

# rworksheet6

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1. Create a data frame for the table below. Show your solution.
  - a. Compute the descriptive statistics using different packages (Hmisc and pastecs). Write the codes and its result.

```
#dataframe
StudentScore <- data.frame(Student = c(1,2,3,4,5,6,7,8,9,10),
                             PreTest = c(55,54,47,57,51,61,57,54,63,58),
                             PostTest = c(61,60,56,63,56,63,59,56,62,61))
```

StudentScore

```
##      Student PreTest PostTest
## 1          1      55        61
## 2          2      54        60
## 3          3      47        56
## 4          4      57        63
## 5          5      51        56
## 6          6      61        63
## 7          7      57        59
## 8          8      54        56
## 9          9      63        62
## 10         10      58        61
```

```
#a.Compute the descriptive statistics using different packages (Hmisc and pastecs).
library(Hmisc)
```

```
##
## Attaching package: 'Hmisc'
## The following objects are masked from 'package:base':
##
##      format.pval, units
```

```
library(pastecs)
```

```
HmiscStats <- describe(StudentScore[,c("PreTest", "PostTest")])
HmiscStats
```

```
## StudentScore[, c("PreTest", "PostTest")]
```

```
##
```

```
## 2 Variables      10 Observations
```

```
## -----
```

```
## PreTest
```

```
##      n missing distinct      Info      Mean      Gmd
##     10        0         8    0.988     55.7     5.444
```

```
##
```

```
## Value      47  51  54  55  57  58  61  63
## Frequency   1   1   2   1   2   1   1   1
## Proportion 0.1 0.1 0.2 0.1 0.2 0.1 0.1 0.1
##
## For the frequency table, variable is rounded to the nearest 0
## -----
## PostTest
##      n missing distinct      Info      Mean      Gmd
##     10      0         6     0.964     59.7     3.311
##
## Value      56  59  60  61  62  63
## Frequency   3   1   1   2   1   2
## Proportion 0.3 0.1 0.1 0.2 0.1 0.2
##
## For the frequency table, variable is rounded to the nearest 0
## -----
```

```
# Calculate descriptive statistics using pastecs
pastecsStats <- stat.desc(StudentScore)
pastecsStats
```

```
##           Student      PreTest      PostTest
## nbr.val      10.0000000 10.00000000 10.00000000
## nbr.null      0.0000000  0.00000000  0.00000000
## nbr.na        0.0000000  0.00000000  0.00000000
## min           1.0000000 47.00000000 56.00000000
## max          10.0000000 63.00000000 63.00000000
## range         9.0000000 16.00000000  7.00000000
## sum          55.0000000 557.00000000 597.00000000
## median        5.5000000 56.00000000 60.50000000
## mean          5.5000000 55.70000000 59.70000000
## SE.mean       0.9574271  1.46855938  0.89504811
## CI.mean.0.95  2.1658506  3.32211213  2.02473948
## var           9.1666667 21.56666667  8.01111111
## std.dev       3.0276504  4.64399254  2.83039063
## coef.var      0.5504819  0.08337509  0.04741023
```

2. The Department of Agriculture was studying the effects of several levels of a fertilizer on the growth of a plant. For some analyses, it might be useful to convert the fertilizer levels to an ordered factor.

```
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
##
## The following objects are masked from 'package:stats':
##
##     first, last
##
## The following objects are masked from 'package:Hmisc':
##
##     src, summarize
##
## The following objects are masked from 'package:base':
##
##     filter, lag
##
## The following objects are masked from 'package:base':
```

```
##
## intersect, setdiff, setequal, union
fertilizerLevels <- c(10,10,10, 20,20,50,10,20,10,50,20,50,20,10)

orderedFactor <- factor(fertilizerLevels, levels = unique(fertilizerLevels))

basicStats <- summary(orderedFactor)
basicStats
```

```
## 10 20 50
## 6 5 3
```

3. Abdul Hassan, president of Floor Coverings Unlimited, has asked you to study the exercise levels undertaken by 10 subjects were “l”, “n”, “n”, “i”, “l”, “l”, “n”, “n”, “i”, “l”; n=none, l=light, i=intense a. What is the best way to represent this in R?

```
exercerciseLevels <- c("n", "l", "n", "n", "l", "l", "n", "n", "i", "l")

ExerciseFactor <- factor(exercerciseLevels, levels = c("n","l","i"))

basic_stats <- summary(ExerciseFactor)
basic_stats
```

```
## n l i
## 5 4 1
```

4. Sample of 30 tax accountants from all the states and territories of Australia and their individual state of origin is specified by a character vector of state mnemonics as: state <- c(“tas”, “sa”, “qld”, “nsw”, “nsw”, “nt”, “wa”, “wa”, “qld”, “vic”, “nsw”, “vic”, “qld”, “qld”, “sa”, “tas”, “sa”, “nt”, “wa”, “vic”, “qld”, “nsw”, “nsw”, “wa”, “sa”, “act”, “nsw”, “vic”, “vic”, “act”)
- a. Apply the factor function and factor level. Describe the results. # A factor with levels matching the distinct values in the original character vector will be the outcome. Each level corresponds to a distinct state or region and is arranged alphabetically.

```
state <- c("tas", "sa", "qld", "nsw", "nsw", "nt", "wa", "wa", "qld",
"vic", "nsw", "vic", "qld", "qld", "sa", "tas", "sa", "nt",
"wa", "vic", "qld", "nsw", "nsw", "wa", "sa", "act", "nsw",
"vic", "vic", "act")
stateFactor <- factor(state)
stateFactor
```

```
## [1] tas sa qld nsw nsw nt wa wa qld vic nsw vic qld qld sa tas sa nt wa
## [20] vic qld nsw nsw wa sa act nsw vic vic act
## Levels: act nsw nt qld sa tas vic wa
```

```
summaryState <- summary(stateFactor)
summaryState
```

```
## act nsw nt qld sa tas vic wa
## 2 6 2 5 4 2 5 4
```

5. From #4 - continuation: • Suppose we have the incomes of the same tax accountants in another vector (in suitably large units of money) incomes <- c(60, 49, 40, 61, 64, 60, 59, 54, 62, 69, 70, 42, 56, 61, 61, 61, 58, 51, 48, 65, 49, 49, 41, 48, 52, 46, 59, 46, 58, 43)

- a. Calculate the sample mean income for each state we can now use the special function tapply(): Example:

giving a means vector with the components labelled by the levels incmeans <- tapply(incomes, statef, mean) Note: The function tapply() is used to apply a function, here mean(), to each group of components of the first argument, here incomes, defined by the levels of the second component, here state 2

```
incomes <- c(60, 49, 40, 61, 64, 60, 59, 54,
62, 69, 70, 42, 56, 61, 61, 61, 58, 51, 48,
65, 49, 49, 41, 48, 52, 46, 59, 46, 58, 43)
```

```
meanIncome <- tapply(incomes, stateFactor, mean)
meanIncome
```

```
##      act      nsw      nt      qld      sa      tas      vic      wa
## 44.50000 57.33333 55.50000 53.60000 55.00000 60.50000 56.00000 52.25000
```

b. Copy the results and interpret. ans. act nsw nt qld sa tas vic wa 44.50000 57.33333 55.50000 53.60000 55.00000 60.50000 56.00000 52.25000 This output contains the mean of income for each state. And each names are levels of the factor of stateFactor.

6. Calculate the standard errors of the state income means (refer again to number 3) stdError <- function(x) sqrt(var(x)/length(x)) Note: After this assignment, the standard errors are calculated by: incster <- tapply(incomes, statef, stdError) a. What is the standard error? Write the codes.

```
stdError <- function(x) sqrt(var(x)/length(x))
incster <- tapply(incomes, state, stdError)
standardError <- tapply(incomes, stateFactor, stdError)
standardError
```

```
##      act      nsw      nt      qld      sa      tas      vic      wa
## 1.500000 4.310195 4.500000 4.106093 2.738613 0.500000 5.244044 2.657536
```

b. Interpret the results. The standard errors for each state's estimated mean income are included in the vector incster. The variability of the sample mean is reflected in the standard error. Greater variability is shown by larger standard errors.

7. Use the titanic dataset.

a. subset the titatic dataset of those who survived and not survived. Show the codes and its result.

```
library(titanic)
```

```
data("titanic_train")
titanic_data <- titanic_train
```

```
str(titanic_data)
```

```
## 'data.frame':   891 obs. of  12 variables:
## $ 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     : int  3 1 3 1 3 3 1 3 3 2 ...
## $ Name       : chr  "Braund, Mr. Owen Harris" "Cumings, Mrs. John Bradley (Florence Briggs Thayer)"
## $ 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 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" ...
```

```
subset_Survived <- subset(titanic_data, Survived == 1)
```

```
subset_Dead <- subset(titanic_data, Survived == 0)  
subset_Dead
```

##	PassengerId	Survived	Pclass
## 1	1	0	3
## 5	5	0	3
## 6	6	0	3
## 7	7	0	1
## 8	8	0	3
## 13	13	0	3
## 14	14	0	3
## 15	15	0	3
## 17	17	0	3
## 19	19	0	3
## 21	21	0	2
## 25	25	0	3
## 27	27	0	3
## 28	28	0	1
## 30	30	0	3
## 31	31	0	1
## 34	34	0	2
## 35	35	0	1
## 36	36	0	1
## 38	38	0	3
## 39	39	0	3
## 41	41	0	3
## 42	42	0	2
## 43	43	0	3
## 46	46	0	3
## 47	47	0	3
## 49	49	0	3
## 50	50	0	3
## 51	51	0	3
## 52	52	0	3
## 55	55	0	1
## 58	58	0	3
## 60	60	0	3
## 61	61	0	3
## 63	63	0	1
## 64	64	0	3
## 65	65	0	1
## 68	68	0	3
## 70	70	0	3
## 71	71	0	2
## 72	72	0	3
## 73	73	0	2
## 74	74	0	3
## 76	76	0	3
## 77	77	0	3
## 78	78	0	3
## 81	81	0	3

## 84	84	0	1
## 87	87	0	3
## 88	88	0	3
## 90	90	0	3
## 91	91	0	3
## 92	92	0	3
## 93	93	0	1
## 94	94	0	3
## 95	95	0	3
## 96	96	0	3
## 97	97	0	1
## 100	100	0	2
## 101	101	0	3
## 102	102	0	3
## 103	103	0	1
## 104	104	0	3
## 105	105	0	3
## 106	106	0	3
## 109	109	0	3
## 111	111	0	1
## 112	112	0	3
## 113	113	0	3
## 114	114	0	3
## 115	115	0	3
## 116	116	0	3
## 117	117	0	3
## 118	118	0	2
## 119	119	0	1
## 120	120	0	3
## 121	121	0	2
## 122	122	0	3
## 123	123	0	2
## 125	125	0	1
## 127	127	0	3
## 130	130	0	3
## 131	131	0	3
## 132	132	0	3
## 133	133	0	3
## 135	135	0	2
## 136	136	0	2
## 138	138	0	1
## 139	139	0	3
## 140	140	0	1
## 141	141	0	3
## 144	144	0	3
## 145	145	0	2
## 146	146	0	2
## 148	148	0	3
## 149	149	0	2
## 150	150	0	2
## 151	151	0	2
## 153	153	0	3
## 154	154	0	3
## 155	155	0	3

## 156	156	0	1
## 158	158	0	3
## 159	159	0	3
## 160	160	0	3
## 161	161	0	3
## 163	163	0	3
## 164	164	0	3
## 165	165	0	3
## 168	168	0	3
## 169	169	0	1
## 170	170	0	3
## 171	171	0	1
## 172	172	0	3
## 174	174	0	3
## 175	175	0	1
## 176	176	0	3
## 177	177	0	3
## 178	178	0	1
## 179	179	0	2
## 180	180	0	3
## 181	181	0	3
## 182	182	0	2
## 183	183	0	3
## 186	186	0	1
## 189	189	0	3
## 190	190	0	3
## 192	192	0	2
## 197	197	0	3
## 198	198	0	3
## 200	200	0	2
## 201	201	0	3
## 202	202	0	3
## 203	203	0	3
## 204	204	0	3
## 206	206	0	3
## 207	207	0	3
## 211	211	0	3
## 213	213	0	3
## 214	214	0	2
## 215	215	0	3
## 218	218	0	2
## 220	220	0	2
## 222	222	0	2
## 223	223	0	3
## 224	224	0	3
## 226	226	0	3
## 228	228	0	3
## 229	229	0	2
## 230	230	0	3
## 232	232	0	3
## 233	233	0	2
## 235	235	0	2
## 236	236	0	3
## 237	237	0	2

## 239	239	0	2
## 240	240	0	2
## 241	241	0	3
## 243	243	0	2
## 244	244	0	3
## 245	245	0	3
## 246	246	0	1
## 247	247	0	3
## 250	250	0	2
## 251	251	0	3
## 252	252	0	3
## 253	253	0	1
## 254	254	0	3
## 255	255	0	3
## 261	261	0	3
## 263	263	0	1
## 264	264	0	1
## 265	265	0	3
## 266	266	0	2
## 267	267	0	3
## 271	271	0	1
## 274	274	0	1
## 277	277	0	3
## 278	278	0	2
## 279	279	0	3
## 281	281	0	3
## 282	282	0	3
## 283	283	0	3
## 285	285	0	1
## 286	286	0	3
## 288	288	0	3
## 293	293	0	2
## 294	294	0	3
## 295	295	0	3
## 296	296	0	1
## 297	297	0	3
## 298	298	0	1
## 303	303	0	3
## 305	305	0	3
## 309	309	0	2
## 313	313	0	2
## 314	314	0	3
## 315	315	0	2
## 318	318	0	2
## 321	321	0	3
## 322	322	0	3
## 325	325	0	3
## 327	327	0	3
## 332	332	0	1
## 333	333	0	1
## 334	334	0	3
## 336	336	0	3
## 337	337	0	1
## 340	340	0	1



## 343	343	0	2
## 344	344	0	2
## 345	345	0	2
## 350	350	0	3
## 351	351	0	3
## 352	352	0	1
## 353	353	0	3
## 354	354	0	3
## 355	355	0	3
## 356	356	0	3
## 358	358	0	2
## 361	361	0	3
## 362	362	0	2
## 363	363	0	3
## 364	364	0	3
## 365	365	0	3
## 366	366	0	3
## 372	372	0	3
## 373	373	0	3
## 374	374	0	1
## 375	375	0	3
## 378	378	0	1
## 379	379	0	3
## 380	380	0	3
## 383	383	0	3
## 385	385	0	3
## 386	386	0	2
## 387	387	0	3
## 389	389	0	3
## 393	393	0	3
## 396	396	0	3
## 397	397	0	3
## 398	398	0	2
## 399	399	0	2
## 402	402	0	3
## 403	403	0	3
## 404	404	0	3
## 405	405	0	3
## 406	406	0	2
## 407	407	0	3
## 409	409	0	3
## 410	410	0	3
## 411	411	0	3
## 412	412	0	3
## 414	414	0	2
## 416	416	0	3
## 419	419	0	2
## 420	420	0	3
## 421	421	0	3
## 422	422	0	3
## 423	423	0	3
## 424	424	0	3
## 425	425	0	3
## 426	426	0	3

## 429	429	0	3
## 434	434	0	3
## 435	435	0	1
## 437	437	0	3
## 439	439	0	1
## 440	440	0	2
## 442	442	0	3
## 443	443	0	3
## 451	451	0	2
## 452	452	0	3
## 453	453	0	1
## 455	455	0	3
## 457	457	0	1
## 460	460	0	3
## 462	462	0	3
## 463	463	0	1
## 464	464	0	2
## 465	465	0	3
## 466	466	0	3
## 467	467	0	2
## 468	468	0	1
## 469	469	0	3
## 471	471	0	3
## 472	472	0	3
## 475	475	0	3
## 476	476	0	1
## 477	477	0	2
## 478	478	0	3
## 479	479	0	3
## 481	481	0	3
## 482	482	0	2
## 483	483	0	3
## 486	486	0	3
## 488	488	0	1
## 489	489	0	3
## 491	491	0	3
## 492	492	0	3
## 493	493	0	1
## 494	494	0	1
## 495	495	0	3
## 496	496	0	3
## 498	498	0	3
## 499	499	0	1
## 500	500	0	3
## 501	501	0	3
## 502	502	0	3
## 503	503	0	3
## 504	504	0	3
## 506	506	0	1
## 509	509	0	3
## 512	512	0	3
## 515	515	0	3
## 516	516	0	1
## 518	518	0	3

## 520	520	0	3
## 522	522	0	3
## 523	523	0	3
## 525	525	0	3
## 526	526	0	3
## 528	528	0	1
## 529	529	0	3
## 530	530	0	2
## 532	532	0	3
## 533	533	0	3
## 535	535	0	3
## 537	537	0	1
## 539	539	0	3
## 542	542	0	3
## 543	543	0	3
## 545	545	0	1
## 546	546	0	1
## 549	549	0	3
## 552	552	0	2
## 553	553	0	3
## 556	556	0	1
## 558	558	0	1
## 561	561	0	3
## 562	562	0	3
## 563	563	0	2
## 564	564	0	3
## 565	565	0	3
## 566	566	0	3
## 567	567	0	3
## 568	568	0	3
## 569	569	0	3
## 575	575	0	3
## 576	576	0	3
## 579	579	0	3
## 583	583	0	2
## 584	584	0	1
## 585	585	0	3
## 587	587	0	2
## 589	589	0	3
## 590	590	0	3
## 591	591	0	3
## 593	593	0	3
## 594	594	0	3
## 595	595	0	2
## 596	596	0	3
## 598	598	0	3
## 599	599	0	3
## 602	602	0	3
## 603	603	0	1
## 604	604	0	3
## 606	606	0	3
## 607	607	0	3
## 611	611	0	3
## 612	612	0	3

## 614	614	0	3
## 615	615	0	3
## 617	617	0	3
## 618	618	0	3
## 620	620	0	2
## 621	621	0	3
## 624	624	0	3
## 625	625	0	3
## 626	626	0	1
## 627	627	0	2
## 629	629	0	3
## 630	630	0	3
## 632	632	0	3
## 634	634	0	1
## 635	635	0	3
## 637	637	0	3
## 638	638	0	2
## 639	639	0	3
## 640	640	0	3
## 641	641	0	3
## 643	643	0	3
## 647	647	0	3
## 649	649	0	3
## 651	651	0	3
## 653	653	0	3
## 655	655	0	3
## 656	656	0	2
## 657	657	0	3
## 658	658	0	3
## 659	659	0	2
## 660	660	0	1
## 662	662	0	3
## 663	663	0	1
## 664	664	0	3
## 666	666	0	2
## 667	667	0	2
## 668	668	0	3
## 669	669	0	3
## 672	672	0	1
## 673	673	0	2
## 675	675	0	2
## 676	676	0	3
## 677	677	0	3
## 679	679	0	3
## 681	681	0	3
## 683	683	0	3
## 684	684	0	3
## 685	685	0	2
## 686	686	0	2
## 687	687	0	3
## 688	688	0	3
## 689	689	0	3
## 694	694	0	3
## 695	695	0	1

## 696	696	0	2
## 697	697	0	3
## 699	699	0	1
## 700	700	0	3
## 703	703	0	3
## 704	704	0	3
## 705	705	0	3
## 706	706	0	2
## 712	712	0	1
## 714	714	0	3
## 715	715	0	2
## 716	716	0	3
## 719	719	0	3
## 720	720	0	3
## 722	722	0	3
## 723	723	0	2
## 724	724	0	2
## 726	726	0	3
## 729	729	0	2
## 730	730	0	3
## 732	732	0	3
## 733	733	0	2
## 734	734	0	2
## 735	735	0	2
## 736	736	0	3
## 737	737	0	3
## 739	739	0	3
## 740	740	0	3
## 742	742	0	1
## 744	744	0	3
## 746	746	0	1
## 747	747	0	3
## 749	749	0	1
## 750	750	0	3
## 753	753	0	3
## 754	754	0	3
## 757	757	0	3
## 758	758	0	2
## 759	759	0	3
## 761	761	0	3
## 762	762	0	3
## 765	765	0	3
## 767	767	0	1
## 768	768	0	3
## 769	769	0	3
## 770	770	0	3
## 771	771	0	3
## 772	772	0	3
## 773	773	0	2
## 774	774	0	3
## 776	776	0	3
## 777	777	0	3
## 779	779	0	3
## 783	783	0	1

## 784	784	0	3
## 785	785	0	3
## 786	786	0	3
## 788	788	0	3
## 790	790	0	1
## 791	791	0	3
## 792	792	0	2
## 793	793	0	3
## 794	794	0	1
## 795	795	0	3
## 796	796	0	2
## 799	799	0	3
## 800	800	0	3
## 801	801	0	2
## 806	806	0	3
## 807	807	0	1
## 808	808	0	3
## 809	809	0	2
## 811	811	0	3
## 812	812	0	3
## 813	813	0	2
## 814	814	0	3
## 815	815	0	3
## 816	816	0	1
## 817	817	0	3
## 818	818	0	2
## 819	819	0	3
## 820	820	0	3
## 823	823	0	1
## 825	825	0	3
## 826	826	0	3
## 827	827	0	3
## 833	833	0	3
## 834	834	0	3
## 835	835	0	3
## 837	837	0	3
## 838	838	0	3
## 841	841	0	3
## 842	842	0	2
## 844	844	0	3
## 845	845	0	3
## 846	846	0	3
## 847	847	0	3
## 848	848	0	3
## 849	849	0	2
## 851	851	0	3
## 852	852	0	3
## 853	853	0	3
## 855	855	0	2
## 860	860	0	3
## 861	861	0	3
## 862	862	0	2
## 864	864	0	3
## 865	865	0	2

## 868	868	0	1
## 869	869	0	3
## 871	871	0	3
## 873	873	0	1
## 874	874	0	3
## 877	877	0	3
## 878	878	0	3
## 879	879	0	3
## 882	882	0	3
## 883	883	0	3
## 884	884	0	2
## 885	885	0	3
## 886	886	0	3
## 887	887	0	2
## 889	889	0	3
## 891	891	0	3

##		Name	Sex	Age	SibSp
## 1		Braund, Mr. Owen Harris	male	22.0	1
## 5		Allen, Mr. William Henry	male	35.0	0
## 6		Moran, Mr. James	male	NA	0
## 7		McCarthy, Mr. Timothy J	male	54.0	0
## 8		Palsson, Master. Gosta Leonard	male	2.0	3
## 13		Saunderscock, Mr. William Henry	male	20.0	0
## 14		Andersson, Mr. Anders Johan	male	39.0	1
## 15		Vestrom, Miss. Hulda Amanda Adolfina	female	14.0	0
## 17		Rice, Master. Eugene	male	2.0	4
## 19	Vander Planke, Mrs. Julius (Emelia Maria Vandemoortele)		female	31.0	1
## 21		Fynney, Mr. Joseph J	male	35.0	0
## 25		Palsson, Miss. Torborg Danira	female	8.0	3
## 27		Emir, Mr. Farred Chehab	male	NA	0
## 28		Fortune, Mr. Charles Alexander	male	19.0	3
## 30		Todoroff, Mr. Lalio	male	NA	0
## 31		Uruchurtu, Don. Manuel E	male	40.0	0
## 34		Wheadon, Mr. Edward H	male	66.0	0
## 35		Meyer, Mr. Edgar Joseph	male	28.0	1
## 36		Holverson, Mr. Alexander Oskar	male	42.0	1
## 38		Cann, Mr. Ernest Charles	male	21.0	0
## 39		Vander Planke, Miss. Augusta Maria	female	18.0	2
## 41	Ahlin, Mrs. Johan (Johanna Persdotter Larsson)		female	40.0	1
## 42	Turpin, Mrs. William John Robert (Dorothy Ann Wonnacott)		female	27.0	1
## 43		Kraeff, Mr. Theodor	male	NA	0
## 46		Rogers, Mr. William John	male	NA	0
## 47		Lennon, Mr. Denis	male	NA	1
## 49		Samaan, Mr. Youssef	male	NA	2
## 50	Arnold-Franchi, Mrs. Josef (Josefine Franchi)		female	18.0	1
## 51		Panula, Master. Juha Niilo	male	7.0	4
## 52		Nosworthy, Mr. Richard Cater	male	21.0	0
## 55		Ostby, Mr. Engelhart Cornelius	male	65.0	0
## 58		Novel, Mr. Mansouer	male	28.5	0
## 60		Goodwin, Master. William Frederick	male	11.0	5
## 61		Sirayanian, Mr. Orsen	male	22.0	0
## 63		Harris, Mr. Henry Birkhardt	male	45.0	1
## 64		Skoog, Master. Harald	male	4.0	3
## 65		Stewart, Mr. Albert A	male	NA	0

## 68	Crease, Mr. Ernest James	male	19.0	0
## 70	Kink, Mr. Vincenz	male	26.0	2
## 71	Jenkin, Mr. Stephen Curnow	male	32.0	0
## 72	Goodwin, Miss. Lillian Amy	female	16.0	5
## 73	Hood, Mr. Ambrose Jr	male	21.0	0
## 74	Chronopoulos, Mr. Apostolos	male	26.0	1
## 76	Moen, Mr. Sigurd Hansen	male	25.0	0
## 77	Staneff, Mr. Ivan	male	NA	0
## 78	Moutal, Mr. Rahamin Haim	male	NA	0
## 81	Waelens, Mr. Achille	male	22.0	0
## 84	Carrau, Mr. Francisco M	male	28.0	0
## 87	Ford, Mr. William Neal	male	16.0	1
## 88	Slocovski, Mr. Selman Francis	male	NA	0
## 90	Celotti, Mr. Francesco	male	24.0	0
## 91	Christmann, Mr. Emil	male	29.0	0
## 92	Andreasson, Mr. Paul Edvin	male	20.0	0
## 93	Chaffee, Mr. Herbert Fuller	male	46.0	1
## 94	Dean, Mr. Bertram Frank	male	26.0	1
## 95	Coxon, Mr. Daniel	male	59.0	0
## 96	Shorney, Mr. Charles Joseph	male	NA	0
## 97	Goldschmidt, Mr. George B	male	71.0	0
## 100	Kantor, Mr. Sinai	male	34.0	1
## 101	Petranec, Miss. Matilda	female	28.0	0
## 102	Petroff, Mr. Pastcho ("Pentcho")	male	NA	0
## 103	White, Mr. Richard Frasar	male	21.0	0
## 104	Johansson, Mr. Gustaf Joel	male	33.0	0
## 105	Gustafsson, Mr. Anders Vilhelm	male	37.0	2
## 106	Mionoff, Mr. Stoytcho	male	28.0	0
## 109	Rekic, Mr. Tido	male	38.0	0
## 111	Porter, Mr. Walter Chamberlain	male	47.0	0
## 112	Zabour, Miss. Hileni	female	14.5	1
## 113	Barton, Mr. David John	male	22.0	0
## 114	Jussila, Miss. Katriina	female	20.0	1
## 115	Attalah, Miss. Malake	female	17.0	0
## 116	Pekoniemi, Mr. Edvard	male	21.0	0
## 117	Connors, Mr. Patrick	male	70.5	0
## 118	Turpin, Mr. William John Robert	male	29.0	1
## 119	Baxter, Mr. Quigg Edmond	male	24.0	0
## 120	Andersson, Miss. Ellis Anna Maria	female	2.0	4
## 121	Hickman, Mr. Stanley George	male	21.0	2
## 122	Moore, Mr. Leonard Charles	male	NA	0
## 123	Nasser, Mr. Nicholas	male	32.5	1
## 125	White, Mr. Percival Wayland	male	54.0	0
## 127	McMahon, Mr. Martin	male	NA	0
## 130	Ekstrom, Mr. Johan	male	45.0	0
## 131	Drazenoic, Mr. Jozef	male	33.0	0
## 132	Coelho, Mr. Domingos Fernando	male	20.0	0
## 133	Robins, Mrs. Alexander A (Grace Charity Laury)	female	47.0	1
## 135	Sobey, Mr. Samuel James Hayden	male	25.0	0
## 136	Richard, Mr. Emile	male	23.0	0
## 138	Futrelle, Mr. Jacques Heath	male	37.0	1
## 139	Osen, Mr. Olaf Elon	male	16.0	0
## 140	Giglio, Mr. Victor	male	24.0	0
## 141	Boulos, Mrs. Joseph (Sultana)	female	NA	0



## 144	Burke, Mr. Jeremiah	male	19.0	0
## 145	Andrew, Mr. Edgardo Samuel	male	18.0	0
## 146	Nicholls, Mr. Joseph Charles	male	19.0	1
## 148	Ford, Miss. Robina Maggie "Ruby"	female	9.0	2
## 149	Navratil, Mr. Michel ("Louis M Hoffman")	male	36.5	0
## 150	Byles, Rev. Thomas Roussel Davids	male	42.0	0
## 151	Bateman, Rev. Robert James	male	51.0	0
## 153	Meo, Mr. Alfonzo	male	55.5	0
## 154	van Billiard, Mr. Austin Blyler	male	40.5	0
## 155	Olsen, Mr. Ole Martin	male	NA	0
## 156	Williams, Mr. Charles Duane	male	51.0	0
## 158	Corn, Mr. Harry	male	30.0	0
## 159	Smiljanic, Mr. Mile	male	NA	0
## 160	Sage, Master. Thomas Henry	male	NA	8
## 161	Cribb, Mr. John Hatfield	male	44.0	0
## 163	Bengtsson, Mr. John Viktor	male	26.0	0
## 164	Calic, Mr. Jovo	male	17.0	0
## 165	Panula, Master. Eino Viljami	male	1.0	4
## 168	Skoog, Mrs. William (Anna Bernhardina Karlsson)	female	45.0	1
## 169	Baumann, Mr. John D	male	NA	0
## 170	Ling, Mr. Lee	male	28.0	0
## 171	Van der hoef, Mr. Wyckoff	male	61.0	0
## 172	Rice, Master. Arthur	male	4.0	4
## 174	Sivola, Mr. Antti Wilhelm	male	21.0	0
## 175	Smith, Mr. James Clinch	male	56.0	0
## 176	Klasen, Mr. Klas Albin	male	18.0	1
## 177	Lefebvre, Master. Henry Forbes	male	NA	3
## 178	Isham, Miss. Ann Elizabeth	female	50.0	0
## 179	Hale, Mr. Reginald	male	30.0	0
## 180	Leonard, Mr. Lionel	male	36.0	0
## 181	Sage, Miss. Constance Gladys	female	NA	8
## 182	Pernot, Mr. Rene	male	NA	0
## 183	Asplund, Master. Clarence Gustaf Hugo	male	9.0	4
## 186	Rood, Mr. Hugh Roscoe	male	NA	0
## 189	Bourke, Mr. John	male	40.0	1
## 190	Turcin, Mr. Stjepan	male	36.0	0
## 192	Carbines, Mr. William	male	19.0	0
## 197	Mernagh, Mr. Robert	male	NA	0
## 198	Olsen, Mr. Karl Siegwart Andreas	male	42.0	0
## 200	Yrois, Miss. Henriette ("Mrs Harbeck")	female	24.0	0
## 201	Vande Walle, Mr. Nestor Cyriel	male	28.0	0
## 202	Sage, Mr. Frederick	male	NA	8
## 203	Johanson, Mr. Jakob Alfred	male	34.0	0
## 204	Youseff, Mr. Gerious	male	45.5	0
## 206	Strom, Miss. Telma Matilda	female	2.0	0
## 207	Backstrom, Mr. Karl Alfred	male	32.0	1
## 211	Ali, Mr. Ahmed	male	24.0	0
## 213	Perkin, Mr. John Henry	male	22.0	0
## 214	Givard, Mr. Hans Kristensen	male	30.0	0
## 215	Kiernan, Mr. Philip	male	NA	1
## 218	Jacobsohn, Mr. Sidney Samuel	male	42.0	1
## 220	Harris, Mr. Walter	male	30.0	0
## 222	Bracken, Mr. James H	male	27.0	0
## 223	Green, Mr. George Henry	male	51.0	0

## 224	Nenkoff, Mr. Christo	male	NA	0
## 226	Berglund, Mr. Karl Ivar Sven	male	22.0	0
## 228	Lovell, Mr. John Hall ("Henry")	male	20.5	0
## 229	Fahlstrom, Mr. Arne Jonas	male	18.0	0
## 230	Lefebre, Miss. Mathilde	female	NA	3
## 232	Larsson, Mr. Bengt Edvin	male	29.0	0
## 233	Sjostedt, Mr. Ernst Adolf	male	59.0	0
## 235	Leyson, Mr. Robert William Norman	male	24.0	0
## 236	Harknett, Miss. Alice Phoebe	female	NA	0
## 237	Hold, Mr. Stephen	male	44.0	1
## 239	Pengelly, Mr. Frederick William	male	19.0	0
## 240	Hunt, Mr. George Henry	male	33.0	0
## 241	Zabour, Miss. Thamine	female	NA	1
## 243	Coleridge, Mr. Reginald Charles	male	29.0	0
## 244	Maenpaa, Mr. Matti Alexanteri	male	22.0	0
## 245	Attalah, Mr. Sleiman	male	30.0	0
## 246	Minahan, Dr. William Edward	male	44.0	2
## 247	Lindahl, Miss. Agda Thorilda Viktoria	female	25.0	0
## 250	Carter, Rev. Ernest Courtenay	male	54.0	1
## 251	Reed, Mr. James George	male	NA	0
## 252	Strom, Mrs. Wilhelm (Elna Matilda Persson)	female	29.0	1
## 253	Stead, Mr. William Thomas	male	62.0	0
## 254	Lobb, Mr. William Arthur	male	30.0	1
## 255	Rosblom, Mrs. Viktor (Helena Wilhelmina)	female	41.0	0
## 261	Smith, Mr. Thomas	male	NA	0
## 263	Taussig, Mr. Emil	male	52.0	1
## 264	Harrison, Mr. William	male	40.0	0
## 265	Henry, Miss. Delia	female	NA	0
## 266	Reeves, Mr. David	male	36.0	0
## 267	Panula, Mr. Ernesti Arvid	male	16.0	4
## 271	Cairns, Mr. Alexander	male	NA	0
## 274	Natsch, Mr. Charles H	male	37.0	0
## 277	Lindblom, Miss. Augusta Charlotta	female	45.0	0
## 278	Parkes, Mr. Francis "Frank"	male	NA	0
## 279	Rice, Master. Eric	male	7.0	4
## 281	Duane, Mr. Frank	male	65.0	0
## 282	Olsson, Mr. Nils Johan Goransson	male	28.0	0
## 283	de Pelsmaeker, Mr. Alfons	male	16.0	0
## 285	Smith, Mr. Richard William	male	NA	0
## 286	Stankovic, Mr. Ivan	male	33.0	0
## 288	Naidenoff, Mr. Penko	male	22.0	0
## 293	Levy, Mr. Rene Jacques	male	36.0	0
## 294	Haas, Miss. Aloisia	female	24.0	0
## 295	Mineff, Mr. Ivan	male	24.0	0
## 296	Lewy, Mr. Ervin G	male	NA	0
## 297	Hanna, Mr. Mansour	male	23.5	0
## 298	Allison, Miss. Helen Loraine	female	2.0	1
## 303	Johnson, Mr. William Cahoon Jr	male	19.0	0
## 305	Williams, Mr. Howard Hugh "Harry"	male	NA	0
## 309	Abelson, Mr. Samuel	male	30.0	1
## 313	Lahtinen, Mrs. William (Anna Sylfven)	female	26.0	1
## 314	Hendekovic, Mr. Ignjac	male	28.0	0
## 315	Hart, Mr. Benjamin	male	43.0	1
## 318	Moraweck, Dr. Ernest	male	54.0	0

## 321	Dennis, Mr. Samuel	male	22.0	0
## 322	Danoff, Mr. Yoto	male	27.0	0
## 325	Sage, Mr. George John Jr	male	NA	8
## 327	Nysveen, Mr. Johan Hansen	male	61.0	0
## 332	Partner, Mr. Austen	male	45.5	0
## 333	Graham, Mr. George Edward	male	38.0	0
## 334	Vander Planke, Mr. Leo Edmondus	male	16.0	2
## 336	Denkoff, Mr. Mitto	male	NA	0
## 337	Pears, Mr. Thomas Clinton	male	29.0	1
## 340	Blackwell, Mr. Stephen Weart	male	45.0	0
## 343	Collander, Mr. Erik Gustaf	male	28.0	0
## 344	Sedgwick, Mr. Charles Frederick Waddington	male	25.0	0
## 345	Fox, Mr. Stanley Hubert	male	36.0	0
## 350	Dimic, Mr. Jovan	male	42.0	0
## 351	Odahl, Mr. Nils Martin	male	23.0	0
## 352	Williams-Lambert, Mr. Fletcher Fellows	male	NA	0
## 353	Elias, Mr. Tannous	male	15.0	1
## 354	Arnold-Franchi, Mr. Josef	male	25.0	1
## 355	Yousif, Mr. Wazli	male	NA	0
## 356	Vanden Steen, Mr. Leo Peter	male	28.0	0
## 358	Funk, Miss. Annie Clemmer	female	38.0	0
## 361	Skoog, Mr. Wilhelm	male	40.0	1
## 362	del Carlo, Mr. Sebastiano	male	29.0	1
## 363	Barbara, Mrs. (Catherine David)	female	45.0	0
## 364	Asim, Mr. Adola	male	35.0	0
## 365	O'Brien, Mr. Thomas	male	NA	1
## 366	Adahl, Mr. Mauritz Nils Martin	male	30.0	0
## 372	Wiklund, Mr. Jakob Alfred	male	18.0	1
## 373	Beavan, Mr. William Thomas	male	19.0	0
## 374	Ringhini, Mr. Sante	male	22.0	0
## 375	Palsson, Miss. Stina Viola	female	3.0	3
## 378	Widener, Mr. Harry Elkins	male	27.0	0
## 379	Betros, Mr. Tannous	male	20.0	0
## 380	Gustafsson, Mr. Karl Gideon	male	19.0	0
## 383	Tikkanen, Mr. Juho	male	32.0	0
## 385	Plotcharsky, Mr. Vasil	male	NA	0
## 386	Davies, Mr. Charles Henry	male	18.0	0
## 387	Goodwin, Master. Sidney Leonard	male	1.0	5
## 389	Sadlier, Mr. Matthew	male	NA	0
## 393	Gustafsson, Mr. Johan Birger	male	28.0	2
## 396	Johansson, Mr. Erik	male	22.0	0
## 397	Olsson, Miss. Elina	female	31.0	0
## 398	McKane, Mr. Peter David	male	46.0	0
## 399	Pain, Dr. Alfred	male	23.0	0
## 402	Adams, Mr. John	male	26.0	0
## 403	Jussila, Miss. Mari Aina	female	21.0	1
## 404	Hakkarainen, Mr. Pekka Pietari	male	28.0	1
## 405	Oreskovic, Miss. Marija	female	20.0	0
## 406	Gale, Mr. Shadrach	male	34.0	1
## 407	Widegren, Mr. Carl/Charles Peter	male	51.0	0
## 409	Birkeland, Mr. Hans Martin Monsen	male	21.0	0
## 410	Lefebvre, Miss. Ida	female	NA	3
## 411	Sdycoff, Mr. Todor	male	NA	0
## 412	Hart, Mr. Henry	male	NA	0

## 414	Cunningham, Mr. Alfred Fleming	male	NA	0
## 416	Meek, Mrs. Thomas (Annie Louise Rowley)	female	NA	0
## 419	Matthews, Mr. William John	male	30.0	0
## 420	Van Impe, Miss. Catharina	female	10.0	0
## 421	Gheorgheff, Mr. Stanio	male	NA	0
## 422	Charters, Mr. David	male	21.0	0
## 423	Zimmerman, Mr. Leo	male	29.0	0
## 424	Danbom, Mrs. Ernst Gilbert (Anna Sigrid Maria Brogren)	female	28.0	1
## 425	Rosblom, Mr. Viktor Richard	male	18.0	1
## 426	Wiseman, Mr. Phillippe	male	NA	0
## 429	Flynn, Mr. James	male	NA	0
## 434	Kallio, Mr. Nikolai Erland	male	17.0	0
## 435	Silvey, Mr. William Baird	male	50.0	1
## 437	Ford, Miss. Doolina Margaret "Daisy"	female	21.0	2
## 439	Fortune, Mr. Mark	male	64.0	1
## 440	Kvillner, Mr. Johan Henrik Johannesson	male	31.0	0
## 442	Hampe, Mr. Leon	male	20.0	0
## 443	Petterson, Mr. Johan Emil	male	25.0	1
## 451	West, Mr. Edwy Arthur	male	36.0	1
## 452	Hagland, Mr. Ingvald Olai Olsen	male	NA	1
## 453	Foreman, Mr. Benjamin Laventall	male	30.0	0
## 455	Peduzzi, Mr. Joseph	male	NA	0
## 457	Millet, Mr. Francis Davis	male	65.0	0
## 460	O'Connor, Mr. Maurice	male	NA	0
## 462	Morley, Mr. William	male	34.0	0
## 463	Gee, Mr. Arthur H	male	47.0	0
## 464	Milling, Mr. Jacob Christian	male	48.0	0
## 465	Maisner, Mr. Simon	male	NA	0
## 466	Goncalves, Mr. Manuel Estanslas	male	38.0	0
## 467	Campbell, Mr. William	male	NA	0
## 468	Smart, Mr. John Montgomery	male	56.0	0
## 469	Scanlan, Mr. James	male	NA	0
## 471	Keefe, Mr. Arthur	male	NA	0
## 472	Cacic, Mr. Luka	male	38.0	0
## 475	Strandberg, Miss. Ida Sofia	female	22.0	0
## 476	Clifford, Mr. George Quincy	male	NA	0
## 477	Renouf, Mr. Peter Henry	male	34.0	1
## 478	Braund, Mr. Lewis Richard	male	29.0	1
## 479	Karlsson, Mr. Nils August	male	22.0	0
## 481	Goodwin, Master. Harold Victor	male	9.0	5
## 482	Frost, Mr. Anthony Wood "Archie"	male	NA	0
## 483	Rouse, Mr. Richard Henry	male	50.0	0
## 486	Lefebre, Miss. Jeannie	female	NA	3
## 488	Kent, Mr. Edward Austin	male	58.0	0
## 489	Somerton, Mr. Francis William	male	30.0	0
## 491	Hagland, Mr. Konrad Mathias Reiersen	male	NA	1
## 492	Windelov, Mr. Einar	male	21.0	0
## 493	Molson, Mr. Harry Markland	male	55.0	0
## 494	Artagaveytia, Mr. Ramon	male	71.0	0
## 495	Stanley, Mr. Edward Roland	male	21.0	0
## 496	Yousseff, Mr. Gerious	male	NA	0
## 498	Shellard, Mr. Frederick William	male	NA	0
## 499	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	25.0	1
## 500	Svensson, Mr. Olof	male	24.0	0

## 501	Calic, Mr. Petar	male	17.0	0
## 502	Canavan, Miss. Mary	female	21.0	0
## 503	O'Sullivan, Miss. Bridget Mary	female	NA	0
## 504	Laitinen, Miss. Kristina Sofia	female	37.0	0
## 506	Penasco y Castellana, Mr. Victor de Satode	male	18.0	1
## 509	Olsen, Mr. Henry Margido	male	28.0	0
## 512	Webber, Mr. James	male	NA	0
## 515	Coleff, Mr. Satio	male	24.0	0
## 516	Walker, Mr. William Anderson	male	47.0	0
## 518	Ryan, Mr. Patrick	male	NA	0
## 520	Pavlovic, Mr. Stefo	male	32.0	0
## 522	Vovk, Mr. Janko	male	22.0	0
## 523	Lahoud, Mr. Sarkis	male	NA	0
## 525	Kassem, Mr. Fared	male	NA	0
## 526	Farrell, Mr. James	male	40.5	0
## 528	Farthing, Mr. John	male	NA	0
## 529	Salonen, Mr. Johan Werner	male	39.0	0
## 530	Hocking, Mr. Richard George	male	23.0	2
## 532	Toufik, Mr. Nakli	male	NA	0
## 533	Elias, Mr. Joseph Jr	male	17.0	1
## 535	Cacic, Miss. Marija	female	30.0	0
## 537	Butt, Major. Archibald Willingham	male	45.0	0
## 539	Risien, Mr. Samuel Beard	male	NA	0
## 542	Andersson, Miss. Ingeborg Constanzia	female	9.0	4
## 543	Andersson, Miss. Sigrid Elisabeth	female	11.0	4
## 545	Douglas, Mr. Walter Donald	male	50.0	1
## 546	Nicholson, Mr. Arthur Ernest	male	64.0	0
## 549	Goldsmith, Mr. Frank John	male	33.0	1
## 552	Sharp, Mr. Percival James R	male	27.0	0
## 553	O'Brien, Mr. Timothy	male	NA	0
## 556	Wright, Mr. George	male	62.0	0
## 558	Robbins, Mr. Victor	male	NA	0
## 561	Morrow, Mr. Thomas Rowan	male	NA	0
## 562	Sivic, Mr. Husein	male	40.0	0
## 563	Norman, Mr. Robert Douglas	male	28.0	0
## 564	Simmons, Mr. John	male	NA	0
## 565	Meanwell, Miss. (Marion Ogden)	female	NA	0
## 566	Davies, Mr. Alfred J	male	24.0	2
## 567	Stoytcheff, Mr. Ilia	male	19.0	0
## 568	Palsson, Mrs. Nils (Alma Cornelia Berglund)	female	29.0	0
## 569	Doharr, Mr. Tannous	male	NA	0
## 575	Rush, Mr. Alfred George John	male	16.0	0
## 576	Patchett, Mr. George	male	19.0	0
## 579	Caram, Mrs. Joseph (Maria Elias)	female	NA	1
## 583	Downton, Mr. William James	male	54.0	0
## 584	Ross, Mr. John Hugo	male	36.0	0
## 585	Paulner, Mr. Uscher	male	NA	0
## 587	Jarvis, Mr. John Denzil	male	47.0	0
## 589	Gilinski, Mr. Eliezer	male	22.0	0
## 590	Murdlin, Mr. Joseph	male	NA	0
## 591	Rintamaki, Mr. Matti	male	35.0	0
## 593	Elsbury, Mr. William James	male	47.0	0
## 594	Bourke, Miss. Mary	female	NA	0
## 595	Chapman, Mr. John Henry	male	37.0	1

## 596	Van Impe, Mr. Jean Baptiste	male	36.0	1
## 598	Johnson, Mr. Alfred	male	49.0	0
## 599	Boulos, Mr. Hanna	male	NA	0
## 602	Slabenoff, Mr. Petco	male	NA	0
## 603	Harrington, Mr. Charles H	male	NA	0
## 604	Torber, Mr. Ernst William	male	44.0	0
## 606	Lindell, Mr. Edvard Bengtsson	male	36.0	1
## 607	Karaic, Mr. Milan	male	30.0	0
## 611	Andersson, Mrs. Anders Johan (Alfrida Konstantia Brogren)	female	39.0	1
## 612	Jardin, Mr. Jose Neto	male	NA	0
## 614	Horgan, Mr. John	male	NA	0
## 615	Brocklebank, Mr. William Alfred	male	35.0	0
## 617	Danbom, Mr. Ernst Gilbert	male	34.0	1
## 618	Lobb, Mrs. William Arthur (Cordelia K Stanlick)	female	26.0	1
## 620	Gavey, Mr. Lawrence	male	26.0	0
## 621	Yasbeck, Mr. Antoni	male	27.0	1
## 624	Hansen, Mr. Henry Damsgaard	male	21.0	0
## 625	Bowen, Mr. David John "Dai"	male	21.0	0
## 626	Sutton, Mr. Frederick	male	61.0	0
## 627	Kirkland, Rev. Charles Leonard	male	57.0	0
## 629	Bostandyeff, Mr. Guentcho	male	26.0	0
## 630	O'Connell, Mr. Patrick D	male	NA	0
## 632	Lundahl, Mr. Johan Svensson	male	51.0	0
## 634	Parr, Mr. William Henry Marsh	male	NA	0
## 635	Skoog, Miss. Mabel	female	9.0	3
## 637	Leinonen, Mr. Antti Gustaf	male	32.0	0
## 638	Collyer, Mr. Harvey	male	31.0	1
## 639	Panula, Mrs. Juha (Maria Emilia Ojala)	female	41.0	0
## 640	Thorneycroft, Mr. Percival	male	NA	1
## 641	Jensen, Mr. Hans Peder	male	20.0	0
## 643	Skoog, Miss. Margit Elizabeth	female	2.0	3
## 647	Cor, Mr. Liudevit	male	19.0	0
## 649	Willey, Mr. Edward	male	NA	0
## 651	Mitkoff, Mr. Mito	male	NA	0
## 653	Kalvik, Mr. Johannes Halvorsen	male	21.0	0
## 655	Hegarty, Miss. Hanora "Nora"	female	18.0	0
## 656	Hickman, Mr. Leonard Mark	male	24.0	2
## 657	Radeff, Mr. Alexander	male	NA	0
## 658	Bourke, Mrs. John (Catherine)	female	32.0	1
## 659	Eitemiller, Mr. George Floyd	male	23.0	0
## 660	Newell, Mr. Arthur Webster	male	58.0	0
## 662	Badt, Mr. Mohamed	male	40.0	0
## 663	Colley, Mr. Edward Pomeroy	male	47.0	0
## 664	Coleff, Mr. Peju	male	36.0	0
## 666	Hickman, Mr. Lewis	male	32.0	2
## 667	Butler, Mr. Reginald Fenton	male	25.0	0
## 668	Rommetvedt, Mr. Knud Paust	male	NA	0
## 669	Cook, Mr. Jacob	male	43.0	0
## 672	Davidson, Mr. Thornton	male	31.0	1
## 673	Mitchell, Mr. Henry Michael	male	70.0	0
## 675	Watson, Mr. Ennis Hastings	male	NA	0
## 676	Edvardsson, Mr. Gustaf Hjalmar	male	18.0	0
## 677	Sawyer, Mr. Frederick Charles	male	24.5	0
## 679	Goodwin, Mrs. Frederick (Augusta Tyler)	female	43.0	1

## 681	Peters, Miss. Katie	female	NA	0
## 683	Olsvigen, Mr. Thor Anderson	male	20.0	0
## 684	Goodwin, Mr. Charles Edward	male	14.0	5
## 685	Brown, Mr. Thomas William Solomon	male	60.0	1
## 686	Laroche, Mr. Joseph Philippe Lemercier	male	25.0	1
## 687	Panula, Mr. Jaako Arnold	male	14.0	4
## 688	Dakic, Mr. Branko	male	19.0	0
## 689	Fischer, Mr. Eberhard Thelander	male	18.0	0
## 694	Saad, Mr. Khalil	male	25.0	0
## 695	Weir, Col. John	male	60.0	0
## 696	Chapman, Mr. Charles Henry	male	52.0	0
## 697	Kelly, Mr. James	male	44.0	0
## 699	Thayer, Mr. John Borland	male	49.0	1
## 700	Humblen, Mr. Adolf Mathias Nicolai Olsen	male	42.0	0
## 703	Barbara, Miss. Saiide	female	18.0	0
## 704	Gallagher, Mr. Martin	male	25.0	0
## 705	Hansen, Mr. Henrik Juul	male	26.0	1
## 706	Morley, Mr. Henry Samuel ("Mr Henry Marshall")	male	39.0	0
## 712	Klaber, Mr. Herman	male	NA	0
## 714	Larsson, Mr. August Viktor	male	29.0	0
## 715	Greenberg, Mr. Samuel	male	52.0	0
## 716	Soholt, Mr. Peter Andreas Lauritz Andersen	male	19.0	0
## 719	McEvoy, Mr. Michael	male	NA	0
## 720	Johnson, Mr. Malkolm Joackim	male	33.0	0
## 722	Jensen, Mr. Svend Lauritz	male	17.0	1
## 723	Gillespie, Mr. William Henry	male	34.0	0
## 724	Hodges, Mr. Henry Price	male	50.0	0
## 726	Oreskovic, Mr. Luka	male	20.0	0
## 729	Bryhl, Mr. Kurt Arnold Gottfrid	male	25.0	1
## 730	Ilmakangas, Miss. Pieta Sofia	female	25.0	1
## 732	Hassan, Mr. Houssein G N	male	11.0	0
## 733	Knight, Mr. Robert J	male	NA	0
## 734	Berriman, Mr. William John	male	23.0	0
## 735	Troupiansky, Mr. Moses Aaron	male	23.0	0
## 736	Williams, Mr. Leslie	male	28.5	0
## 737	Ford, Mrs. Edward (Margaret Ann Watson)	female	48.0	1
## 739	Ivanoff, Mr. Kanio	male	NA	0
## 740	Nankoff, Mr. Minko	male	NA	0
## 742	Cavendish, Mr. Tyrell William	male	36.0	1
## 744	McNamee, Mr. Neal	male	24.0	1
## 746	Crosby, Capt. Edward Gifford	male	70.0	1
## 747	Abbott, Mr. Rossmore Edward	male	16.0	1
## 749	Marvin, Mr. Daniel Warner	male	19.0	1
## 750	Connaghton, Mr. Michael	male	31.0	0
## 753	Vande Velde, Mr. Johannes Joseph	male	33.0	0
## 754	Jonkoff, Mr. Lallio	male	23.0	0
## 757	Carlsson, Mr. August Sigfrid	male	28.0	0
## 758	Bailey, Mr. Percy Andrew	male	18.0	0
## 759	Theobald, Mr. Thomas Leonard	male	34.0	0
## 761	Garfirth, Mr. John	male	NA	0
## 762	Nirva, Mr. Iisakki Antino Aijo	male	41.0	0
## 765	Eklund, Mr. Hans Linus	male	16.0	0
## 767	Brewe, Dr. Arthur Jackson	male	NA	0
## 768	Mangan, Miss. Mary	female	30.5	0

## 769	Moran, Mr. Daniel J	male	NA	1
## 770	Gronnestad, Mr. Daniel Danielsen	male	32.0	0
## 771	Lievens, Mr. Rene Aime	male	24.0	0
## 772	Jensen, Mr. Niels Peder	male	48.0	0
## 773	Mack, Mrs. (Mary)	female	57.0	0
## 774	Elias, Mr. Dibo	male	NA	0
## 776	Myhrman, Mr. Pehr Fabian Oliver Malkolm	male	18.0	0
## 777	Tobin, Mr. Roger	male	NA	0
## 779	Kilgannon, Mr. Thomas J	male	NA	0
## 783	Long, Mr. Milton Clyde	male	29.0	0
## 784	Johnston, Mr. Andrew G	male	NA	1
## 785	Ali, Mr. William	male	25.0	0
## 786	Harmer, Mr. Abraham (David Lishin)	male	25.0	0
## 788	Rice, Master. George Hugh	male	8.0	4
## 790	Guggenheim, Mr. Benjamin	male	46.0	0
## 791	Keane, Mr. Andrew "Andy"	male	NA	0
## 792	Gaskell, Mr. Alfred	male	16.0	0
## 793	Sage, Miss. Stella Anna	female	NA	8
## 794	Hoyt, Mr. William Fisher	male	NA	0
## 795	Dantcheff, Mr. Ristiu	male	25.0	0
## 796	Otter, Mr. Richard	male	39.0	0
## 799	Ibrahim Shawah, Mr. Yousseff	male	30.0	0
## 800	Van Impe, Mrs. Jean Baptiste (Rosalie Paula Govaert)	female	30.0	1
## 801	Ponesell, Mr. Martin	male	34.0	0
## 806	Johansson, Mr. Karl Johan	male	31.0	0
## 807	Andrews, Mr. Thomas Jr	male	39.0	0
## 808	Pettersson, Miss. Ellen Natalia	female	18.0	0
## 809	Meyer, Mr. August	male	39.0	0
## 811	Alexander, Mr. William	male	26.0	0
## 812	Lester, Mr. James	male	39.0	0
## 813	Slemen, Mr. Richard James	male	35.0	0
## 814	Andersson, Miss. Ebba Iris Alfrida	female	6.0	4
## 815	Tomlin, Mr. Ernest Portage	male	30.5	0
## 816	Fry, Mr. Richard	male	NA	0
## 817	Heininen, Miss. Wendla Maria	female	23.0	0
## 818	Mallet, Mr. Albert	male	31.0	1
## 819	Holm, Mr. John Fredrik Alexander	male	43.0	0
## 820	Skoog, Master. Karl Thorsten	male	10.0	3
## 823	Reuchlin, Jonkheer. John George	male	38.0	0
## 825	Panula, Master. Urho Abraham	male	2.0	4
## 826	Flynn, Mr. John	male	NA	0
## 827	Lam, Mr. Len	male	NA	0
## 833	Saad, Mr. Amin	male	NA	0
## 834	Augustsson, Mr. Albert	male	23.0	0
## 835	Allum, Mr. Owen George	male	18.0	0
## 837	Pasic, Mr. Jakob	male	21.0	0
## 838	Sirota, Mr. Maurice	male	NA	0
## 841	Alhomaki, Mr. Ilmari Rudolf	male	20.0	0
## 842	Mudd, Mr. Thomas Charles	male	16.0	0
## 844	Lemberopolous, Mr. Peter L	male	34.5	0
## 845	Culumovic, Mr. Jeso	male	17.0	0
## 846	Abbing, Mr. Anthony	male	42.0	0
## 847	Sage, Mr. Douglas Bullen	male	NA	8
## 848	Markoff, Mr. Marin	male	35.0	0



## 849		Harper, Rev. John	male	28.0	0
## 851		Andersson, Master. Sigvard Harald Elias	male	4.0	4
## 852		Svensson, Mr. Johan	male	74.0	0
## 853		Boulos, Miss. Nourelain	female	9.0	1
## 855		Carter, Mrs. Ernest Courtenay (Lilian Hughes)	female	44.0	1
## 860		Razi, Mr. Raihed	male	NA	0
## 861		Hansen, Mr. Claus Peter	male	41.0	2
## 862		Giles, Mr. Frederick Edward	male	21.0	1
## 864		Sage, Miss. Dorothy Edith "Dolly"	female	NA	8
## 865		Gill, Mr. John William	male	24.0	0
## 868		Roebbing, Mr. Washington Augustus II	male	31.0	0
## 869		van Melkebeke, Mr. Philemon	male	NA	0
## 871		Balkic, Mr. Cerin	male	26.0	0
## 873		Carlsson, Mr. Frans Olof	male	33.0	0
## 874		Vander Cruyssen, Mr. Victor	male	47.0	0
## 877		Gustafsson, Mr. Alfred Ossian	male	20.0	0
## 878		Petroff, Mr. Nedelio	male	19.0	0
## 879		Laleff, Mr. Kristo	male	NA	0
## 882		Markun, Mr. Johann	male	33.0	0
## 883		Dahlberg, Miss. Gerda Ulrika	female	22.0	0
## 884		Banfield, Mr. Frederick James	male	28.0	0
## 885		Sutehall, Mr. Henry Jr	male	25.0	0
## 886		Rice, Mrs. William (Margaret Norton)	female	39.0	0
## 887		Montvila, Rev. Juozas	male	27.0	0
## 889		Johnston, Miss. Catherine Helen "Carrie"	female	NA	1
## 891		Dooley, Mr. Patrick	male	32.0	0
##	Parch	Ticket	Fare	Cabin Embarked	
## 1	0	A/5 21171	7.2500	S	
## 5	0	373450	8.0500	S	
## 6	0	330877	8.4583	Q	
## 7	0	17463	51.8625	E46	S
## 8	1	349909	21.0750	S	
## 13	0	A/5. 2151	8.0500	S	
## 14	5	347082	31.2750	S	
## 15	0	350406	7.8542	S	
## 17	1	382652	29.1250	Q	
## 19	0	345763	18.0000	S	
## 21	0	239865	26.0000	S	
## 25	1	349909	21.0750	S	
## 27	0	2631	7.2250	C	
## 28	2	19950	263.0000	C23 C25 C27	S
## 30	0	349216	7.8958	S	
## 31	0	PC 17601	27.7208	C	
## 34	0	C.A. 24579	10.5000	S	
## 35	0	PC 17604	82.1708	C	
## 36	0	113789	52.0000	S	
## 38	0	A./5. 2152	8.0500	S	
## 39	0	345764	18.0000	S	
## 41	0	7546	9.4750	S	
## 42	0	11668	21.0000	S	
## 43	0	349253	7.8958	C	
## 46	0	S.C./A.4. 23567	8.0500	S	
## 47	0	370371	15.5000	Q	
## 49	0	2662	21.6792	C	

## 50	0	349237	17.8000		S
## 51	1	3101295	39.6875		S
## 52	0	A/4. 39886	7.8000		S
## 55	1	113509	61.9792	B30	C
## 58	0	2697	7.2292		C
## 60	2	CA 2144	46.9000		S
## 61	0	2669	7.2292		C
## 63	0	36973	83.4750	C83	S
## 64	2	347088	27.9000		S
## 65	0	PC 17605	27.7208		C
## 68	0	S.P. 3464	8.1583		S
## 70	0	315151	8.6625		S
## 71	0	C.A. 33111	10.5000		S
## 72	2	CA 2144	46.9000		S
## 73	0	S.O.C. 14879	73.5000		S
## 74	0	2680	14.4542		C
## 76	0	348123	7.6500	F G73	S
## 77	0	349208	7.8958		S
## 78	0	374746	8.0500		S
## 81	0	345767	9.0000		S
## 84	0	113059	47.1000		S
## 87	3	W./C. 6608	34.3750		S
## 88	0	SOTON/OQ 392086	8.0500		S
## 90	0	343275	8.0500		S
## 91	0	343276	8.0500		S
## 92	0	347466	7.8542		S
## 93	0	W.E.P. 5734	61.1750	E31	S
## 94	2	C.A. 2315	20.5750		S
## 95	0	364500	7.2500		S
## 96	0	374910	8.0500		S
## 97	0	PC 17754	34.6542	A5	C
## 100	0	244367	26.0000		S
## 101	0	349245	7.8958		S
## 102	0	349215	7.8958		S
## 103	1	35281	77.2875	D26	S
## 104	0	7540	8.6542		S
## 105	0	3101276	7.9250		S
## 106	0	349207	7.8958		S
## 109	0	349249	7.8958		S
## 111	0	110465	52.0000	C110	S
## 112	0	2665	14.4542		C
## 113	0	324669	8.0500		S
## 114	0	4136	9.8250		S
## 115	0	2627	14.4583		C
## 116	0	STON/O 2. 3101294	7.9250		S
## 117	0	370369	7.7500		Q
## 118	0	11668	21.0000		S
## 119	1	PC 17558	247.5208	B58 B60	C
## 120	2	347082	31.2750		S
## 121	0	S.O.C. 14879	73.5000		S
## 122	0	A4. 54510	8.0500		S
## 123	0	237736	30.0708		C
## 125	1	35281	77.2875	D26	S
## 127	0	370372	7.7500		Q

## 130	0	347061	6.9750		S
## 131	0	349241	7.8958		C
## 132	0	SOTON/O.Q. 3101307	7.0500		S
## 133	0	A/5. 3337	14.5000		S
## 135	0	C.A. 29178	13.0000		S
## 136	0	SC/PARIS 2133	15.0458		C
## 138	0	113803	53.1000	C123	S
## 139	0	7534	9.2167		S
## 140	0	PC 17593	79.2000	B86	C
## 141	2	2678	15.2458		C
## 144	0	365222	6.7500		Q
## 145	0	231945	11.5000		S
## 146	1	C.A. 33112	36.7500		S
## 148	2	W./C. 6608	34.3750		S
## 149	2	230080	26.0000	F2	S
## 150	0	244310	13.0000		S
## 151	0	S.O.P. 1166	12.5250		S
## 153	0	A.5. 11206	8.0500		S
## 154	2	A/5. 851	14.5000		S
## 155	0	Fa 265302	7.3125		S
## 156	1	PC 17597	61.3792		C
## 158	0	SOTON/OQ 392090	8.0500		S
## 159	0	315037	8.6625		S
## 160	2	CA. 2343	69.5500		S
## 161	1	371362	16.1000		S
## 163	0	347068	7.7750		S
## 164	0	315093	8.6625		S
## 165	1	3101295	39.6875		S
## 168	4	347088	27.9000		S
## 169	0	PC 17318	25.9250		S
## 170	0	1601	56.4958		S
## 171	0	111240	33.5000	B19	S
## 172	1	382652	29.1250		Q
## 174	0	STON/O 2. 3101280	7.9250		S
## 175	0	17764	30.6958	A7	C
## 176	1	350404	7.8542		S
## 177	1	4133	25.4667		S
## 178	0	PC 17595	28.7125	C49	C
## 179	0	250653	13.0000		S
## 180	0	LINE	0.0000		S
## 181	2	CA. 2343	69.5500		S
## 182	0	SC/PARIS 2131	15.0500		C
## 183	2	347077	31.3875		S
## 186	0	113767	50.0000	A32	S
## 189	1	364849	15.5000		Q
## 190	0	349247	7.8958		S
## 192	0	28424	13.0000		S
## 197	0	368703	7.7500		Q
## 198	1	4579	8.4042		S
## 200	0	248747	13.0000		S
## 201	0	345770	9.5000		S
## 202	2	CA. 2343	69.5500		S
## 203	0	3101264	6.4958		S
## 204	0	2628	7.2250		C

##	206	1	347054	10.4625	G6	S
##	207	0	3101278	15.8500		S
##	211	0	SOTON/O.Q. 3101311	7.0500		S
##	213	0	A/5 21174	7.2500		S
##	214	0	250646	13.0000		S
##	215	0	367229	7.7500		Q
##	218	0	243847	27.0000		S
##	220	0	W/C 14208	10.5000		S
##	222	0	220367	13.0000		S
##	223	0	21440	8.0500		S
##	224	0	349234	7.8958		S
##	226	0	PP 4348	9.3500		S
##	228	0	A/5 21173	7.2500		S
##	229	0	236171	13.0000		S
##	230	1	4133	25.4667		S
##	232	0	347067	7.7750		S
##	233	0	237442	13.5000		S
##	235	0	C.A. 29566	10.5000		S
##	236	0	W./C. 6609	7.5500		S
##	237	0	26707	26.0000		S
##	239	0	28665	10.5000		S
##	240	0	SCD/W 1585	12.2750		S
##	241	0	2665	14.4542		C
##	243	0	W./C. 14263	10.5000		S
##	244	0	STON/O 2. 3101275	7.1250		S
##	245	0	2694	7.2250		C
##	246	0	19928	90.0000	C78	Q
##	247	0	347071	7.7750		S
##	250	0	244252	26.0000		S
##	251	0	362316	7.2500		S
##	252	1	347054	10.4625	G6	S
##	253	0	113514	26.5500	C87	S
##	254	0	A/5. 3336	16.1000		S
##	255	2	370129	20.2125		S
##	261	0	384461	7.7500		Q
##	263	1	110413	79.6500	E67	S
##	264	0	112059	0.0000	B94	S
##	265	0	382649	7.7500		Q
##	266	0	C.A. 17248	10.5000		S
##	267	1	3101295	39.6875		S
##	271	0	113798	31.0000		S
##	274	1	PC 17596	29.7000	C118	C
##	277	0	347073	7.7500		S
##	278	0	239853	0.0000		S
##	279	1	382652	29.1250		Q
##	281	0	336439	7.7500		Q
##	282	0	347464	7.8542		S
##	283	0	345778	9.5000		S
##	285	0	113056	26.0000	A19	S
##	286	0	349239	8.6625		C
##	288	0	349206	7.8958		S
##	293	0	SC/Paris 2163	12.8750	D	C
##	294	0	349236	8.8500		S
##	295	0	349233	7.8958		S

##	296	0	PC 17612	27.7208		C
##	297	0	2693	7.2292		C
##	298	2	113781	151.5500	C22 C26	S
##	303	0	LINE	0.0000		S
##	305	0	A/5 2466	8.0500		S
##	309	0	P/PP 3381	24.0000		C
##	313	1	250651	26.0000		S
##	314	0	349243	7.8958		S
##	315	1	F.C.C. 13529	26.2500		S
##	318	0	29011	14.0000		S
##	321	0	A/5 21172	7.2500		S
##	322	0	349219	7.8958		S
##	325	2	CA. 2343	69.5500		S
##	327	0	345364	6.2375		S
##	332	0	113043	28.5000	C124	S
##	333	1	PC 17582	153.4625	C91	S
##	334	0	345764	18.0000		S
##	336	0	349225	7.8958		S
##	337	0	113776	66.6000	C2	S
##	340	0	113784	35.5000	T	S
##	343	0	248740	13.0000		S
##	344	0	244361	13.0000		S
##	345	0	229236	13.0000		S
##	350	0	315088	8.6625		S
##	351	0	7267	9.2250		S
##	352	0	113510	35.0000	C128	S
##	353	1	2695	7.2292		C
##	354	0	349237	17.8000		S
##	355	0	2647	7.2250		C
##	356	0	345783	9.5000		S
##	358	0	237671	13.0000		S
##	361	4	347088	27.9000		S
##	362	0	SC/PARIS 2167	27.7208		C
##	363	1	2691	14.4542		C
##	364	0	SOTON/O.Q. 3101310	7.0500		S
##	365	0	370365	15.5000		Q
##	366	0	C 7076	7.2500		S
##	372	0	3101267	6.4958		S
##	373	0	323951	8.0500		S
##	374	0	PC 17760	135.6333		C
##	375	1	349909	21.0750		S
##	378	2	113503	211.5000	C82	C
##	379	0	2648	4.0125		C
##	380	0	347069	7.7750		S
##	383	0	STON/O 2. 3101293	7.9250		S
##	385	0	349227	7.8958		S
##	386	0	S.O.C. 14879	73.5000		S
##	387	2	CA 2144	46.9000		S
##	389	0	367655	7.7292		Q
##	393	0	3101277	7.9250		S
##	396	0	350052	7.7958		S
##	397	0	350407	7.8542		S
##	398	0	28403	26.0000		S
##	399	0	244278	10.5000		S

## 402	0	341826	8.0500		S
## 403	0	4137	9.8250		S
## 404	0	STON/O2. 3101279	15.8500		S
## 405	0	315096	8.6625		S
## 406	0	28664	21.0000		S
## 407	0	347064	7.7500		S
## 409	0	312992	7.7750		S
## 410	1	4133	25.4667		S
## 411	0	349222	7.8958		S
## 412	0	394140	6.8583		Q
## 414	0	239853	0.0000		S
## 416	0	343095	8.0500		S
## 419	0	28228	13.0000		S
## 420	2	345773	24.1500		S
## 421	0	349254	7.8958		C
## 422	0	A/5. 13032	7.7333		Q
## 423	0	315082	7.8750		S
## 424	1	347080	14.4000		S
## 425	1	370129	20.2125		S
## 426	0	A/4. 34244	7.2500		S
## 429	0	364851	7.7500		Q
## 434	0	STON/O 2. 3101274	7.1250		S
## 435	0	13507	55.9000	E44	S
## 437	2	W./C. 6608	34.3750		S
## 439	4	19950	263.0000	C23 C25 C27	S
## 440	0	C.A. 18723	10.5000		S
## 442	0	345769	9.5000		S
## 443	0	347076	7.7750		S
## 451	2	C.A. 34651	27.7500		S
## 452	0	65303	19.9667		S
## 453	0	113051	27.7500	C111	C
## 455	0	A/5 2817	8.0500		S
## 457	0	13509	26.5500	E38	S
## 460	0	371060	7.7500		Q
## 462	0	364506	8.0500		S
## 463	0	111320	38.5000	E63	S
## 464	0	234360	13.0000		S
## 465	0	A/S 2816	8.0500		S
## 466	0	SOTON/O.Q. 3101306	7.0500		S
## 467	0	239853	0.0000		S
## 468	0	113792	26.5500		S
## 469	0	36209	7.7250		Q
## 471	0	323592	7.2500		S
## 472	0	315089	8.6625		S
## 475	0	7553	9.8375		S
## 476	0	110465	52.0000	A14	S
## 477	0	31027	21.0000		S
## 478	0	3460	7.0458		S
## 479	0	350060	7.5208		S
## 481	2	CA 2144	46.9000		S
## 482	0	239854	0.0000		S
## 483	0	A/5 3594	8.0500		S
## 486	1	4133	25.4667		S
## 488	0	11771	29.7000	B37	C

## 489	0	A.5.	18509	8.0500		S
## 491	0		65304	19.9667		S
## 492	0	SOTON/OQ	3101317	7.2500		S
## 493	0		113787	30.5000	C30	S
## 494	0	PC	17609	49.5042		C
## 495	0	A/4	45380	8.0500		S
## 496	0		2627	14.4583		C
## 498	0	C.A.	6212	15.1000		S
## 499	2		113781	151.5500	C22 C26	S
## 500	0		350035	7.7958		S
## 501	0		315086	8.6625		S
## 502	0		364846	7.7500		Q
## 503	0		330909	7.6292		Q
## 504	0		4135	9.5875		S
## 506	0	PC	17758	108.9000	C65	C
## 509	0	C	4001	22.5250		S
## 512	0	SOTON/OQ	3101316	8.0500		S
## 515	0		349209	7.4958		S
## 516	0		36967	34.0208	D46	S
## 518	0		371110	24.1500		Q
## 520	0		349242	7.8958		S
## 522	0		349252	7.8958		S
## 523	0		2624	7.2250		C
## 525	0		2700	7.2292		C
## 526	0		367232	7.7500		Q
## 528	0	PC	17483	221.7792	C95	S
## 529	0		3101296	7.9250		S
## 530	1		29104	11.5000		S
## 532	0		2641	7.2292		C
## 533	1		2690	7.2292		C
## 535	0		315084	8.6625		S
## 537	0		113050	26.5500	B38	S
## 539	0		364498	14.5000		S
## 542	2		347082	31.2750		S
## 543	2		347082	31.2750		S
## 545	0	PC	17761	106.4250	C86	C
## 546	0		693	26.0000		S
## 549	1		363291	20.5250		S
## 552	0		244358	26.0000		S
## 553	0		330979	7.8292		Q
## 556	0		113807	26.5500		S
## 558	0	PC	17757	227.5250		C
## 561	0		372622	7.7500		Q
## 562	0		349251	7.8958		S
## 563	0		218629	13.5000		S
## 564	0	SOTON/OQ	392082	8.0500		S
## 565	0	SOTON/O.Q.	392087	8.0500		S
## 566	0	A/4	48871	24.1500		S
## 567	0		349205	7.8958		S
## 568	4		349909	21.0750		S
## 569	0		2686	7.2292		C
## 575	0	A/4.	20589	8.0500		S
## 576	0		358585	14.5000		S
## 579	0		2689	14.4583		C

## 583	0	28403	26.0000		S
## 584	0	13049	40.1250	A10	C
## 585	0	3411	8.7125		C
## 587	0	237565	15.0000		S
## 589	0	14973	8.0500		S
## 590	0	A./5. 3235	8.0500		S
## 591	0	STON/O 2. 3101273	7.1250		S
## 593	0	A/5 3902	7.2500		S
## 594	2	364848	7.7500		Q
## 595	0	SC/AH 29037	26.0000		S
## 596	1	345773	24.1500		S
## 598	0	LINE	0.0000		S
## 599	0	2664	7.2250		C
## 602	0	349214	7.8958		S
## 603	0	113796	42.4000		S
## 604	0	364511	8.0500		S
## 606	0	349910	15.5500		S
## 607	0	349246	7.8958		S
## 611	5	347082	31.2750		S
## 612	0	SOTON/O.Q. 3101305	7.0500		S
## 614	0	370377	7.7500		Q
## 615	0	364512	8.0500		S
## 617	1	347080	14.4000		S
## 618	0	A/5. 3336	16.1000		S
## 620	0	31028	10.5000		S
## 621	0	2659	14.4542		C
## 624	0	350029	7.8542		S
## 625	0	54636	16.1000		S
## 626	0	36963	32.3208	D50	S
## 627	0	219533	12.3500		Q
## 629	0	349224	7.8958		S
## 630	0	334912	7.7333		Q
## 632	0	347743	7.0542		S
## 634	0	112052	0.0000		S
## 635	2	347088	27.9000		S
## 637	0	STON/O 2. 3101292	7.9250		S
## 638	1	C.A. 31921	26.2500		S
## 639	5	3101295	39.6875		S
## 640	0	376564	16.1000		S
## 641	0	350050	7.8542		S
## 643	2	347088	27.9000		S
## 647	0	349231	7.8958		S
## 649	0	S.O./P.P. 751	7.5500		S
## 651	0	349221	7.8958		S
## 653	0	8475	8.4333		S
## 655	0	365226	6.7500		Q
## 656	0	S.O.C. 14879	73.5000		S
## 657	0	349223	7.8958		S
## 658	1	364849	15.5000		Q
## 659	0	29751	13.0000		S
## 660	2	35273	113.2750	D48	C
## 662	0	2623	7.2250		C
## 663	0	5727	25.5875	E58	S
## 664	0	349210	7.4958		S



## 666	0	S.O.C. 14879	73.5000		S
## 667	0	234686	13.0000		S
## 668	0	312993	7.7750		S
## 669	0	A/5 3536	8.0500		S
## 672	0	F.C. 12750	52.0000	B71	S
## 673	0	C.A. 24580	10.5000		S
## 675	0	239856	0.0000		S
## 676	0	349912	7.7750		S
## 677	0	342826	8.0500		S
## 679	6	CA 2144	46.9000		S
## 681	0	330935	8.1375		Q
## 683	0	6563	9.2250		S
## 684	2	CA 2144	46.9000		S
## 685	1	29750	39.0000		S
## 686	2	SC/Paris 2123	41.5792		C
## 687	1	3101295	39.6875		S
## 688	0	349228	10.1708		S
## 689	0	350036	7.7958		S
## 694	0	2672	7.2250		C
## 695	0	113800	26.5500		S
## 696	0	248731	13.5000		S
## 697	0	363592	8.0500		S
## 699	1	17421	110.8833	C68	C
## 700	0	348121	7.6500	F G63	S
## 703	1	2691	14.4542		C
## 704	0	36864	7.7417		Q
## 705	0	350025	7.8542		S
## 706	0	250655	26.0000		S
## 712	0	113028	26.5500	C124	S
## 714	0	7545	9.4833		S
## 715	0	250647	13.0000		S
## 716	0	348124	7.6500	F G73	S
## 719	0	36568	15.5000		Q
## 720	0	347062	7.7750		S
## 722	0	350048	7.0542		S
## 723	0	12233	13.0000		S
## 724	0	250643	13.0000		S
## 726	0	315094	8.6625		S
## 729	0	236853	26.0000		S
## 730	0	STON/02. 3101271	7.9250		S
## 732	0	2699	18.7875		C
## 733	0	239855	0.0000		S
## 734	0	28425	13.0000		S
## 735	0	233639	13.0000		S
## 736	0	54636	16.1000		S
## 737	3	W./C. 6608	34.3750		S
## 739	0	349201	7.8958		S
## 740	0	349218	7.8958		S
## 742	0	19877	78.8500	C46	S
## 744	0	376566	16.1000		S
## 746	1	WE/P 5735	71.0000	B22	S
## 747	1	C.A. 2673	20.2500		S
## 749	0	113773	53.1000	D30	S
## 750	0	335097	7.7500		Q

## 753	0	345780	9.5000		S
## 754	0	349204	7.8958		S
## 757	0	350042	7.7958		S
## 758	0	29108	11.5000		S
## 759	0	363294	8.0500		S
## 761	0	358585	14.5000		S
## 762	0	SOTON/02 3101272	7.1250		S
## 765	0	347074	7.7750		S
## 767	0	112379	39.6000		C
## 768	0	364850	7.7500		Q
## 769	0	371110	24.1500		Q
## 770	0	8471	8.3625		S
## 771	0	345781	9.5000		S
## 772	0	350047	7.8542		S
## 773	0	S.O./P.P. 3	10.5000	E77	S
## 774	0	2674	7.2250		C
## 776	0	347078	7.7500		S
## 777	0	383121	7.7500	F38	Q
## 779	0	36865	7.7375		Q
## 783	0	113501	30.0000	D6	S
## 784	2	W./C. 6607	23.4500		S
## 785	0	SOTON/O.Q. 3101312	7.0500		S
## 786	0	374887	7.2500		S
## 788	1	382652	29.1250		Q
## 790	0	PC 17593	79.2000	B82 B84	C
## 791	0	12460	7.7500		Q
## 792	0	239865	26.0000		S
## 793	2	CA. 2343	69.5500		S
## 794	0	PC 17600	30.6958		C
## 795	0	349203	7.8958		S
## 796	0	28213	13.0000		S
## 799	0	2685	7.2292		C
## 800	1	345773	24.1500		S
## 801	0	250647	13.0000		S
## 806	0	347063	7.7750		S
## 807	0	112050	0.0000	A36	S
## 808	0	347087	7.7750		S
## 809	0	248723	13.0000		S
## 811	0	3474	7.8875		S
## 812	0	A/4 48871	24.1500		S
## 813	0	28206	10.5000		S
## 814	2	347082	31.2750		S
## 815	0	364499	8.0500		S
## 816	0	112058	0.0000	B102	S
## 817	0	STON/02. 3101290	7.9250		S
## 818	1	S.C./PARIS 2079	37.0042		C
## 819	0	C 7075	6.4500		S
## 820	2	347088	27.9000		S
## 823	0	19972	0.0000		S
## 825	1	3101295	39.6875		S
## 826	0	368323	6.9500		Q
## 827	0	1601	56.4958		S
## 833	0	2671	7.2292		C
## 834	0	347468	7.8542		S

##	835	0		2223	8.3000		S
##	837	0		315097	8.6625		S
##	838	0		392092	8.0500		S
##	841	0	SOTON/02	3101287	7.9250		S
##	842	0	S.O./P.P.	3	10.5000		S
##	844	0		2683	6.4375		C
##	845	0		315090	8.6625		S
##	846	0	C.A.	5547	7.5500		S
##	847	2	CA.	2343	69.5500		S
##	848	0		349213	7.8958		C
##	849	1		248727	33.0000		S
##	851	2		347082	31.2750		S
##	852	0		347060	7.7750		S
##	853	1		2678	15.2458		C
##	855	0		244252	26.0000		S
##	860	0		2629	7.2292		C
##	861	0		350026	14.1083		S
##	862	0		28134	11.5000		S
##	864	2	CA.	2343	69.5500		S
##	865	0		233866	13.0000		S
##	868	0	PC	17590	50.4958	A24	S
##	869	0		345777	9.5000		S
##	871	0		349248	7.8958		S
##	873	0		695	5.0000	B51 B53 B55	S
##	874	0		345765	9.0000		S
##	877	0		7534	9.8458		S
##	878	0		349212	7.8958		S
##	879	0		349217	7.8958		S
##	882	0		349257	7.8958		S
##	883	0		7552	10.5167		S
##	884	0	C.A./SOTON	34068	10.5000		S
##	885	0	SOTON/OQ	392076	7.0500		S
##	886	5		382652	29.1250		Q
##	887	0		211536	13.0000		S
##	889	2	W./C.	6607	23.4500		S
##	891	0		370376	7.7500		Q

```
head(subset_Survived)
```

##	PassengerId	Survived	Pclass		Name	Sex	Age	SibSp	Parch
##	2	2	1	1					
##	3	3	1	3					
##	4	4	1	1					
##	9	9	1	3					
##	10	10	1	2					
##	11	11	1	3					
##	2				Cumings, Mrs. John Bradley (Florence Briggs Thayer)	female	38	1	0
##	3				Heikkinen, Miss. Laina	female	26	0	0
##	4				Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35	1	0
##	9				Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)	female	27	0	2
##	10				Nasser, Mrs. Nicholas (Adele Achem)	female	14	1	0
##	11				Sandstrom, Miss. Marguerite Rut	female	4	1	1
##					Ticket		Fare	Cabin	Embarked
##	2				PC 17599		71.2833	C85	C

```
## 3 STON/02. 3101282 7.9250 S
## 4 113803 53.1000 C123 S
## 9 347742 11.1333 S
## 10 237736 30.0708 C
## 11 PP 9549 16.7000 G6 S
```

```
head(subset_Dead)
```

```
## PassengerId Survived Pclass Name Sex Age SibSp
## 1 1 0 3 Braund, Mr. Owen Harris male 22 1
## 5 5 0 3 Allen, Mr. William Henry male 35 0
## 6 6 0 3 Moran, Mr. James male NA 0
## 7 7 0 1 McCarthy, Mr. Timothy J male 54 0
## 8 8 0 3 Palsson, Master. Gosta Leonard male 2 3
## 13 13 0 3 Saundercock, Mr. William Henry male 20 0
## Parch Ticket Fare Cabin Embarked
## 1 0 A/5 21171 7.2500 S
## 5 0 373450 8.0500 S
## 6 0 330877 8.4583 Q
## 7 0 17463 51.8625 E46 S
## 8 1 349909 21.0750 S
## 13 0 A/5. 2151 8.0500 S
```

8. The data sets are about the breast cancer Wisconsin. The samples arrive periodically as Dr. Wolberg reports his clinical cases. The database therefore reflects this chronologi [https://drive.google.com/file/d/16MFL0ehCgx2MJuNSAuB2CsBy6eDIIR-u/view?usp=drive\\_link](https://drive.google.com/file/d/16MFL0ehCgx2MJuNSAuB2CsBy6eDIIR-u/view?usp=drive_link))
  - a. describe what is the dataset all about. Ans. This data set shows all levels related to breast cancer like clump thickness, size, shape and many more.
  - b. Compute the descriptive statistics using different packages. Find the values of: d.1 Standard error of the mean for clump thickness. d.2 Coefficient of variability for Marginal Adhesion. d.3 Number of null values of Bare Nuclei. d.4 Mean and standard deviation for Bland Chromatin d.5 Confidence interval of the mean for Uniformity of Cell Shape

```
library(readr)
library(rcompanion)
breastcancer_wisconsin <- read_csv("breastcancer_wisconsin.csv", col_types = cols(
  id = col_double(),
  clump_thickness = col_double(),
  size_uniformity = col_double(),
  shape_uniformity = col_double(),
  marginal_adhesion = col_double(),
  epithelial_size = col_double(),
  bare_nucleoli = col_character(),
  bland_chromatin = col_double(),
  normal_nucleoli = col_double(),
  mitoses = col_double(),
  class = col_double()
))
breastcancer_wisconsin
```

```
## # A tibble: 699 x 11
##       id clump_thickness size_uniformity shape_uniformity marginal_adhesion
##   <dbl>         <dbl>         <dbl>         <dbl>         <dbl>
## 1 1000025             5             1             1             1
## 2 1002945             5             4             4             5
```

```

## 3 1015425      3      1      1      1
## 4 1016277      6      8      8      1
## 5 1017023      4      1      1      3
## 6 1017122      8     10     10     8
## 7 1018099      1      1      1      1
## 8 1018561      2      1      2      1
## 9 1033078      2      1      1      1
## 10 1033078     4      2      1      1
## # i 689 more rows
## # i 6 more variables: epithelial_size <dbl>, bare_nucleoli <chr>,
## #   bland_chromatin <dbl>, normal_nucleoli <dbl>, mitoses <dbl>, class <dbl>

#d.1 Standard error of the mean for clump thickness.
clump_thickness <- sd(breastcancer_wisconsin$clump_thickness) / sqrt(length(breastcancer_wisconsin$clump_thickness))
cat("d.1 Standard Error of the Mean for Clump Thickness:", clump_thickness, "\n")

## d.1 Standard Error of the Mean for Clump Thickness: 0.1065011

# d.2 Coefficient of variability for Marginal Adhesion.
marginal_adhesion <- sd(breastcancer_wisconsin$marginal_adhesion) / mean(breastcancer_wisconsin$marginal_adhesion)
cat("d.2 Coefficient of Variability for Marginal Adhesion:", marginal_adhesion, "%\n")

## d.2 Coefficient of Variability for Marginal Adhesion: 1.017283 %

# d.3 Number of null values of Bare Nuclei.
values_bare_nuclei <- sum(is.na(breastcancer_wisconsin$bare_nucleoli))
cat("d.3 Number of Null Values in Bare Nuclei:", values_bare_nuclei, "\n")

## d.3 Number of Null Values in Bare Nuclei: 15

# d.4 Mean and standard deviation for Bland Chromatin.
mean_bland_chromatin <- mean(breastcancer_wisconsin$bland_chromatin)
mean_bland_chromatin

## [1] 3.437768

sd_bland_chromatin <- sd(breastcancer_wisconsin$bland_chromatin)
cat("d.4 Mean for Bland Chromatin:", mean_bland_chromatin, "\n")

## d.4 Mean for Bland Chromatin: 3.437768

cat("    Standard Deviation for Bland Chromatin:", sd_bland_chromatin, "\n")

##    Standard Deviation for Bland Chromatin: 2.438364

# d.5 Confidence interval of the mean for Uniformity of Cell Shape.
uniformity_of_cell_shape <- t.test(breastcancer_wisconsin$shape_uniformity, conf.level = 0.95)$conf.int
cat("d.5 Confidence Interval for the Mean of Uniformity of Cell Shape:", uniformity_of_cell_shape, "\n")

## d.5 Confidence Interval for the Mean of Uniformity of Cell Shape: 2.986741 3.428138

d. How many attributes? Ans. There are 11 attributes in the data set.

e. Find the percentage of respondents who are malignant. Interpret the results Ans.

#assuming class 4 is malignant
percentage_malignant <- (sum(breastcancer_wisconsin$class == 4) / nrow(breastcancer_wisconsin)) * 100
cat("The percentage of respondents who are malignant are: ", percentage_malignant, "%")

## The percentage of respondents who are malignant are: 34.47783 %

```

9. Export the data abalone to the Microsoft excel file. Copy the codes. `install.packages("AppliedPredictiveModeling")`  
`library("AppliedPredictiveModeling")` `view(abalone)` `head(abalone)` `summary(abalone)`

```
#install.packages("AppliedPredictiveModeling")
library("AppliedPredictiveModeling")

data(abalone)
#View(abalone)
head(abalone)
```

```
##   Type LongestShell Diameter Height WholeWeight ShuckedWeight VisceraWeight
## 1    M         0.455    0.365  0.095     0.5140         0.2245         0.1010
## 2    M         0.350    0.265  0.090     0.2255         0.0995         0.0485
## 3    F         0.530    0.420  0.135     0.6770         0.2565         0.1415
## 4    M         0.440    0.365  0.125     0.5160         0.2155         0.1140
## 5    I         0.330    0.255  0.080     0.2050         0.0895         0.0395
## 6    I         0.425    0.300  0.095     0.3515         0.1410         0.0775
##   ShellWeight Rings
## 1         0.150    15
## 2         0.070     7
## 3         0.210     9
## 4         0.155    10
## 5         0.055     7
## 6         0.120     8
```

```
summary(abalone)
```

```
##   Type      LongestShell      Diameter      Height      WholeWeight
## F:1307   Min.   :0.075    Min.   :0.0550   Min.   :0.0000   Min.   :0.0020
## I:1342   1st Qu.:0.450    1st Qu.:0.3500   1st Qu.:0.1150   1st Qu.:0.4415
## M:1528   Median :0.545    Median :0.4250   Median :0.1400   Median :0.7995
##          Mean    :0.524    Mean    :0.4079   Mean    :0.1395   Mean    :0.8287
##          3rd Qu.:0.615    3rd Qu.:0.4800   3rd Qu.:0.1650   3rd Qu.:1.1530
##          Max.    :0.815    Max.    :0.6500   Max.    :1.1300   Max.    :2.8255
## ShuckedWeight VisceraWeight ShellWeight Rings
## Min.   :0.0010   Min.   :0.0005   Min.   :0.0015   Min.   : 1.000
## 1st Qu.:0.1860   1st Qu.:0.0935   1st Qu.:0.1300   1st Qu.: 8.000
## Median :0.3360   Median :0.1710   Median :0.2340   Median : 9.000
## Mean    :0.3594   Mean    :0.1806   Mean    :0.2388   Mean    : 9.934
## 3rd Qu.:0.5020   3rd Qu.:0.2530   3rd Qu.:0.3290   3rd Qu.:11.000
## Max.    :1.4880   Max.    :0.7600   Max.    :1.0050   Max.    :29.000
```

```
#export
```

```
library(xlsx)
```

```
#write.xlsx(abalone, "abalone.xlsx")
```