

Part 1 Screenshots:

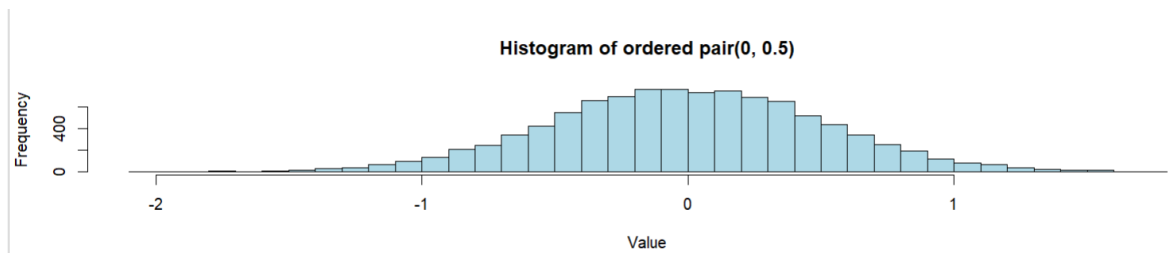
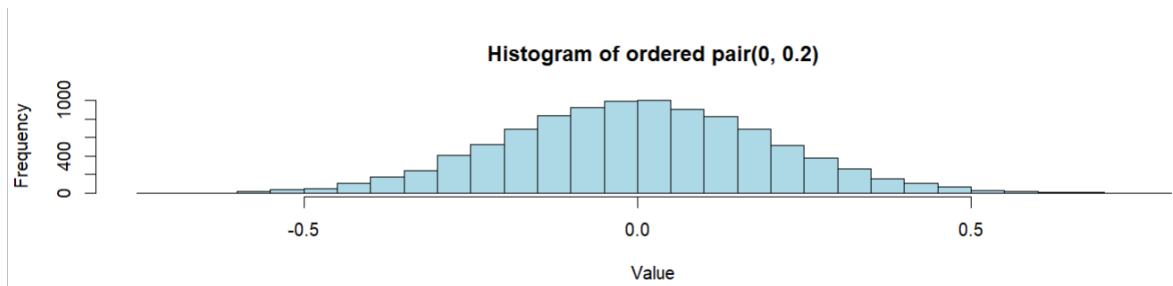
```
> print(mean_liver2)
[1] 241.8246
> print(sd_liver2)
Error: object 'sd_liver2' not found
> # standard deviation function
> sd_liver2 <- sd(su$Liver_2.CEL, na.rm = TRUE)
> print(sd_liver2)
[1] 1133.352

> print(column_mean)
      Brain_1.CEL      Brain_2.CEL Fetal_brain_1.CEL Fetal_brain_2.CEL Fetal_liver_1.CEL
      204.9763          315.0924          198.3439          267.6551          209.8722
Fetal_liver_2.CEL      Liver_1.CEL      Liver_2.CEL
      399.1482          160.8558          241.8246
> print(column_sum)
      Brain_1.CEL      Brain_2.CEL Fetal_brain_1.CEL Fetal_brain_2.CEL Fetal_liver_1.CEL
      2588031          3978357          2504290          3379413          2649846
Fetal_liver_2.CEL      Liver_1.CEL      Liver_2.CEL
      5039645          2030966          3053278

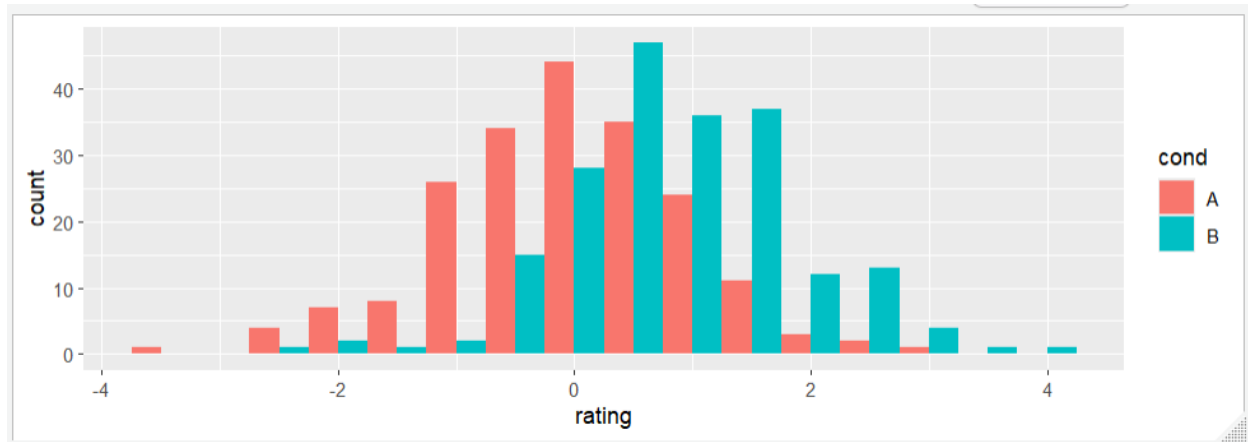
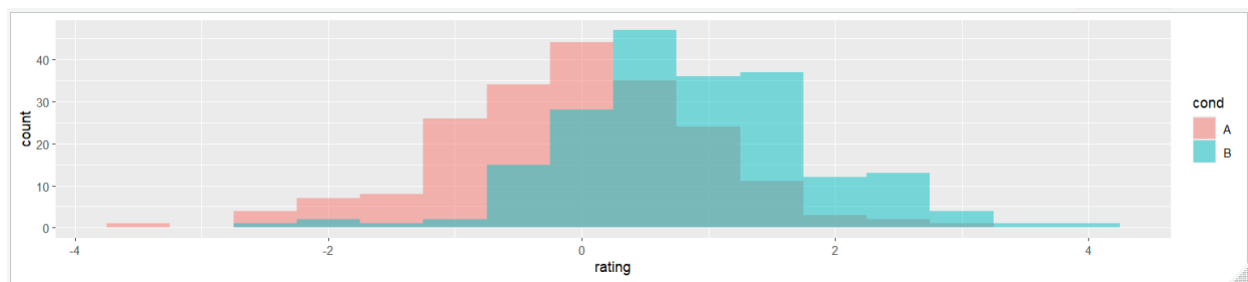
> |
```

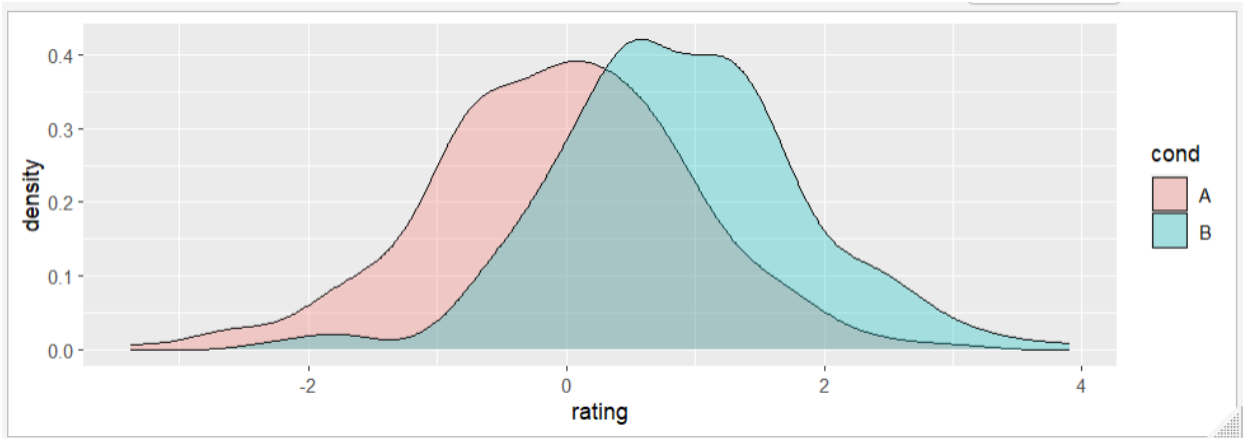
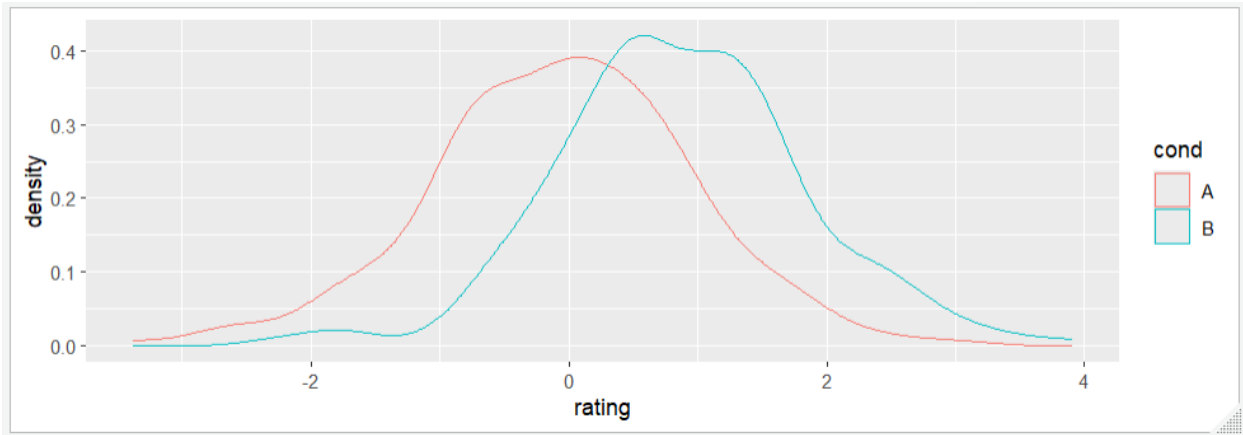
Environment	History	Connections	Tutorial
<div> Import Dataset 262 MiB </div>			
<div> R Global Environment </div>			
Data			
<div> su 12626 obs. of 8 variables </div>			
\$ Brain_1.CEL	: num	120.25 583.6 35.85 17.6 0.15 ...	
\$ Brain_2.CEL	: num	255 885.4 40.5 19.9 26.4 ...	
\$ Fetal_brain_1.CEL	: num	3.5 253.7 47.2 11.1 78 ...	
\$ Fetal_brain_2.CEL	: num	31 293.4 33 23.1 36 ...	
\$ Fetal_liver_1.CEL	: num	6.5 201.2 86.3 38.8 89.5 ...	
\$ Fetal_liver_2.CEL	: num	-8.25 433.75 119.25 94.6 34 ...	
\$ Liver_1.CEL	: num	19.1 134.2 37.1 452.1 22.8 ...	
\$ Liver_2.CEL	: num	73 251.2 72.1 662.5 100 ...	
Values			
column_mean	Named num [1:8]	205 315 198 268 210 ...	
column_sum	Named num [1:8]	2588031 3978357 2504290 3379413 2649846 ...	
mean_liver2		241.824611911928	
sd_liver2		1133.35229901873	

Part 2 screenshots:



Part 3 screenshots:




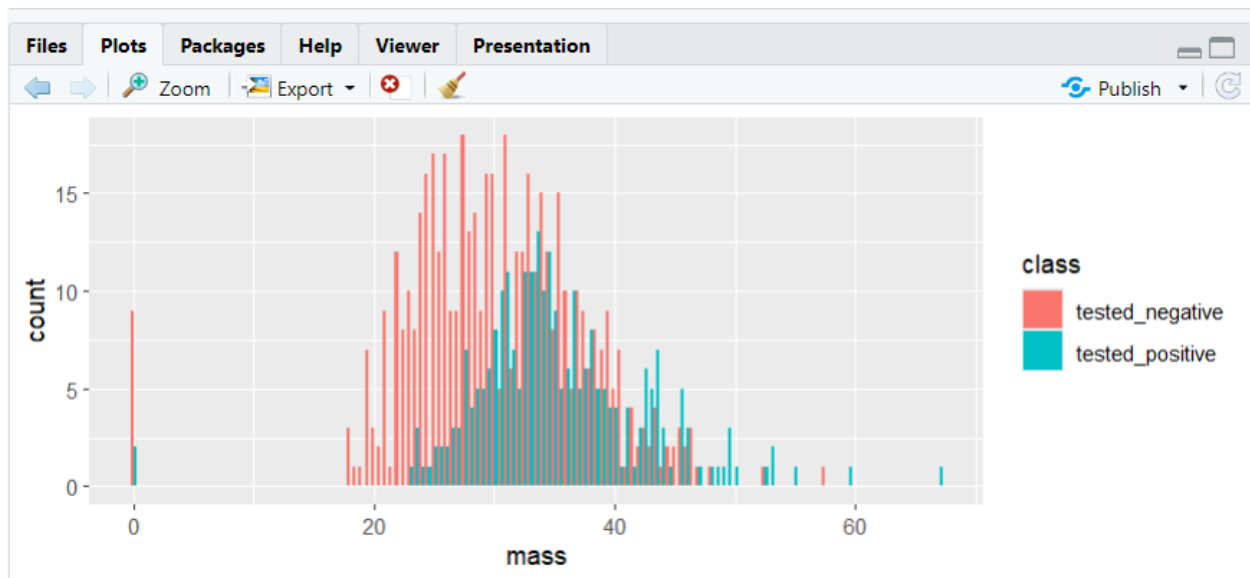
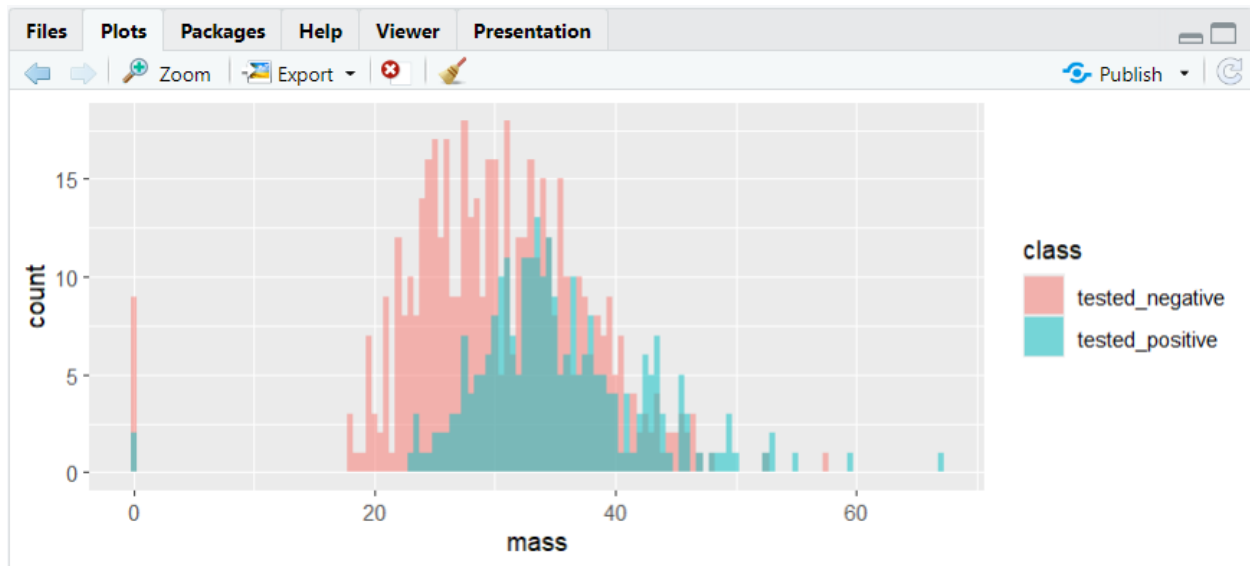


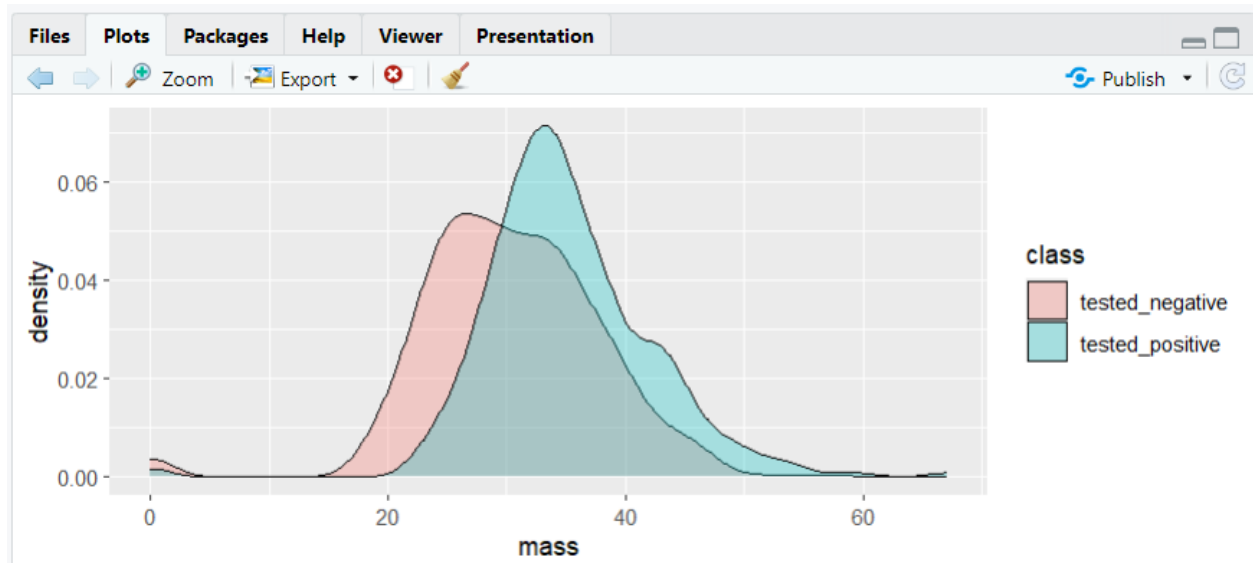
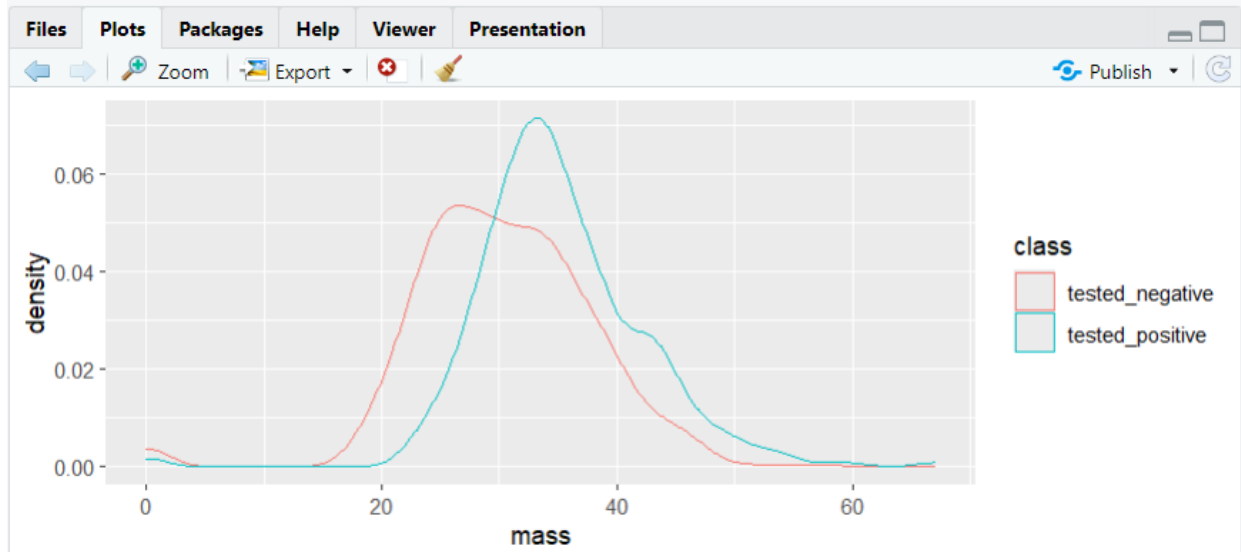
Environment	History	Connections	Tutorial
<div> <div> <div>Import Dataset</div> <div>257 MiB</div> </div> <div> <div>Global Environment</div> <div>Search</div> </div> </div>			
Data			
<div> <div>dat</div> <div>400 obs. of 2 variables</div> </div>			
<div> <div>\$ cond</div> <div>: Factor w/ 2 levels "A","B": 1 1 1 1 1 1 1 1 1 ...</div> </div>			
<div> <div>\$ rating</div> <div>: num 0.00839 -0.80396 -1.97153 -1.53182 -0.23279 ...</div> </div>			
Data			
<div> <div>diabetes</div> <div>758 obs. of 9 variables</div> </div>			

Part 3 screenshots (diabetes):

Data

diabetes	758 obs. of 9 variables												
\$ preg :	int	6	1	8	1	0	5	3	10	2	8	...	
\$ plas :	int	148	85	183	89	137	116	78	115	197	125	...	
\$ pres :	int	72	66	64	66	40	74	50	0	70	96	...	
\$ skin :	int	35	29	0	23	35	0	32	0	45	0	...	
\$ insu :	int	0	0	0	94	168	0	88	0	543	0	...	
\$ mass :	num	33.6	26.6	23.3	28.1	43.1	25.6	31	35.3	30.5	0	...	
\$ pedi :	num	0.627	0.351	0.672	0.167	2.288	...						
\$ age :	int	50	31	32	21	33	30	26	29	53	54	...	
\$ class:	chr	"tested_positive" "tested_negative" "tested_positive" "tested_n...											





Part 4 screenshots:

passengers	891 obs. of 13 variables											
\$ X	: int	0	1	2	3	4	5	6	7	8	9	...
\$ PassengerId	: int	1	2	3	4	5	6	7	8	9	10	...
\$ Survived	: int	0	1	1	1	0	0	0	0	1	1	...
\$ Pclass	: chr	"3"	"1"	"3"	"1"	...						
\$ Name	: chr	"Braund, Mr. Owen Harris" "Cumings, Mrs. John Bradley (Florence Bri..."										
\$ Sex	: chr	"male"	"female"	"female"	"female"	...						
\$ Age	: num	22	38	26	35	35	NA	54	2	27	14	...
\$ SibSp	: int	1	1	0	1	0	0	0	3	0	1	...
\$ Parch	: int	0	0	0	0	0	0	1	2	0	...	
\$ Ticket	: chr	"A/5 21171" "PC 17599" "STON/O2. 3101282" "113803" ...										
\$ Fare	: num	7.25	71.28	7.92	53.1	8.05	...					
\$ Cabin	: chr	""	"C85"	""	"C123"	...						
\$ Embarked	: chr	"S"	"C"	"S"	"S"	...						

```
> passengers %>% drop_na() %>% summary()
```

X	PassengerId	Survived	Pclass
Min. : 0.0	Min. : 1.0	Min. : 0.0000	Length:714
1st Qu.:221.2	1st Qu.:222.2	1st Qu.:0.0000	Class :character
Median :444.0	Median :445.0	Median :0.0000	Mode :character
Mean :447.6	Mean :448.6	Mean :0.4062	
3rd Qu.:676.8	3rd Qu.:677.8	3rd Qu.:1.0000	
Max. :890.0	Max. :891.0	Max. :1.0000	
Name	Sex	Age	SibSp
Length:714	Length:714	Min. : 0.42	Min. :0.0000
Class :character	Class :character	1st Qu.:20.12	1st Qu.:0.0000
Mode :character	Mode :character	Median :28.00	Median :0.0000
		Mean :29.70	Mean :0.5126
		3rd Qu.:38.00	3rd Qu.:1.0000
		Max. :80.00	Max. :5.0000
Parch	Ticket	Fare	Cabin
Min. :0.0000	Length:714	Min. : 0.00	Length:714
1st Qu.:0.0000	Class :character	1st Qu.: 8.05	Class :character
Median :0.0000	Mode :character	Median : 15.74	Mode :character
Mean :0.4314		Mean : 34.69	
3rd Qu.:1.0000		3rd Qu.: 33.38	
Max. :6.0000		Max. :512.33	
Embarked			
Length:714			
Class :character			
Mode :character			

What I believe this is doing is taking a bunch of information that is being requested and give you all of the attributes that are associated with it as well as their types. It also gets rid of any empty spaces in any column as well as providing a summary of some statistics related to it.

```
> passengers %>% filter(Sex == "male")
```

	X	PassengerId	Survived	Pclass	Name	Sex	Age
1	0	1	0	3	Braund, Mr. Owen Harris	male	22.00
2	4	5	0	3	Allen, Mr. William Henry	male	35.00
3	5	6	0	3	Moran, Mr. James	male	NA
4	6	7	0	1	McCarthy, Mr. Timothy J	male	54.00
5	7	8	0	3	Palsson, Master. Gosta Leonard	male	2.00
6	12	13	0	3	Saunderscock, Mr. William Henry	male	20.00
7	13	14	0	3	Andersson, Mr. Anders Johan	male	39.00
8	16	17	0	3	Rice, Master. Eugene	male	2.00
9	17	18	1	2	Williams, Mr. Charles Eugene	male	NA
10	20	21	0	2	Fynney, Mr. Joseph J	male	35.00
11	21	22	1	2	Beesley, Mr. Lawrence	male	34.00
12	23	24	1	1	Sloper, Mr. William Thompson	male	28.00
13	26	27	0	3	Emir, Mr. Farred Chehab	male	NA
14	27	28	0	1	Fortune, Mr. Charles Alexander	male	19.00

This one is filtering it by the male sex and providing some additional information related to it as well.

```
> passengers %>% arrange(desc(Fare))
```

	X	PassengerId	Survived	Pclass
1	258	259	1	1
2	679	680	1	1
3	737	738	1	1
4	27	28	0	1
5	88	89	1	1
6	341	342	1	1
7	438	439	0	1
8	311	312	1	1
9	742	743	1	1
10	118	119	0	1
11	299	300	1	1
12	380	381	1	?
13	557	558	0	1
14	700	701	1	1
15	716	717	1	1
16	527	528	0	1
17	377	378	0	1
18	689	690	1	1
19	730	731	1	?
20	779	780	1	1
21	318	319	1	1
22	856	857	1	1
23	268	269	1	1
24	332	333	0	1
25	609	610	1	1
26	297	298	0	1
27	305	306	1	1
28	498	499	0	1
29	708	709	1	1
30	31	32	1	1
31	195	196	1	1
32	269	270	1	1

	Name
1	Ward, Miss. Anna
2	Cardeza, Mr. Thomas Drake Martinez
3	Lesurer, Mr. Gustave J
4	Fortune, Mr. Charles Alexander
5	Fortune, Miss. Mabel Helen
6	Fortune, Miss. Alice Elizabeth
7	Fortune, Mr. Mark
8	Ryerson, Miss. Emily Borie
9	Ryerson, Miss. Susan Parker "Suzette"
10	Baxter, Mr. Quigg Edmond
11	Baxter, Mrs. James (Helene DeLaudeniére Chaput)
12	Bidois, Miss. Rosalie
13	Robbins, Mr. Victor
14	Astor, Mrs. John Jacob (Madeleine Talmadge Force)
15	Endres, Miss. Caroline Louise
16	Farthing, Mr. John
17	Widener, Mr. Harry Elkins
18	Madill, Miss. Georgette Alexandra
19	Allen, Miss. Elisabeth Walton
20	Robert, Mrs. Edward Scott (Elisabeth Walton McMillan)
21	Wick, Miss. Mary Natalie
22	Wick, Mrs. George Dennick (Mary Hitchcock)
23	Graham, Mrs. William Thompson (Edith Junkins)
24	Graham, Mr. George Edward
25	Shutes, Miss. Elizabeth W
26	Allison, Miss. Helen Loraine
27	Allison, Master. Hudson Trevor
28	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)
29	Cleaver, Miss. Alice
30	Spencer, Mrs. William Augustus (Marie Eugénie)
31	Lurette, Miss. Elise
32	Bissette, Miss. Amelia
33	Young, Miss. Marie Grice
34	Ringhini, Mr. Sante
35	Spedden, Mrs. Frederic Oakley (Margaretta Corning Stone)
36	Burns, Miss. Elizabeth Margaret

	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
1	female	35.00	0	0	PC 17755	512.3292		C
2	male	36.00	0	1	PC 17755	512.3292	B51 B53 B55	C
3	male	35.00	0	0	PC 17755	512.3292	B101	C
4	male	19.00	3	2	19950	263.0000	C23 C25 C27	S
5	female	23.00	3	2	19950	263.0000	C23 C25 C27	S
6	female	24.00	3	2	19950	263.0000	C23 C25 C27	S
7	male	64.00	1	4	19950	263.0000	C23 C25 C27	S
8	female	18.00	2	2	PC 17608	262.3750	B57 B59 B63 B66	C
9	female	21.00	2	2	PC 17608	262.3750	B57 B59 B63 B66	C
10	male	24.00	0	1	PC 17558	247.5208	B58 B60	C
11	female	50.00	0	1	PC 17558	247.5208	B58 B60	C
12	female	42.00	0	0	PC 17757	227.5250		C
13	male	NA	0	0	PC 17757	227.5250		C
14	female	18.00	1	0	PC 17757	227.5250	C62 C64	C
15	female	38.00	0	0	PC 17757	227.5250	C45	C
16	male	NA	0	0	PC 17483	221.7792	C95	S
17	male	27.00	0	2	113503	211.5000	C82	C
18	female	15.00	0	1	24160	211.3375	B5	S
19	female	29.00	0	0	24160	211.3375	B5	S
20	female	43.00	0	1	24160	211.3375	B3	S
21	female	31.00	0	2	36928	164.8667	C7	S
22	female	45.00	1	1	36928	164.8667		S
23	female	58.00	0	1	PC 17582	153.4625	C125	S
24	male	38.00	0	1	PC 17582	153.4625	C91	S
25	female	40.00	0	0	PC 17582	153.4625	C125	S
26	female	2.00	1	2	113781	151.5500	C22 C26	S
27	male	0.92	1	2	113781	151.5500	C22 C26	S

This arranges passenger info by fare in descending order.

```
> passengers %>% mutate(FamSize = Parch + SibSp)
```

	X	PassengerId	Survived	Pclass
1	0	1	0	3
2	1	2	1	1
3	2	3	1	3
4	3	4	1	1
5	4	5	0	3
6	5	6	0	3
7	6	7	0	1
8	7	8	0	3
9	8	9	1	3
10	9	10	1	2
11	10	11	1	3
12	11	12	1	1
13	12	13	0	3
14	13	14	0	3
15	14	15	0	3
16	15	16	1	2
17	16	17	0	3
18	17	18	1	2
19	18	19	0	3
20	19	20	1	3
21	20	21	0	2
22	21	22	1	2
23	22	23	1	3
24	23	24	1	1
25	24	25	0	3
26	25	26	1	?
27	26	27	0	3
28	27	28	0	1
29	28	29	1	3
30	29	30	0	3
31	30	31	0	1
32	31	32	1	1
33	32	33	1	3

	Name	Sex	Age	SibSp	Parch
1	Braund, Mr. Owen Harris	male	22.0	1	0
2	Cumings, Mrs. John Bradley (Florence Briggs Thayer)	female	38.0	1	0
3	Heikkinen, Miss. Laina	female	26.0	0	0
4	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0
5	Allen, Mr. William Henry	male	35.0	0	0
6	Moran, Mr. James	male	NA	0	0
7	McCarthy, Mr. Timothy J	male	54.0	0	0
8	Palsson, Master. Gosta Leonard	male	2.0	3	1
9	Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)	female	27.0	0	2
10	Nasser, Mrs. Nicholas (Adele Achem)	female	14.0	1	0
11	Sandstrom, Miss. Marguerite Rut	female	4.0	1	1
12	Bonnell, Miss. Elizabeth	female	58.0	0	0
13	Saunders, Mr. William Henry	male	20.0	0	0
14	Andersson, Mr. Anders Johan	male	39.0	1	5
15	Vestrom, Miss. Hulda Amanda Adolfina	female	14.0	0	0
16	Hewlett, Mrs. (Mary D Kingcome)	female	55.0	0	0
17	Rice, Master. Eugene	male	2.0	4	1
18	Williams, Mr. Charles Eugene	male	NA	0	0
19	Vander Planke, Mrs. Julius (Emelia Maria Vandemoortele)	female	31.0	1	0
20	Masselmani, Mrs. Fatima	female	NA	0	0
21	Fynney, Mr. Joseph J	male	35.0	0	0
22	Beesley, Mr. Lawrence	male	34.0	0	0
23	McGowan, Miss. Anna "Annie"	female	15.0	0	0
24	Sloper, Mr. William Thompson	male	28.0	0	0
25	Palsson, Miss. Torborg Danira	female	8.0	3	1

	Ticket	Fare	Cabin	Embarked	FamSize
1	A/5 21171	7.2500		S	1
2	PC 17599	71.2833	C85	C	1
3	STON/O2. 3101282	7.9250		S	0
4	113803	53.1000	C123	S	1
5	373450	8.0500		S	0
6	330877	8.4583		Q	0
7	17463	51.8625	E46	S	0
8	349909	21.0750		S	4
9	347742	11.1333		S	2
10	237736	30.0708		C	1
11	PP 9549	16.7000	G6	S	2
12	113783	26.5500	C103	S	0
13	A/5. 2151	8.0500		S	0
14	347082	31.2750		S	6
15	350406	7.8542		S	0
16	248706	16.0000		S	0
17	382652	29.1250		Q	5

This one seems to take parents and children and siblings and spouses and combines them into parch for parents and children, sibsp for siblings and spouses. Then they take the total size of the family and put it into famsize.

```
> passengers %>% group_by(Sex) %>% summarise(meanFare = mean(Fare), numSurv = sum(Survived))
# A tibble: 2 x 3
  Sex    meanFare numSurv
<chr>    <dbl>    <int>
1 female    44.5      233
2 male     25.5      109
> |
```

This one takes the mean of the fare between men and women as well as the number of men and women who survived and compiles them into a list here.