

titanic_passengers analysis

January 11, 2023

1 Titanic Passengers Analysis

- **Project** : *Titanic Passengers Analysis*
- **Author** : *Ankur Satyarthi*
- **Programming Language** : *Julia*
- **Used Packages** : *DataFrames, CSV*
- **GitHub** : *Ankur Satyarthi*
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1.1 Overview

1.1.1 Question. 1 : How many passengers were in titanic ?

Answer : There were *1309* passengers of total.

```
[1]: using DataFrames, CSV, TypedTables, GLM, Plots, Makie
function download_titantic()
    url = "https://www.openml.org/data/get_csv/16826755/phpMYEkM1"
    return DataFrame(CSV.File(download(url); missingstring = "?"))
end
titanic = download_titantic()
```

[1]:

	pclass	survived	name	sex	age	
	Int64	Int64	String	String7	Float64?	
1	1	1	Allen, Miss. Elisabeth Walton	female	29.0	...
2	1	1	Allison, Master. Hudson Trevor	male	0.9167	...
3	1	0	Allison, Miss. Helen Loraine	female	2.0	...
4	1	0	Allison, Mr. Hudson Joshua Creighton	male	30.0	...
5	1	0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	25.0	...
6	1	1	Anderson, Mr. Harry	male	48.0	...
7	1	1	Andrews, Miss. Kornelia Theodosia	female	63.0	...
8	1	0	Andrews, Mr. Thomas Jr	male	39.0	...
9	1	1	Appleton, Mrs. Edward Dale (Charlotte Lamson)	female	53.0	...
10	1	0	Artagaveytia, Mr. Ramon	male	71.0	...
11	1	0	Astor, Col. John Jacob	male	47.0	...
12	1	1	Astor, Mrs. John Jacob (Madeleine Talmadge Force)	female	18.0	...
13	1	1	Aubart, Mme. Leontine Pauline	female	24.0	...
14	1	1	Barber, Miss. Ellen 'Nellie'	female	26.0	...
15	1	1	Barkworth, Mr. Algernon Henry Wilson	male	80.0	...
16	1	0	Baumann, Mr. John D	male	<i>missing</i>	...
17	1	0	Baxter, Mr. Quigg Edmond	male	24.0	...
18	1	1	Baxter, Mrs. James (Helene DeLaudeniére Chaput)	female	50.0	...
19	1	1	Bazzani, Miss. Albina	female	32.0	...
20	1	0	Beattie, Mr. Thomson	male	36.0	...
21	1	1	Beckwith, Mr. Richard Leonard	male	37.0	...
22	1	1	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	female	47.0	...
23	1	1	Behr, Mr. Karl Howell	male	26.0	...
24	1	1	Bidois, Miss. Rosalie	female	42.0	...
25	1	1	Bird, Miss. Ellen	female	29.0	...
26	1	0	Birnbaum, Mr. Jakob	male	25.0	...
27	1	1	Bishop, Mr. Dickinson H	male	25.0	...
28	1	1	Bishop, Mrs. Dickinson H (Helen Walton)	female	19.0	...
29	1	1	Bissette, Miss. Amelia	female	35.0	...
30	1	1	Bjornstrom-Steffansson, Mr. Mauritz Hakan	male	28.0	...
...

1.1.2 Question. 2 : Give me brief introduction about passengers ?

Answer : Brief introduction is given below:

[2]: `describe(titanic)`

[2]:

	variable	mean	min	median	max	
	Symbol	Union...	Any	Union...	Any	
1	pclass	2.29488	1	3.0	3	...
2	survived	0.381971	0	0.0	1	...
3	name	Abbing, Mr. Anthony van Melkebeke, Mr. Philemon				...
4	sex	female male				...
5	age	29.8811	0.1667	28.0	80.0	...
6	sibsp	0.498854	0	0.0	8	...
7	parch	0.385027	0	0.0	9	...
8	ticket	110152 WE/P 5735				...
9	fare	33.2955	0.0	14.4542	512.329	...
10	cabin	A10 T				...
11	embarked	C S				...
12	boat	1 D				...
13	body	160.81	1	155.0	328	...
14	home.dest	?Havana, Cuba Zurich, Switzerland				...

```
[3]: describe(titanic, extrema => :extrema)
```

	variable	extrema
	Symbol	Tuple...
1	pclass	(1, 3)
2	survived	(0, 1)
3	name	("Abbing, Mr. Anthony", "van Melkebeke, Mr. Philemon")
4	sex	(String7("female"), String7("male"))
5	age	(0.1667, 80.0)
6	sibsp	(0, 8)
7	parch	(0, 9)
8	ticket	(String31("110152"), String31("WE/P 5735"))
9	fare	(0.0, 512.329)
10	cabin	(String15("A10"), String15("T"))
11	embarked	(String1("C"), String1("S"))
12	boat	(String7("1"), String7("D"))
13	body	(1, 328)
14	home.dest	("?Havana, Cuba", "Zurich, Switzerland")

1.1.3 Question. 2 : How many male passengers were in titanic ?

Answer : There were *843* male passengers of total.

```
[4]: filter(:sex => ==("male"), titanic)
```

[4]:

	pclass	survived	name	sex	age	
	Int64	Int64	String	String7	Float64?	
1	1	1	Allison, Master. Hudson Trevor	male	0.9167	...
2	1	0	Allison, Mr. Hudson Joshua Creighton	male	30.0	...
3	1	1	Anderson, Mr. Harry	male	48.0	...
4	1	0	Andrews, Mr. Thomas Jr	male	39.0	...
5	1	0	Artagaveytia, Mr. Ramon	male	71.0	...
6	1	0	Astor, Col. John Jacob	male	47.0	...
7	1	1	Barkworth, Mr. Algernon Henry Wilson	male	80.0	...
8	1	0	Baumann, Mr. John D	male	<i>missing</i>	...
9	1	0	Baxter, Mr. Quigg Edmond	male	24.0	...
10	1	0	Beattie, Mr. Thomson	male	36.0	...
11	1	1	Beckwith, Mr. Richard Leonard	male	37.0	...
12	1	1	Behr, Mr. Karl Howell	male	26.0	...
13	1	0	Birnbaum, Mr. Jakob	male	25.0	...
14	1	1	Bishop, Mr. Dickinson H	male	25.0	...
15	1	1	Bjornstrom-Steffansson, Mr. Mauritz Hakan	male	28.0	...
16	1	0	Blackwell, Mr. Stephen Weart	male	45.0	...
17	1	1	Blank, Mr. Henry	male	40.0	...
18	1	0	Borebank, Mr. John James	male	42.0	...
19	1	1	Bradley, Mr. George ('George Arthur Brayton')	male	<i>missing</i>	...
20	1	0	Brady, Mr. John Bertram	male	41.0	...
21	1	0	Brandeis, Mr. Emil	male	48.0	...
22	1	0	Brewer, Dr. Arthur Jackson	male	<i>missing</i>	...
23	1	0	Butt, Major. Archibald Willingham	male	45.0	...
24	1	0	Cairns, Mr. Alexander	male	<i>missing</i>	...
25	1	1	Calderhead, Mr. Edward Pennington	male	42.0	...
26	1	1	Cardeza, Mr. Thomas Drake Martinez	male	36.0	...
27	1	0	Carlsson, Mr. Frans Olof	male	33.0	...
28	1	0	Carrau, Mr. Francisco M	male	28.0	...
29	1	0	Carrau, Mr. Jose Pedro	male	17.0	...
30	1	1	Carter, Master. William Thornton II	male	11.0	...
...

1.1.4 Question. 3 : How many female passengers were in titanic ?

Answer : There were *466* female passengers of total.

```
[5]: filter(:sex => ==("female"), titanic)
```

[5]:

	pclass	survived	name	
	Int64	Int64	String	
1	1	1	Allen, Miss. Elisabeth Walton	...
2	1	0	Allison, Miss. Helen Loraine	...
3	1	0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	...
4	1	1	Andrews, Miss. Kornelia Theodosia	...
5	1	1	Appleton, Mrs. Edward Dale (Charlotte Lamson)	...
6	1	1	Astor, Mrs. John Jacob (Madeleine Talmadge Force)	...
7	1	1	Aubart, Mme. Leontine Pauline	...
8	1	1	Barber, Miss. Ellen 'Nellie'	...
9	1	1	Baxter, Mrs. James (Helene DeLaudeniére Chaput)	...
10	1	1	Bazzani, Miss. Albina	...
11	1	1	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	...
12	1	1	Bidois, Miss. Rosalie	...
13	1	1	Bird, Miss. Ellen	...
14	1	1	Bishop, Mrs. Dickinson H (Helen Walton)	...
15	1	1	Bissette, Miss. Amelia	...
16	1	1	Bonnell, Miss. Caroline	...
17	1	1	Bonnell, Miss. Elizabeth	...
18	1	1	Bowen, Miss. Grace Scott	...
19	1	1	Bowerman, Miss. Elsie Edith	...
20	1	1	Brown, Mrs. James Joseph (Margaret Tobin)	...
21	1	1	Brown, Mrs. John Murray (Caroline Lane Lamson)	...
22	1	1	Bucknell, Mrs. William Robert (Emma Eliza Ward)	...
23	1	1	Burns, Miss. Elizabeth Margaret	...
24	1	1	Candee, Mrs. Edward (Helen Churchill Hungerford)	...
25	1	1	Cardeza, Mrs. James Warburton Martinez (Charlotte Wardle Drake)	...
26	1	1	Carter, Miss. Lucile Polk	...
27	1	1	Carter, Mrs. William Ernest (Lucile Polk)	...
28	1	1	Cassebeer, Mrs. Henry Arthur Jr (Eleanor Genevieve Fosdick)	...
29	1	1	Cavendish, Mrs. Tyrell William (Julia Florence Siegel)	...
30	1	1	Chaffee, Mrs. Herbert Fuller (Carrie Constance Toogood)	...
...

1.1.5 Question. 4 : Who were the first passenger age of 30 in passengers list male or female, and survived or not?

Answer : *Male and he didn't survived.*

```
[6]: titanic[findfirst==(30), titanic.age), :]
```

	pclass	survived	name	sex	age	sibsp	
	Int64	Int64	String	String7	Float64?	Int64	
4	1	0	Allison, Mr. Hudson Joshua Creighton	male	30.0	1	...

1.1.6 Question. 5 : How many first class passengers were travelling ?

Answer : There were total of 323 passengers.

```
[7]: titanic[findall==(1), titanic.pclass), :]
```

[7]:

	pclass	survived	name	sex	age	
	Int64	Int64	String	String7	Float64?	
1	1	1	Allen, Miss. Elisabeth Walton	female	29.0	...
2	1	1	Allison, Master. Hudson Trevor	male	0.9167	...
3	1	0	Allison, Miss. Helen Loraine	female	2.0	...
4	1	0	Allison, Mr. Hudson Joshua Creighton	male	30.0	...
5	1	0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	25.0	...
6	1	1	Anderson, Mr. Harry	male	48.0	...
7	1	1	Andrews, Miss. Kornelia Theodosia	female	63.0	...
8	1	0	Andrews, Mr. Thomas Jr	male	39.0	...
9	1	1	Appleton, Mrs. Edward Dale (Charlotte Lamson)	female	53.0	...
10	1	0	Artagaveytia, Mr. Ramon	male	71.0	...
11	1	0	Astor, Col. John Jacob	male	47.0	...
12	1	1	Astor, Mrs. John Jacob (Madeleine Talmadge Force)	female	18.0	...
13	1	1	Aubart, Mme. Leontine Pauline	female	24.0	...
14	1	1	Barber, Miss. Ellen 'Nellie'	female	26.0	...
15	1	1	Barkworth, Mr. Algernon Henry Wilson	male	80.0	...
16	1	0	Baumann, Mr. John D	male	<i>missing</i>	...
17	1	0	Baxter, Mr. Quigg Edmond	male	24.0	...
18	1	1	Baxter, Mrs. James (Helene DeLaudeniére Chaput)	female	50.0	...
19	1	1	Bazzani, Miss. Albina	female	32.0	...
20	1	0	Beattie, Mr. Thomson	male	36.0	...
21	1	1	Beckwith, Mr. Richard Leonard	male	37.0	...
22	1	1	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	female	47.0	...
23	1	1	Behr, Mr. Karl Howell	male	26.0	...
24	1	1	Bidois, Miss. Rosalie	female	42.0	...
25	1	1	Bird, Miss. Ellen	female	29.0	...
26	1	0	Birnbaum, Mr. Jakob	male	25.0	...
27	1	1	Bishop, Mr. Dickinson H	male	25.0	...
28	1	1	Bishop, Mrs. Dickinson H (Helen Walton)	female	19.0	...
29	1	1	Bissette, Miss. Amelia	female	35.0	...
30	1	1	Bjornstrom-Steffansson, Mr. Mauritz Hakan	male	28.0	...
...

1.1.7 Question. 6 : How many second class passengers were travelling ?

Answer : There were total of 277 passengers.

[8]: `titanic[findall==(2), titanic.pclass), :]`

[8]:

	pclass	survived	name	
	Int64	Int64	String	
1	2	0	Abelson, Mr. Samuel	...
2	2	1	Abelson, Mrs. Samuel (Hannah Witosky)	...
3	2	0	Aldworth, Mr. Charles Augustus	...
4	2	0	Andrew, Mr. Edgardo Samuel	...
5	2	0	Andrew, Mr. Frank Thomas	...
6	2	0	Angle, Mr. William A	...
7	2	1	Angle, Mrs. William A (Florence 'Mary' Agnes Hughes)	...
8	2	0	Ashby, Mr. John	...
9	2	0	Bailey, Mr. Percy Andrew	...
10	2	0	Baimbrigge, Mr. Charles Robert	...
11	2	1	Ball, Mrs. (Ada E Hall)	...
12	2	0	Banfield, Mr. Frederick James	...
13	2	0	Bateman, Rev. Robert James	...
14	2	1	Beane, Mr. Edward	...
15	2	1	Beane, Mrs. Edward (Ethel Clarke)	...
16	2	0	Beauchamp, Mr. Henry James	...
17	2	1	Becker, Master. Richard F	...
18	2	1	Becker, Miss. Marion Louise	...
19	2	1	Becker, Miss. Ruth Elizabeth	...
20	2	1	Becker, Mrs. Allen Oliver (Nellie E Baumgardner)	...
21	2	1	Beesley, Mr. Lawrence	...
22	2	1	Bentham, Miss. Lilian W	...
23	2	0	Berriman, Mr. William John	...
24	2	0	Botsford, Mr. William Hull	...
25	2	0	Bowenur, Mr. Solomon	...
26	2	0	Bracken, Mr. James H	...
27	2	1	Brown, Miss. Amelia 'Mildred'	...
28	2	1	Brown, Miss. Edith Eileen	...
29	2	0	Brown, Mr. Thomas William Solomon	...
30	2	1	Brown, Mrs. Thomas William Solomon (Elizabeth Catherine Ford)	...
...

1.1.8 Question. 7 : How many third class passengers were travelling ?

Answer : There were total of 709 passengers.

```
[9]: titanic[findall(==(3), titanic.pclass), :]
```

[9]:

	pclass	survived	name	sex	age	
	Int64	Int64	String	String7	Float64?	
1	3	0	Abbing, Mr. Anthony	male	42.0	...
2	3	0	Abbott, Master. Eugene Joseph	male	13.0	...
3	3	0	Abbott, Mr. Rossmore Edward	male	16.0	...
4	3	1	Abbott, Mrs. Stanton (Rosa Hunt)	female	35.0	...
5	3	1	Abelseth, Miss. Karen Marie	female	16.0	...
6	3	1	Abelseth, Mr. Olaus Jorgensen	male	25.0	...
7	3	1	Abrahamsson, Mr. Abraham August Johannes	male	20.0	...
8	3	1	Abraham, Mrs. Joseph (Sophie Halaut Easu)	female	18.0	...
9	3	0	Adahl, Mr. Mauritz Nils Martin	male	30.0	...
10	3	0	Adams, Mr. John	male	26.0	...
11	3	0	Ahlin, Mrs. Johan (Johanna Persdotter Larsson)	female	40.0	...
12	3	1	Aks, Master. Philip Frank	male	0.8333	...
13	3	1	Aks, Mrs. Sam (Leah Rosen)	female	18.0	...
14	3	1	Albimona, Mr. Nassef Cassem	male	26.0	...
15	3	0	Alexander, Mr. William	male	26.0	...
16	3	0	Alhomaki, Mr. Ilmari Rudolf	male	20.0	...
17	3	0	Ali, Mr. Ahmed	male	24.0	...
18	3	0	Ali, Mr. William	male	25.0	...
19	3	0	Allen, Mr. William Henry	male	35.0	...
20	3	0	Allum, Mr. Owen George	male	18.0	...
21	3	0	Andersen, Mr. Albert Karvin	male	32.0	...
22	3	1	Andersen-Jensen, Miss. Carla Christine Nielsine	female	19.0	...
23	3	0	Andersson, Master. Sigvard Harald Elias	male	4.0	...
24	3	0	Andersson, Miss. Ebba Iris Alfrida	female	6.0	...
25	3	0	Andersson, Miss. Ellis Anna Maria	female	2.0	...
26	3	1	Andersson, Miss. Erna Alexandra	female	17.0	...
27	3	0	Andersson, Miss. Ida Augusta Margareta	female	38.0	...
28	3	0	Andersson, Miss. Ingeborg Constanzia	female	9.0	...
29	3	0	Andersson, Miss. Sigrid Elisabeth	female	11.0	...
30	3	0	Andersson, Mr. Anders Johan	male	39.0	...
...

1.1.9 Question. 8 : How many passengers gave their age and gender details ?

Answer : There were total of *1046* passengers who didn't gave their age and gender details properly.

```
[10]: dropmissing(titanic, [:age, :sex])
```

```
[10]:
```


	pclass	survived	name	sex	age	
	Int64	Int64	String	String7	Float64	
1	1	1	Allen, Miss. Elisabeth Walton	female	29.0	...
2	1	1	Allison, Master. Hudson Trevor	male	0.9167	...
3	1	0	Allison, Miss. Helen Loraine	female	2.0	...
4	1	0	Allison, Mr. Hudson Joshua Creighton	male	30.0	...
5	1	0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	25.0	...
6	1	1	Anderson, Mr. Harry	male	48.0	...
7	1	1	Andrews, Miss. Kornelia Theodosia	female	63.0	...
8	1	0	Andrews, Mr. Thomas Jr	male	39.0	...
9	1	1	Appleton, Mrs. Edward Dale (Charlotte Lamson)	female	53.0	...
10	1	0	Artagaveytia, Mr. Ramon	male	71.0	...
11	1	0	Astor, Col. John Jacob	male	47.0	...
12	1	1	Astor, Mrs. John Jacob (Madeleine Talmadge Force)	female	18.0	...
13	1	1	Aubart, Mme. Leontine Pauline	female	24.0	...
14	1	1	Barber, Miss. Ellen 'Nellie'	female	26.0	...
15	1	1	Barkworth, Mr. Algernon Henry Wilson	male	80.0	...
16	1	0	Baxter, Mr. Quigg Edmond	male	24.0	...
17	1	1	Baxter, Mrs. James (Helene DeLaudeniere Chaput)	female	50.0	...
18	1	1	Bazzani, Miss. Albina	female	32.0	...
19	1	0	Beattie, Mr. Thomson	male	36.0	...
20	1	1	Beckwith, Mr. Richard Leonard	male	37.0	...
21	1	1	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	female	47.0	...
22	1	1	Behr, Mr. Karl Howell	male	26.0	...
23	1	1	Bidois, Miss. Rosalie	female	42.0	...
24	1	1	Bird, Miss. Ellen	female	29.0	...
25	1	0	Birnbaum, Mr. Jakob	male	25.0	...
26	1	1	Bishop, Mr. Dickinson H	male	25.0	...
27	1	1	Bishop, Mrs. Dickinson H (Helen Walton)	female	19.0	...
28	1	1	Bissette, Miss. Amelia	female	35.0	...
29	1	1	Bjornstrom-Steffansson, Mr. Mauritz Hakan	male	28.0	...
30	1	0	Blackwell, Mr. Stephen Weart	male	45.0	...
...

1.1.10 Question. 8 : How many passengers didn't gave their age and gender details ?

Answer : There were total of 263 passengers who didn't gave their age and gender details properly.

1.1.11 Question. 10 : What kind of data do we have about passengers ?

Answer : We have various types of data about passengers such as:

```
|-----|
|1.  *pclass(Passenger Class)*          |
|2.  *survived(Passengers who has survived and who has not)*          |
|3.  *name(Passenger names)*            |
|4.  *sex(Passenger's Gender)*          |
```

```
|5.  *age( Passenger's Age)*           |
|6.  *sibsp*                           |
|7.  *parch*                           |
|8.  *ticket( Passenger's Ticket)*     |
|9.  *fare( Passenger's ticket price)* |
|10. *cabin( Passenger's Cabin Number)* |
|11. *embarked*                        |
|12. *boat*                           |
|13. *body*                           |
|14. *home.dest( Passengers destination)* |
|-----|
```

```
[11]: names(titanic)
```

```
[11]: 14-element Vector{String}:
```

```
"pclass"
"survived"
"name"
"sex"
"age"
"sibsp"
"parch"
"ticket"
"fare"
"cabin"
"embarked"
"boat"
"body"
"home.dest"
```

1.2 Follow *Ankur Satyarthi* for more updates

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