

```
> library(tidyr)
> #4 titanic data file
> passengers <- read.csv("G:/My Drive/Personal/Grad Program/CSC 587 - Adv Data Mining/Scripts/datamining-main/Rscripts/data/titanic.csv")
> #4.(a)
```

```
> passengers %>% drop_na() %>% summary() #This operation removes any rows that have missing values and then creates
a summary for each column of the newly filtered data
```

X	PassengerId	Survived	Pclass	Name	Sex	Age
Min. : 0.0	Min. : 1.0	Min. :0.0000	Length:714	Length:714	Length:714	Min. : 0.42
1st Qu.:221.2	1st Qu.:222.2	1st Qu.:0.0000	Class :character	Class :character	Class :character	1st Qu.:20.12
Median :444.0	Median :445.0	Median :0.0000	Mode :character	Mode :character	Mode :character	Median :28.00
Mean :447.6	Mean :448.6	Mean :0.4062				Mean :29.70
3rd Qu.:676.8	3rd Qu.:677.8	3rd Qu.:1.0000				3rd Qu.:38.00
Max. :890.0	Max. :891.0	Max. :1.0000				Max. :80.00

  

SibSp	Parch	Ticket	Fare	Cabin	Embarked
Min. :0.0000	Min. :0.0000	Length:714	Min. : 0.00	Length:714	Length:714
1st Qu.:0.0000	1st Qu.:0.0000	Class :character	1st Qu.: 8.05	Class :character	Class :character
Median :0.0000	Median :0.0000	Mode :character	Median : 15.74	Mode :character	Mode :character
Mean :0.5126	Mean :0.4314		Mean : 34.69		
3rd Qu.:1.0000	3rd Qu.:1.0000		3rd Qu.: 33.38		
Max. :5.0000	Max. :6.0000		Max. :512.33		

```
> #4.(b)
```

```
> passengers %>% filter(Sex == "male") #This operation filters the passengers to show only the male passengers
```

X	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	
1	0	1	0	3	Braund, Mr. Owen Harris	male	22.00	1	0	A/5 21171	7.2500	
2	4	5	0	3	Allen, Mr. William Henry	male	35.00	0	0	373450	8.0500	
3	5	6	0	3	Moran, Mr. James	male	NA	0	0	330877	8.4583	
4	6	7	0	1	McCarthy, Mr. Timothy J	male	54.00	0	0	17463	51.8625	E46
5	7	8	0	3	Palsson, Master. Gosta Leonard	male	2.00	3	1	349909	21.0750	
6	12	13	0	3	Saunderscock, Mr. William Henry	male	20.00	0	0	A/5. 2151	8.0500	
7	13	14	0	3	Andersson, Mr. Anders Johan	male	39.00	1	5	347082	31.2750	
8	16	17	0	3	Rice, Master. Eugene	male	2.00	4	1	382652	29.1250	
9	17	18	1	2	Williams, Mr. Charles Eugene	male	NA	0	0	244373	13.0000	
10	20	21	0	2	Fynney, Mr. Joseph J	male	35.00	0	0	239865	26.0000	
11	21	22	1	2	Beesley, Mr. Lawrence	male	34.00	0	0	248698	13.0000	D56
12	23	24	1	1	Sloper, Mr. William Thompson	male	28.00	0	0	113788	35.5000	A6
13	26	27	0	3	Emir, Mr. Farred Chehab	male	NA	0	0	2631	7.2250	
14	27	28	0	1	Fortune, Mr. Charles Alexander	male	19.00	3	2	19950	263.0000	C23 C25 C27
15	29	30	0	3	Todoroff, Mr. Lalio	male	NA	0	0	349216	7.8958	
16	30	31	0	1	Uruchurtu, Don. Manuel E	male	40.00	0	0	PC 17601	27.7208	
17	33	34	0	2	Wheadon, Mr. Edward H	male	66.00	0	0	C.A. 24579	10.5000	
18	34	35	0	1	Meyer, Mr. Edgar Joseph	male	28.00	1	0	PC 17604	82.1708	
19	35	36	0	1	Holverson, Mr. Alexander Oskar	male	42.00	1	0	113789	52.0000	
20	36	37	1	3	Mamee, Mr. Hanna	male	NA	0	0	2677	7.2292	
21	37	38	0	?	Cann, Mr. Ernest Charles	male	21.00	0	0	A./5. 2152	8.0500	
22	42	43	0	3	Kraeff, Mr. Theodor	male	NA	0	0	349253	7.8958	
23	45	46	0	3	Rogers, Mr. William John	male	NA	0	0	S.C./A.4. 23567	8.0500	
24	46	47	0	3	Lennon, Mr. Denis	male	NA	1	0	370371	15.5000	

25	48	49	0	3	Samaan, Mr. Youssef male	NA	2	0	2662	21.6792	
26	50	51	0	3	Panula, Master. Juha Niilo male	7.00	4	1	3101295	39.6875	
27	51	52	0	3	Nosworthy, Mr. Richard Cater male	21.00	0	0	A/4. 39886	7.8000	
28	54	55	0	1	Ostby, Mr. Engelhart Cornelius male	65.00	0	1	113509	61.9792	B30
29	55	56	1	1	Woolner, Mr. Hugh male	NA	0	0	19947	35.5000	C52
30	57	58	0	3	Novel, Mr. Mansouer male	28.50	0	0	2697	7.2292	
31	59	60	0	3	Goodwin, Master. William Frederick male	11.00	5	2	CA 2144	46.9000	
32	60	61	0	3	Sirayanian, Mr. Orsen male	22.00	0	0	2669	7.2292	
33	62	63	0	1	Harris, Mr. Henry Birkhardt male	45.00	1	0	36973	83.4750	C83
34	63	64	0	3	Skoog, Master. Harald male	4.00	3	2	347088	27.9000	
35	64	65	0	1	Stewart, Mr. Albert A male	NA	0	0	PC 17605	27.7208	
36	65	66	1	3	Moubarek, Master. Gerios male	NA	1	1	2661	15.2458	
37	67	68	0	3	Crease, Mr. Ernest James male	19.00	0	0	S.P. 3464	8.1583	
38	69	70	0	3	Kink, Mr. Vincenz male	26.00	2	0	315151	8.6625	
39	70	71	0	2	Jenkin, Mr. Stephen Curnow male	32.00	0	0	C.A. 33111	10.5000	
40	72	73	0	2	Hood, Mr. Ambrose Jr male	21.00	0	0	S.O.C. 14879	73.5000	
41	73	74	0	3	Chronopoulos, Mr. Apostolos male	26.00	1	0	2680	14.4542	
42	74	75	1	3	Bing, Mr. Lee male	32.00	0	0	1601	56.4958	
43	75	76	0	3	Moen, Mr. Sigurd Hansen male	25.00	0	0	348123	7.6500	F G73
44	76	77	0	3	Staneff, Mr. Ivan male	NA	0	0	349208	7.8958	
45	77	78	0	3	Moutal, Mr. Rahamin Haim male	NA	0	0	374746	8.0500	
46	78	79	1	2	Caldwell, Master. Alden Gates male	0.83	0	2	248738	29.0000	
47	80	81	0	?	Waelens, Mr. Achille male	22.00	0	0	345767	9.0000	
48	81	82	1	3	Sheerlinck, Mr. Jan Baptist male	29.00	0	0	345779	9.5000	
49	83	84	0	1	Carrau, Mr. Francisco M male	28.00	0	0	113059	47.1000	
50	86	87	0	3	Ford, Mr. William Neal male	16.00	1	3	W./C. 6608	34.3750	
51	87	88	0	3	Slocovski, Mr. Selman Francis male	NA	0	0	SOTON/OQ 392086	8.0500	
52	89	90	0	3	Celotti, Mr. Francesco male	24.00	0	0	343275	8.0500	
53	90	91	0	3	Christmann, Mr. Emil male	29.00	0	0	343276	8.0500	
54	91	92	0	3	Andreasson, Mr. Paul Edvin male	20.00	0	0	347466	7.8542	
55	92	93	0	1	Chaffee, Mr. Herbert Fuller male	46.00	1	0	W.E.P. 5734	61.1750	E31
56	93	94	0	3	Dean, Mr. Bertram Frank male	26.00	1	2	C.A. 2315	20.5750	
57	94	95	0	3	Coxon, Mr. Daniel male	59.00	0	0	364500	7.2500	
58	95	96	0	3	Shorney, Mr. Charles Joseph male	NA	0	0	374910	8.0500	
59	96	97	0	1	Goldschmidt, Mr. George B male	71.00	0	0	PC 17754	34.6542	A5
60	97	98	1	1	Greenfield, Mr. William Bertram male	23.00	0	1	PC 17759	63.3583	D10 D12
61	99	100	0	2	Kantor, Mr. Sinai male	34.00	1	0	244367	26.0000	
62	101	102	0	3	Petroff, Mr. Pastcho ("Pentcho") male	NA	0	0	349215	7.8958	
63	102	103	0	1	White, Mr. Richard Frasar male	21.00	0	1	35281	77.2875	D26
64	103	104	0	3	Johansson, Mr. Gustaf Joel male	33.00	0	0	7540	8.6542	
65	104	105	0	3	Gustafsson, Mr. Anders Vilhelm male	37.00	2	0	3101276	7.9250	
66	105	106	0	3	Mionoff, Mr. Stoytcho male	28.00	0	0	349207	7.8958	
67	107	108	1	3	Moss, Mr. Albert Johan male	NA	0	0	312991	7.7750	
68	108	109	0	3	Rekic, Mr. Tido male	38.00	0	0	349249	7.8958	
69	110	111	0	1	Porter, Mr. Walter Chamberlain male	47.00	0	0	110465	52.0000	C110
70	112	113	0	3	Barton, Mr. David John male	22.00	0	0	324669	8.0500	
71	115	116	0	3	Pekoniemi, Mr. Edvard male	21.00	0	0	STON/O 2. 3101294	7.9250	

72	116	117	0	3	Connors, Mr. Patrick male 70.50	0	0	370369	7.7500	
73	117	118	0	2	Turpin, Mr. William John Robert male 29.00	1	0	11668	21.0000	
74	118	119	0	1	Baxter, Mr. Quigg Edmond male 24.00	0	1	PC 17558	247.5208	B58 B60
75	120	121	0	2	Hickman, Mr. Stanley George male 21.00	2	0	S.O.C. 14879	73.5000	
76	121	122	0	3	Moore, Mr. Leonard Charles male NA	0	0	A4. 54510	8.0500	

Embarked

1	S
2	S
3	Q
4	S
5	S
6	S
7	S
8	Q
9	S
10	S
11	S
12	S
13	C
14	S
15	S
16	C
17	S
18	C
19	S
20	C
21	S
22	C
23	S
24	Q
25	C
26	S
27	S
28	C
29	S
30	C
31	S
32	C
33	S
34	S
35	C
36	C
37	S
38	S
39	S
40	S
41	C

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42      S
43      S
44      S
45      S
46      S
47      S
48      S
49      S
50      S
51      S
52      S
53      S
54      S
55      S
56      S
57      S
58      S
59      C
60      C
61      S
62      S
63      S
64      S
65      S
66      S
67      S
68      S
69      S
70      S
71      S
72      Q
73      S
74      C
75      S
76      S

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[ reached 'max' / getOption("max.print") -- omitted 501 rows ]
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> #4.(c)
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```
> passengers %>% arrange(desc(Fare)) #This operation arranges the passengers by the Fare amount in descending order (largest to smallest)
```

	X	PassengerId	Survived	Pclass	Name	Sex	Age
1	258	259	1	1	Ward, Miss. Anna	female	35.00
2	679	680	1	1	Cardeza, Mr. Thomas Drake Martinez	male	36.00
3	737	738	1	1	Lesurer, Mr. Gustave J	male	35.00
4	27	28	0	1	Fortune, Mr. Charles Alexander	male	19.00
5	88	89	1	1	Fortune, Miss. Mabel Helen	female	23.00
6	341	342	1	1	Fortune, Miss. Alice Elizabeth	female	24.00
7	438	439	0	1	Fortune, Mr. Mark	male	64.00
8	311	312	1	1	Ryerson, Miss. Emily Borie	female	18.00

9	742	743	1	1	Ryerson, Miss. Susan Parker "Suzette" female 21.00
10	118	119	0	1	Baxter, Mr. Quigg Edmond male 24.00
11	299	300	1	1	Baxter, Mrs. James (Helene DeLaudeniére Chaput) female 50.00
12	380	381	1	?	Bidois, Miss. Rosalie female 42.00
13	557	558	0	1	Robbins, Mr. Victor male NA
14	700	701	1	1	Astor, Mrs. John Jacob (Madeleine Talmadge Force) female 18.00
15	716	717	1	1	Endres, Miss. Caroline Louise female 38.00
16	527	528	0	1	Farthing, Mr. John male NA
17	377	378	0	1	Widener, Mr. Harry Elkins male 27.00
18	689	690	1	1	Madill, Miss. Georgette Alexandra female 15.00
19	730	731	1	?	Allen, Miss. Elisabeth Walton female 29.00
20	779	780	1	1	Robert, Mrs. Edward Scott (Elisabeth Walton McMillan) female 43.00
21	318	319	1	1	Wick, Miss. Mary Natalie female 31.00
22	856	857	1	1	Wick, Mrs. George Dennick (Mary Hitchcock) female 45.00
23	268	269	1	1	Graham, Mrs. William Thompson (Edith Junkins) female 58.00
24	332	333	0	1	Graham, Mr. George Edward male 38.00
25	609	610	1	1	Shutes, Miss. Elizabeth W female 40.00
26	297	298	0	1	Allison, Miss. Helen Loraine female 2.00
27	305	306	1	1	Allison, Master. Hudson Trevor male 0.92
28	498	499	0	1	Allison, Mrs. Hudson J C (Bessie Waldo Daniels) female 25.00
29	708	709	1	1	Cleaver, Miss. Alice female 22.00
30	31	32	1	1	Spencer, Mrs. William Augustus (Marie Eugénie) female NA
31	195	196	1	1	Lurette, Miss. Elise female 58.00
32	269	270	1	1	Bissette, Miss. Amelia female 35.00
33	325	326	1	1	Young, Miss. Marie Grice female 36.00
34	373	374	0	1	Ringhini, Mr. Sante male 22.00
35	319	320	1	1	Spedden, Mrs. Frederic Oakley (Margaretta Corning Stone) female 40.00
36	337	338	1	1	Burns, Miss. Elizabeth Margaret female 41.00
37	334	335	1	1	Frauenthal, Mrs. Henry William (Clara Heinsheimer) female NA
38	660	661	1	1	Frauenthal, Dr. Henry William male 50.00
39	390	391	1	?	Carter, Mr. William Ernest male 36.00
40	435	436	1	1	Carter, Miss. Lucile Polk female 14.00
41	763	764	1	1	Carter, Mrs. William Ernest (Lucile Polk) female 36.00
42	802	803	1	1	Carter, Master. William Thornton II male 11.00
43	215	216	1	1	Newell, Miss. Madeleine female 31.00
44	393	394	1	1	Newell, Miss. Marjorie female 23.00
45	659	660	0	1	Newell, Mr. Arthur Webster male 58.00
46	306	307	1	1	Fleming, Miss. Margaret female NA
47	550	551	1	1	Thayer, Mr. John Borland Jr male 17.00
48	581	582	1	1	Thayer, Mrs. John Borland (Marian Longstreth Morris) female 39.00
49	698	699	0	1	Thayer, Mr. John Borland male 49.00
50	307	308	1	1	Penasco y Castellana, Mrs. Victor de Satode (Maria Josefa Perez de Soto y Vallejo) female 17.00
51	505	506	0	1	Penasco y Castellana, Mr. Victor de Satode male 18.00
52	537	538	1	1	LeRoy, Miss. Bertha female 30.00
53	544	545	0	1	Douglas, Mr. Walter Donald male 50.00
54	520	521	1	1	Perreault, Miss. Anne female 30.00
55	820	821	1	1	Hays, Mrs. Charles Melville (Clara Jennings Gregg) female 52.00

56	291	292	1	1	Bishop, Mrs. Dickinson H (Helen Walton)	female	19.00
57	484	485	1	1	Bishop, Mr. Dickinson H	male	25.00
58	224	225	1	1	Hoyt, Mr. Frederick Maxfield	male	38.00
59	245	246	0	1	Minahan, Dr. William Edward	male	44.00
60	412	413	1	?	Minahan, Miss. Daisy E	female	33.00
61	486	487	1	1	Hoyt, Mrs. Frederick Maxfield (Jane Anne Forby)	female	35.00
62	453	454	1	1	Goldenberg, Mr. Samuel L	male	49.00
63	849	850	1	1	Goldenberg, Mrs. Samuel L (Edwiga Grabowska)	female	NA
64	257	258	1	1	Cherry, Miss. Gladys	female	30.00
65	504	505	1	1	Maioni, Miss. Roberta	female	16.00
66	759	760	1	?	Roths, the Countess. of (Lucy Noel Martha Dyer-Edwards)	female	33.00
67	62	63	0	1	Harris, Mr. Henry Birkhardt	male	45.00
68	230	231	1	1	Harris, Mrs. Henry Birkhardt (Irene Wallach)	female	35.00
69	310	311	1	1	Hays, Miss. Margaret Bechstein	female	24.00
70	835	836	1	1	Compton, Miss. Sara Rebecca	female	39.00
71	879	880	1	1	Potter, Mrs. Thomas Jr (Lily Alexenia Wilson)	female	56.00
72	34	35	0	1	Meyer, Mr. Edgar Joseph	male	28.00
73	375	376	1	1	Meyer, Mrs. Edgar Joseph (Leila Saks)	female	NA
74	445	446	1	1	Dodge, Master. Washington	male	4.00
75	61	62	1	?	Icard, Miss. Amelie	female	38.00
76	829	830	1	1	Stone, Mrs. George Nelson (Martha Evelyn)	female	62.00

	SibSp	Parch	Ticket	Fare	Cabin	Embarked
1	0	0	PC 17755	512.3292		C
2	0	1	PC 17755	512.3292	B51 B53 B55	C
3	0	0	PC 17755	512.3292	B101	C
4	3	2	19950	263.0000	C23 C25 C27	S
5	3	2	19950	263.0000	C23 C25 C27	S
6	3	2	19950	263.0000	C23 C25 C27	S
7	1	4	19950	263.0000	C23 C25 C27	S
8	2	2	PC 17608	262.3750	B57 B59 B63 B66	C
9	2	2	PC 17608	262.3750	B57 B59 B63 B66	C
10	0	1	PC 17558	247.5208	B58 B60	C
11	0	1	PC 17558	247.5208	B58 B60	C
12	0	0	PC 17757	227.5250		C
13	0	0	PC 17757	227.5250		C
14	1	0	PC 17757	227.5250	C62 C64	C
15	0	0	PC 17757	227.5250	C45	C
16	0	0	PC 17483	221.7792	C95	S
17	0	2	113503	211.5000	C82	C
18	0	1	24160	211.3375	B5	S
19	0	0	24160	211.3375	B5	S
20	0	1	24160	211.3375	B3	S
21	0	2	36928	164.8667	C7	S
22	1	1	36928	164.8667		S
23	0	1	PC 17582	153.4625	C125	S
24	0	1	PC 17582	153.4625	C91	S
25	0	0	PC 17582	153.4625	C125	S

26	1	2	113781	151.5500	C22 C26	S
27	1	2	113781	151.5500	C22 C26	S
28	1	2	113781	151.5500	C22 C26	S
29	0	0	113781	151.5500		S
30	1	0	PC 17569	146.5208	B78	C
31	0	0	PC 17569	146.5208	B80	C
32	0	0	PC 17760	135.6333	C99	S
33	0	0	PC 17760	135.6333	C32	C
34	0	0	PC 17760	135.6333		C
35	1	1	16966	134.5000	E34	C
36	0	0	16966	134.5000	E40	C
37	1	0	PC 17611	133.6500		S
38	2	0	PC 17611	133.6500		S
39	1	2	113760	120.0000	B96 B98	S
40	1	2	113760	120.0000	B96 B98	S
41	1	2	113760	120.0000	B96 B98	S
42	1	2	113760	120.0000	B96 B98	S
43	1	0	35273	113.2750	D36	C
44	1	0	35273	113.2750	D36	C
45	0	2	35273	113.2750	D48	C
46	0	0	17421	110.8833		C
47	0	2	17421	110.8833	C70	C
48	1	1	17421	110.8833	C68	C
49	1	1	17421	110.8833	C68	C
50	1	0	PC 17758	108.9000	C65	C
51	1	0	PC 17758	108.9000	C65	C
52	0	0	PC 17761	106.4250		C
53	1	0	PC 17761	106.4250	C86	C
54	0	0	12749	93.5000	B73	S
55	1	1	12749	93.5000	B69	S
56	1	0	11967	91.0792	B49	C
57	1	0	11967	91.0792	B49	C
58	1	0	19943	90.0000	C93	S
59	2	0	19928	90.0000	C78	Q
60	1	0	19928	90.0000	C78	Q
61	1	0	19943	90.0000	C93	S
62	1	0	17453	89.1042	C92	C
63	1	0	17453	89.1042	C92	C
64	0	0	110152	86.5000	B77	S
65	0	0	110152	86.5000	B79	S
66	0	0	110152	86.5000	B77	S
67	1	0	36973	83.4750	C83	S
68	1	0	36973	83.4750	C83	S
69	0	0	11767	83.1583	C54	C
70	1	1	PC 17756	83.1583	E49	C
71	0	1	11767	83.1583	C50	C
72	1	0	PC 17604	82.1708		C

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73 1 0 PC 17604 82.1708 C
74 0 2 33638 81.8583 A34 S
75 0 0 113572 80.0000 B28
76 0 0 113572 80.0000 B28

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[ reached 'max' / getOption("max.print") -- omitted 815 rows ]
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> #4.(d)
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```
> passengers %>% mutate(FamSize = Parch + SibSp) #This operation creates a new column called FamSize, which is calculated by adding the Parch and SibSp columns
```

	X	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
1	0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171
2	1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Thayer)	female	38.0	1	0	PC 17599
3	2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282
4	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
6	5	6	0	3	Moran, Mr. James	male	NA	0	0	330877
7	6	7	0	1	McCarthy, Mr. Timothy J	male	54.0	0	0	17463
8	7	8	0	3	Palsson, Master. Gosta Leonard	male	2.0	3	1	349909
9	8	9	1	3	Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)	female	27.0	0	2	347742
10	9	10	1	2	Nasser, Mrs. Nicholas (Adele Achem)	female	14.0	1	0	237736
11	10	11	1	3	Sandstrom, Miss. Marguerite Rut	female	4.0	1	1	PP 9549
12	11	12	1	1	Bonnell, Miss. Elizabeth	female	58.0	0	0	113783
13	12	13	0	3	Saunderscock, Mr. William Henry	male	20.0	0	0	A/5. 2151
14	13	14	0	3	Andersson, Mr. Anders Johan	male	39.0	1	5	347082
15	14	15	0	3	Vestrom, Miss. Hulda Amanda Adolfina	female	14.0	0	0	350406
16	15	16	1	2	Hewlett, Mrs. (Mary D Kingcome)	female	55.0	0	0	248706
17	16	17	0	3	Rice, Master. Eugene	male	2.0	4	1	382652
18	17	18	1	2	Williams, Mr. Charles Eugene	male	NA	0	0	244373
19	18	19	0	3	Vander Planke, Mrs. Julius (Emelia Maria Vandemoortele)	female	31.0	1	0	345763
20	19	20	1	3	Masselmani, Mrs. Fatima	female	NA	0	0	2649
21	20	21	0	2	Fynney, Mr. Joseph J	male	35.0	0	0	239865
22	21	22	1	2	Beesley, Mr. Lawrence	male	34.0	0	0	248698
23	22	23	1	3	McGowan, Miss. Anna "Annie"	female	15.0	0	0	330923
24	23	24	1	1	Sloper, Mr. William Thompson	male	28.0	0	0	113788
25	24	25	0	3	Palsson, Miss. Torborg Danira	female	8.0	3	1	349909
26	25	26	1	?	Asplund, Mrs. Carl Oscar (Selma Augusta Emilia Johansson)	female	38.0	1	5	347077
27	26	27	0	3	Emir, Mr. Farred Chehab	male	NA	0	0	2631
28	27	28	0	1	Fortune, Mr. Charles Alexander	male	19.0	3	2	19950
29	28	29	1	3	O'Dwyer, Miss. Ellen "Nellie"	female	NA	0	0	330959
30	29	30	0	3	Todoroff, Mr. Lallo	male	NA	0	0	349216
31	30	31	0	1	Uruchurtu, Don. Manuel E	male	40.0	0	0	PC 17601
32	31	32	1	1	Spencer, Mrs. William Augustus (Marie Eugenie)	female	NA	1	0	PC 17569
33	32	33	1	3	Glynn, Miss. Mary Agatha	female	NA	0	0	335677
34	33	34	0	2	Wheadon, Mr. Edward H	male	66.0	0	0	C.A. 24579
35	34	35	0	1	Meyer, Mr. Edgar Joseph	male	28.0	1	0	PC 17604
36	35	36	0	1	Holverson, Mr. Alexander Oskar	male	42.0	1	0	113789
37	36	37	1	3	Mamee, Mr. Hanna	male	NA	0	0	2677
38	37	38	0	?	Cann, Mr. Ernest Charles	male	21.0	0	0	A./5. 2152
39	38	39	0	3	Vander Planke, Miss. Augusta Maria	female	18.0	2	0	345764



40	39	40	1	3	Nicola-Yarred, Miss. Jamila	female	14.0	1	0	2651
41	40	41	0	3	Ahlin, Mrs. Johan (Johanna Persdotter Larsson)	female	40.0	1	0	7546
42	41	42	0	2	Turpin, Mrs. William John Robert (Dorothy Ann Wonnacott)	female	27.0	1	0	11668
43	42	43	0	3	Kraeff, Mr. Theodor	male	NA	0	0	349253
44	43	44	1	2	Laroche, Miss. Simonne Marie Anne Andree	female	3.0	1	2	SC/Paris 2123
45	44	45	1	3	Devaney, Miss. Margaret Delia	female	19.0	0	0	330958
46	45	46	0	3	Rogers, Mr. William John	male	NA	0	0	S.C./A.4. 23567
47	46	47	0	3	Lennon, Mr. Denis	male	NA	1	0	370371
48	47	48	1	3	O'Driscoll, Miss. Bridget	female	NA	0	0	14311
49	48	49	0	3	Samaan, Mr. Youssef	male	NA	2	0	2662
50	49	50	0	3	Arnold-Franchi, Mrs. Josef (Josefine Franchi)	female	18.0	1	0	349237
51	50	51	0	3	Panula, Master. Juha Niilo	male	7.0	4	1	3101295
52	51	52	0	3	Nosworthy, Mr. Richard Cater	male	21.0	0	0	A/4. 39886
53	52	53	1	1	Harper, Mrs. Henry Sleeper (Myna Haxtun)	female	49.0	1	0	PC 17572
54	53	54	1	2	Faunthorpe, Mrs. Lizzie (Elizabeth Anne Wilkinson)	female	29.0	1	0	2926
55	54	55	0	1	Ostby, Mr. Engelhart Cornelius	male	65.0	0	1	113509
56	55	56	1	1	Woolner, Mr. Hugh	male	NA	0	0	19947
57	56	57	1	2	Rugg, Miss. Emily	female	21.0	0	0	C.A. 31026
58	57	58	0	3	Novel, Mr. Mansouer	male	28.5	0	0	2697
59	58	59	1	2	West, Miss. Constance Mirium	female	5.0	1	2	C.A. 34651
60	59	60	0	3	Goodwin, Master. William Frederick	male	11.0	5	2	CA 2144
61	60	61	0	3	Sirayanian, Mr. Orsen	male	22.0	0	0	2669
62	61	62	1	?	Icard, Miss. Amelie	female	38.0	0	0	113572
63	62	63	0	1	Harris, Mr. Henry Birkhardt	male	45.0	1	0	36973
64	63	64	0	3	Skoog, Master. Harald	male	4.0	3	2	347088
65	64	65	0	1	Stewart, Mr. Albert A	male	NA	0	0	PC 17605
66	65	66	1	3	Moubarek, Master. Gerios	male	NA	1	1	2661
67	66	67	1	2	Nye, Mrs. (Elizabeth Ramell)	female	29.0	0	0	C.A. 29395
68	67	68	0	3	Crease, Mr. Ernest James	male	19.0	0	0	S.P. 3464
69	68	69	1	3	Andersson, Miss. Erna Alexandra	female	17.0	4	2	3101281
70	69	70	0	3	Kink, Mr. Vincenz	male	26.0	2	0	315151
71	70	71	0	2	Jenkin, Mr. Stephen Curnow	male	32.0	0	0	C.A. 33111

	Fare	Cabin	Embarked	FamSize
1	7.2500		S	1
2	71.2833	C85	C	1
3	7.9250		S	0
4	53.1000	C123	S	1
5	8.0500		S	0
6	8.4583		Q	0
7	51.8625	E46	S	0
8	21.0750		S	4
9	11.1333		S	2
10	30.0708		C	1
11	16.7000	G6	S	2
12	26.5500	C103	S	0
13	8.0500		S	0
14	31.2750		S	6

15	7.8542		S	0
16	16.0000		S	0
17	29.1250		Q	5
18	13.0000		S	0
19	18.0000		S	1
20	7.2250		C	0
21	26.0000		S	0
22	13.0000	D56	S	0
23	8.0292		Q	0
24	35.5000	A6	S	0
25	21.0750		S	4
26	31.3875		S	6
27	7.2250		C	0
28	263.0000	C23 C25 C27	S	5
29	7.8792		Q	0
30	7.8958		S	0
31	27.7208		C	0
32	146.5208	B78	C	1
33	7.7500		Q	0
34	10.5000		S	0
35	82.1708		C	1
36	52.0000		S	1
37	7.2292		C	0
38	8.0500		S	0
39	18.0000		S	2
40	11.2417		C	1
41	9.4750		S	1
42	21.0000		S	1
43	7.8958		C	0
44	41.5792		C	3
45	7.8792		Q	0
46	8.0500		S	0
47	15.5000		Q	1
48	7.7500		Q	0
49	21.6792		C	2
50	17.8000		S	1
51	39.6875		S	5
52	7.8000		S	0
53	76.7292	D33	C	1
54	26.0000		S	1
55	61.9792	B30	C	1
56	35.5000	C52	S	0
57	10.5000		S	0
58	7.2292		C	0
59	27.7500		S	3
60	46.9000		S	7
61	7.2292		C	0

62	80.0000	B28		0
63	83.4750	C83	S	1
64	27.9000		S	5
65	27.7208		C	0
66	15.2458		C	2
67	10.5000	F33	S	0
68	8.1583		S	0
69	7.9250		S	6
70	8.6625		S	2
71	10.5000		S	0

[ reached 'max' / getOption("max.print") -- omitted 820 rows ]

> #4.(e)

> passengers %>% group\_by(Sex) %>% summarise(meanFare = mean(Fare), numSurv = sum(Survived)) #This operation groups the data by Sex (female and male),  
then creates a mean or average of the Fare amount for each Sex and the number that survived for each Sex

# A tibble: 2 × 3

	Sex	meanFare	numSurv
	<chr>	<dbl>	<int>
1	female	44.5	233
2	male	25.5	109

>