Daly, Miss. Margaret Marcella Maggie""', 'Nasr, Mr. Mustafa',
'Dodge, Dr. Washington', 'Wittevrongel, Mr. Camille',
'Angheloff, Mr. Minko', 'Laroche, Miss. Louise',
'Samaan, Mr. Hanna', 'Loring, Mr. Joseph Holland',
'Johansson, Mr. Nils', 'Olsson, Mr. Oscar Wilhelm',
'Malachard, Mr. Noel', 'Phillips, Mr. Escott Robert',
'Pokrnic, Mr. Tome', 'McCarthy, Miss. Catherine Katie""',
'Crosby, Mrs. Edward Gifford (Catherine Elizabeth Halstead)',
'Allison, Mr. Hudson Joshua Creighton',
'Aks, Master. Philip Frank', 'Hays, Mr. Charles Melville',
'Hansen, Mrs. Claus Peter (Jennie L Howard)',
'Cacic, Mr. Jego Grga', 'Vartanian, Mr. David',
'Sadowitz, Mr. Harry', 'Carr, Miss. Jeannie',
'White, Mrs. John Stuart (Ella Holmes)', 'Hagardon, Miss. Kate',
'Spencer, Mr. William Augustus', 'Rogers, Mr. Reginald Harry',
'Jonsson, Mr. Nils Hilding', 'Jefferys, Mr. Ernest Wilfred',
'Andersson, Mr. Johan Samuel', 'Krekorian, Mr. Neshan',
'Nesson, Mr. Israel', 'Rowe, Mr. Alfred G',
'Kreuchen, Miss. Emilie', 'Assam, Mr. Ali',
'Becker, Miss. Ruth Elizabeth',
'Rosenshine, Mr. George (Mr George Thorne")"',
'Clarke, Mr. Charles Valentine', 'Enander, Mr. Ingvar',
'Davies, Mrs. John Morgan (Elizabeth Agnes Mary White) ',
'Dulles, Mr. William Crothers', 'Thomas, Mr. Tannous',
'Nakid, Mrs. Said (Waika Mary" Mowad)"', 'Cor, Mr. Ivan',
'Maguire, Mr. John Edward', 'de Brito, Mr. Jose Joaquim',
'Elias, Mr. Joseph', 'Denbury, Mr. Herbert',
'Betros, Master. Seman', 'Fillbrook, Mr. Joseph Charles',
'Lundstrom, Mr. Thure Edvin', 'Sage, Mr. John George',
'Cardeza, Mrs. James Warburton Martinez (Charlotte Wardle Drake)',
'van Billiard, Master. James William',
'Abelseth, Miss. Karen Marie', 'Botsford, Mr. William Hull',
'Whabee, Mrs. George Joseph (Shawneene Abi-Saab)',
'Giles, Mr. Ralph', 'Walcroft, Miss. Nellie',
'Greenfield, Mrs. Leo David (Blanche Strouse)',
'Stokes, Mr. Philip Joseph', 'Dibden, Mr. William',
'Herman, Mr. Samuel', 'Dean, Miss. Elizabeth Gladys Millvina""',
'Julian, Mr. Henry Forbes',
'Brown, Mrs. John Murray (Caroline Lane Lamson)',
'Lockyer, Mr. Edward', "O'Keefe, Mr. Patrick",
'Lindell, Mrs. Edvard Bengtsson (Elin Gerda Persson)',
'Sage, Master. William Henry',
'Mallet, Mrs. Albert (Antoinette Magnin)',
'Ware, Mrs. John James (Florence Louise Long)',
'Strilic, Mr. Ivan',
'Harder, Mrs. George Achilles (Dorothy Annan)',
'Sage, Mrs. John (Annie Bullen)', 'Caram, Mr. Joseph',
'Riihivouri, Miss. Susanna Juhantytar Sanni""',
'Gibson, Mrs. Leonard (Pauline C Boeson)',
'Pallas y Castello, Mr. Emilio', 'Giles, Mr. Edgar',
'Wilson, Miss. Helen Alice', 'Ismay, Mr. Joseph Bruce',
'Harbeck, Mr. William H', 'Dodge, Mrs. Washington (Ruth Vidaver)',
'Bowen, Miss. Grace Scott', 'Kink, Miss. Maria',
'Cotterill, Mr. Henry Harry""', 'Hipkins, Mr. William Edward',
'Asplund, Master. Carl Edgar', "O'Connor, Mr. Patrick",
'Foley, Mr. Joseph', 'Risien, Mrs. Samuel (Emma)',
"McNamee, Mrs. Neal (Eileen O'Leary)",
'Wheeler, Mr. Edwin Frederick""', 'Herman, Miss. Kate',
'Aronsson, Mr. Ernst Axel Algot', 'Ashby, Mr. John',

```
              'Canavan, Mr. Patrick', 'Palsson, Master. Paul Folke',
              'Payne, Mr. Vivian Ponsonby',
              'Lines, Mrs. Ernest H (Elizabeth Lindsey James)',
              'Abbott, Master. Eugene Joseph', 'Gilbert, Mr. William',
              'Kink-Heilmann, Mr. Anton',
              'Smith, Mrs. Lucien Philip (Mary Eloise Hughes)',
              'Colbert, Mr. Patrick',
              'Frolicher-Stehli, Mrs. Maxmillian (Margaretha Emerentia Stehli)',
              'Larsson-Rondberg, Mr. Edvard A', 'Conlon, Mr. Thomas Henry',
              'Bonnell, Miss. Caroline', 'Gale, Mr. Harry',
              'Gibson, Miss. Dorothy Winifred', 'Carrau, Mr. Jose Pedro',
              'Frauenthal, Mr. Isaac Gerald',
              'Nourney, Mr. Alfred (Baron von Drachstedt")"',
              'Ware, Mr. William Jeffery', 'Widener, Mr. George Dunton',
              'Riordan, Miss. Johanna Hannah""', 'Peacock, Miss. Treasteall',
              'Naughton, Miss. Hannah',
              'Minahan, Mrs. William Edward (Lillian E Thorpe)',
              'Henriksson, Miss. Jenny Lovisa', 'Spector, Mr. Woolf',
              'Oliva y Ocana, Dona. Fermina', 'Saether, Mr. Simon Sivertsen',
              'Ware, Mr. Frederick', 'Peter, Master. Michael J'], dtype=object)
```

In [51]: `### Cleaning the data`

In [53]: `data.isnull().sum()`

Out[53]:
```
PassengerId      0
Survived         0
Pclass           0
Name             0
Sex              0
Age             86
SibSp            0
Parch            0
Ticket           0
Fare             1
Cabin          327
Embarked         0
dtype: int64
```

In [59]: `Name = data.drop(['Survived','Age'],axis =1) ### To drop the selected column nam`

In [57]: `Name.head()`

Out[57]:

	PassengerId	Pclass	Name	Sex	SibSp	Parch	Ticket	Fare	Cabin	Emba
0	892	3	Kelly, Mr. James	male	0	0	330911	7.8292	NaN	
1	893	3	Wilkes, Mrs. James (Ellen Needs)	female	1	0	363272	7.0000	NaN	
2	894	2	Myles, Mr. Thomas Francis	male	0	0	240276	9.6875	NaN	
3	895	3	Wirz, Mr. Albert	male	0	0	315154	8.6625	NaN	
4	896	3	Hirvonen, Mrs. Alexander (Helga E Lindqvist)	female	1	1	3101298	12.2875	NaN	

In [4]:
```
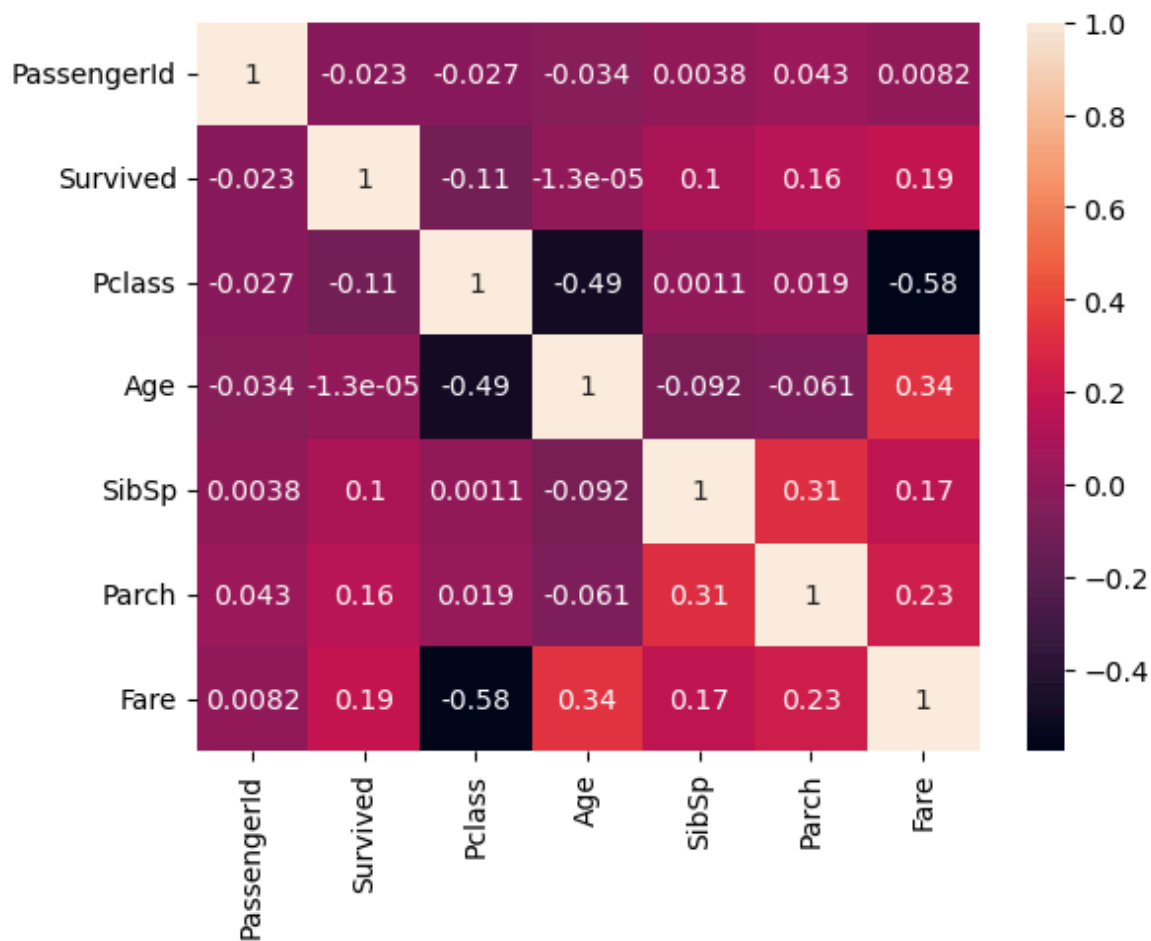### Relationship Analysis.
```

In [37]:
```
numeric_data = data.select_dtypes(include=['number'])
correlation = numeric_data.corr()
sns.heatmap( correlation, xticklabels=correlation.columns,yticklabels=correlatio
```

Out[37]: `<Axes: >`

```
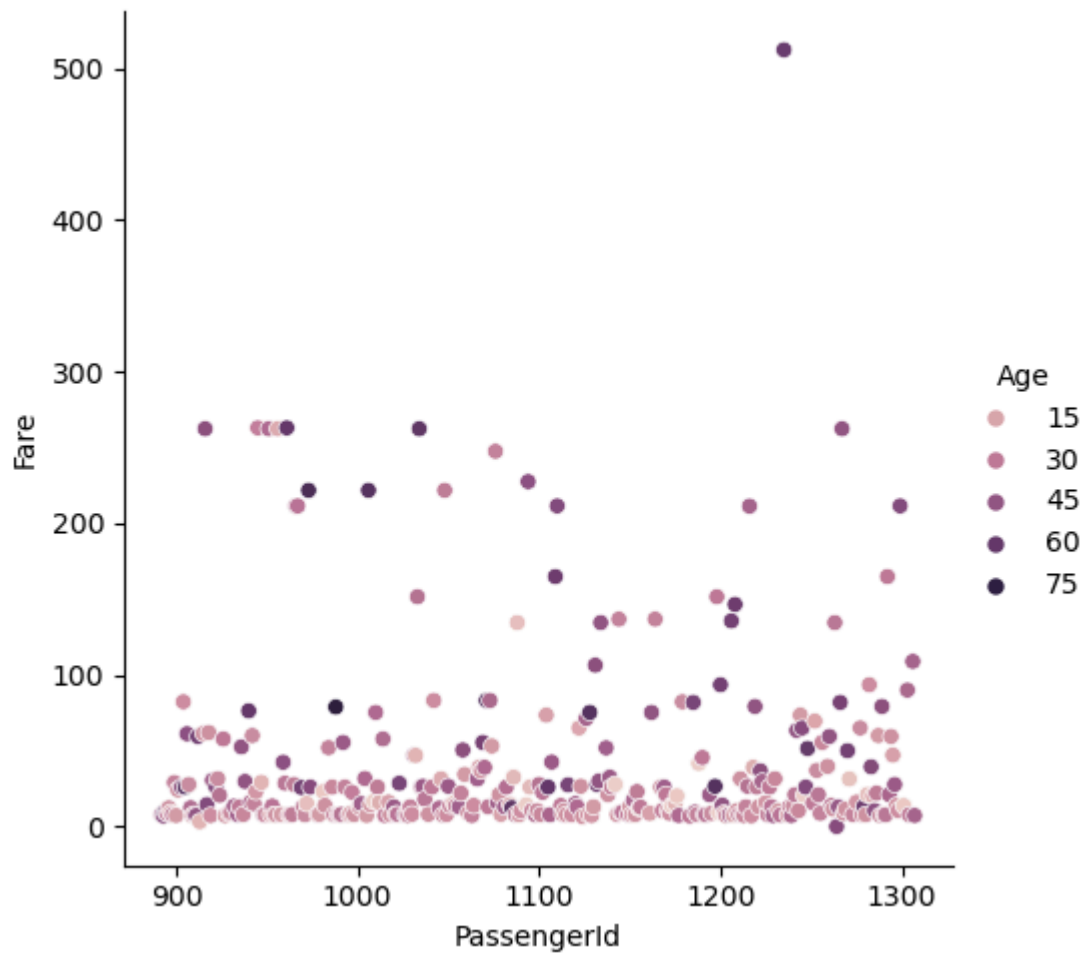In [40]: sns.pairplot(data)
```

Out[40]: <seaborn.axisgrid.PairGrid at 0x1585f30b860>

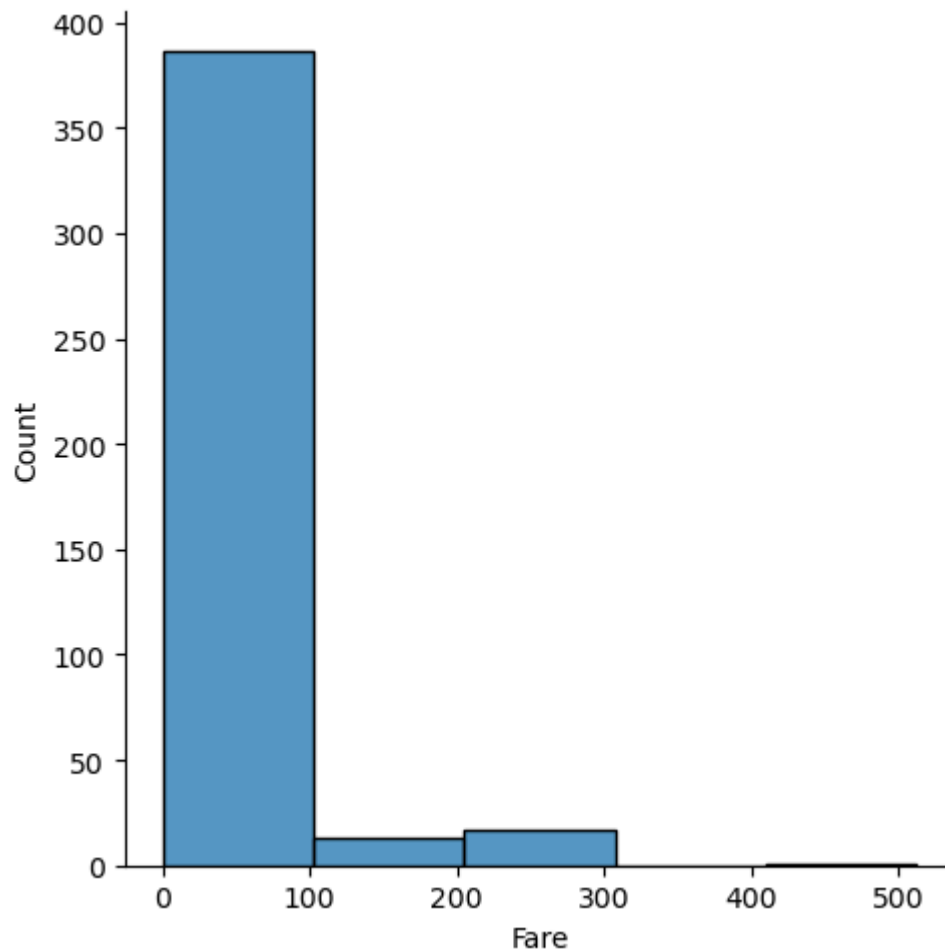```
In [60]: sns.relplot(x= "PassengerId", y= "Fare",hue= "Age",data = numeric_data)
```

Out[60]: <seaborn.axisgrid.FacetGrid at 0x15862c86ff0>

```
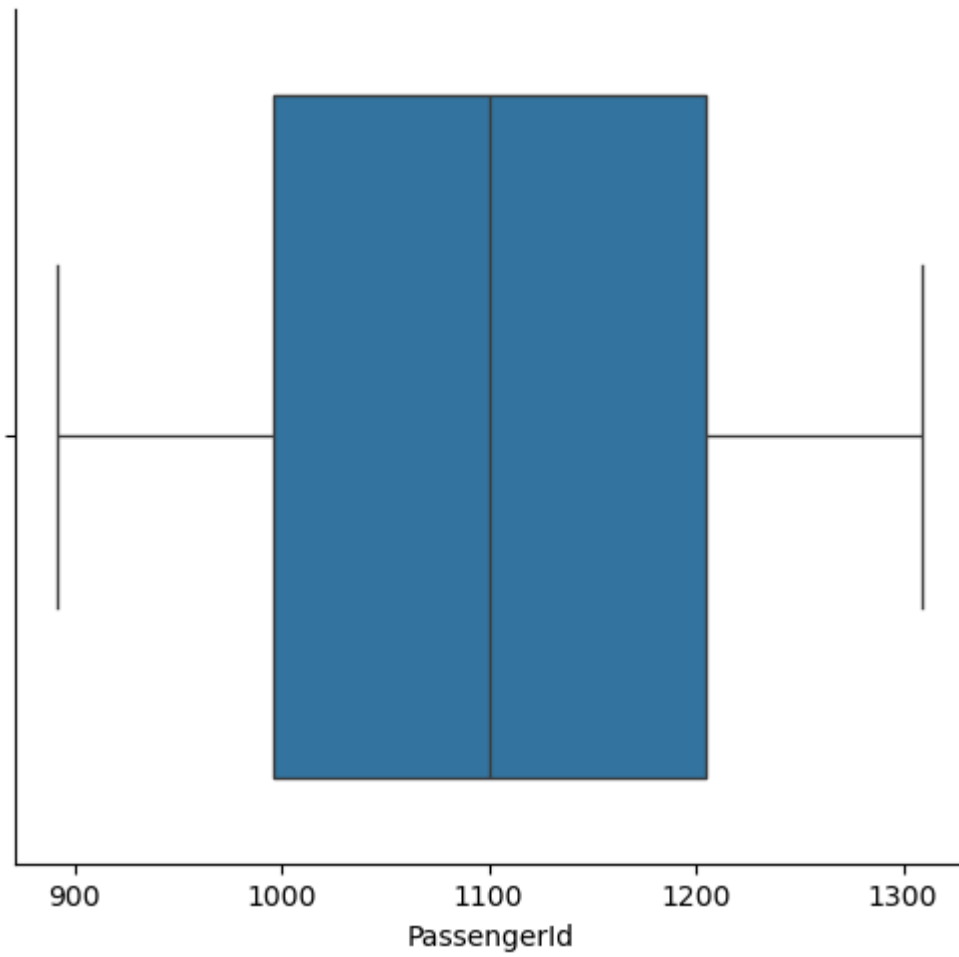In [70]:  sns.displot(numeric_data["Fare"],bins = 5)
```

Out[70]: <seaborn.axisgrid.FacetGrid at 0x158661e3110>

```
In [78]: sns.catplot(x = "PassengerId", kind = "box",data = numeric_data)
```

```
Out[78]: <seaborn.axisgrid.FacetGrid at 0x158661f7c80>
```

PassengerId

In [ ]: