

# Worksheet\_Obas#6c.Rmd

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```
library(htmltools)
#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
## -----
```

```
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 crops. The data is stored in a data frame with 3 columns: fertilizer, yield, and area. The fertilizer levels are ordered from low to high. The yield is measured in pounds per acre. The area is measured in acres.*

```
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 of his employees. The data is stored in a data frame with 3 columns: exercise\_level, salary, and years\_of\_service. The exercise\_level is ordered from low to high. The salary is measured in dollars per year. The years\_of\_service is measured in years.*

```
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*

```
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 dollars)*

```
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)*

*#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 state*

```
#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
```

```
#7. Use the titanic dataset.
```

```
#a. subset the titanic 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				Saundercock, 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 Fernandeo	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	Lefebvre, 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. Lallo	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	Roebing, 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	SC0/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/O2. 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/O2 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
## 2           2         1         1
## 3           3         1         3
## 4           4         1         1
## 9           9         1         3
## 10          10         1         2
## 11          11         1         3
##
##                                Name      Sex Age SibSp Parch
## 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/O2. 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*

*#d. 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
#Assuming 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")

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")
```