# ESCUELA POLITECNICA NACIONAL

#### INGENIERIA EN CIENCIAS DE LA COMPUTACION

## Data Mining y Machine Learning

2 Hands On: Data Quality and Pre-Processing

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## 1. Assessing Data Quality

Load the following packages: dplyr, na.tools, tidyimpute (version from github decisionpatterns/tidyimpute")

Load the carInsurance data set about the insurance risk rating of cars based on several characteristics of each car1

#### sdfsdfsdfsdf Prueba

(a) Check if there are any missing values. (Compruebe si faltan valores)

```
library(dplyr)
## Warning: package 'dplyr' was built under R version 4.3.1
## Attaching package: 'dplyr'
## The following objects are masked from 'package:stats':
##
##
      filter, lag
## The following objects are masked from 'package:base':
##
##
      intersect, setdiff, setequal, union
library(na.tools)
library(tidyimpute)
library(tidyverse)
## Warning: package 'tidyverse' was built under R version 4.3.1
## Warning: package 'ggplot2' was built under R version 4.3.1
## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
## v forcats 1.0.0
                                   2.1.4
                       v readr
## v ggplot2 3.4.2
                       v stringr
                                   1.5.0
## v lubridate 1.9.2 v tibble
                                   3.2.1
## v purrr
             1.0.1
                       v tidyr
                                   1.3.0
```

```
## -- Conflicts -----
                                          ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()
                    masks stats::lag()
## i Use the conflicted package (<a href="http://conflicted.r-lib.org/">http://conflicted.r-lib.org/</a>) to force all conflicts to become error
# Carga el archivo .Rdata
df <- load("R:\\Politecnica.Nacional\\2023-A\\Data Mining\\Deberes.Data\\carInsurance.Rdata")</pre>
# Obtiene y verifica los objetos cargados en el entorno
#ls()
carIns
## # A tibble: 205 x 26
      symb normLoss make
                                 fuelType aspiration nDoors bodyStyle
                                                                        driveWheels
      <int>
                                          <fct>
                                                     <fct> <fct>
                                                                        <fct>
##
              <int> <fct>
                                 <fct>
##
   1
          3
                                                            convertible rwd
                 NA alfa-romero gas
                                          std
                                                     two
## 2
          3
                 NA alfa-romero gas
                                          std
                                                     two
                                                            convertible rwd
## 3
          1
                 NA alfa-romero gas
                                          std
                                                            hatchback
                                                                        rwd
                                                     two
## 4
         2
                164 audi
                                          std
                                                     four sedan
                                                                        fwd
                                 gas
## 5
         2
               164 audi
                                          std
                                                     four sedan
                                                                        4wd
                                 gas
         2
## 6
                 NA audi
                                 gas
                                          std
                                                     two
                                                            sedan
                                                                        fwd
## 7
         1
                158 audi
                                 gas
                                          std
                                                     four sedan
                                                                        fwd
## 8
          1
                 NA audi
                                                     four wagon
                                 gas
                                          std
                                                                        fwd
## 9
                 158 audi
                                          turbo
          1
                                                     four sedan
                                                                        fwd
                                 gas
                 NA audi
                                                            hatchback
## 10
                                 gas
                                          turbo
                                                     two
## # i 195 more rows
## # i 18 more variables: engineLocation <fct>, wheelBase <dbl>, length <dbl>,
      width <dbl>, height <dbl>, curbWeight <int>, engineType <fct>,
      nrCylinds <fct>, engineSize <int>, fuelSystem <fct>, bore <dbl>,
       stroke <dbl>, compressionRatio <dbl>, horsePower <int>, peakRpm <int>,
      cityMpg <int>, highwayMpg <int>, price <int>
# Verifica si hay valores faltantes
if(any_na(carIns)){
  print("Existe valores faltantes en el objeto 'carIns'")
} else{
  print("No esxiste valores faltantes en el objeto 'carIns")
## [1] "Existe valores faltantes en el objeto 'carIns'"
(b) Cuente el número de casos que tienen, al menos, un valor faltante.
# Filtrar los casos con al menos un valor faltante
casosFaltantes <- carIns %>% filter_any_na()
# Numero de casos con numeros faltantes
numCasosFaltantes <- casosFaltantes %>% count()
# Imprime el numero de casos faltantes
print(numCasosFaltantes)
## # A tibble: 1 x 1
        n
```

##

## 1

<int>

159

(c) Cree un nuevo conjunto de datos eliminando todos los casos que tengan valores faltantes.

```
# Crea un nuevo conjunto de datos eliminando las filas que con valores faltantes
nuevo_df <- drop_rows_any_na(carIns)</pre>
print(nuevo_df)
## # A tibble: 159 x 26
##
       symb normLoss make
                               fuelType aspiration nDoors bodyStyle driveWheels
##
      <int>
               <int> <fct>
                               <fct>
                                         <fct>
                                                    <fct>
                                                           <fct>
                                                                      <fct>
          2
##
   1
                 164 audi
                               gas
                                         std
                                                    four
                                                           sedan
                                                                      fwd
##
   2
          2
                 164 audi
                                                           sedan
                                                                      4wd
                               gas
                                         std
                                                    four
##
   3
          1
                 158 audi
                                         std
                                                    four
                                                           sedan
                                                                     fwd
                               gas
##
  4
                 158 audi
                                        turbo
                                                                     fwd
          1
                               gas
                                                    four
                                                           sedan
## 5
          2
                 192 bmw
                               gas
                                         std
                                                    two
                                                           sedan
                                                                     rwd
##
  6
                 192 bmw
          0
                                         std
                                                    four
                                                           sedan
                                                                     rwd
                               gas
##
  7
          0
                 188 bmw
                               gas
                                         std
                                                    two
                                                           sedan
                                                                     rwd
## 8
                 188 bmw
                                                           sedan
                                                                     rwd
          0
                                gas
                                         std
                                                    four
##
   9
          2
                 121 chevrolet gas
                                         std
                                                    two
                                                           hatchback fwd
## 10
          1
                  98 chevrolet gas
                                         std
                                                    two
                                                           hatchback fwd
## # i 149 more rows
## # i 18 more variables: engineLocation <fct>, wheelBase <dbl>, length <dbl>,
       width <dbl>, height <dbl>, curbWeight <int>, engineType <fct>,
       nrCylinds <fct>, engineSize <int>, fuelSystem <fct>, bore <dbl>,
## #
       stroke <dbl>, compressionRatio <dbl>, horsePower <int>, peakRpm <int>,
```

(d) Cree un nuevo conjunto de datos ingresando todos los valores faltantes con 0. Consejo: explore las variantes de la función impute()

cityMpg <int>, highwayMpg <int>, price <int>

## #

##		$\operatorname{\mathtt{symb}}$	normLoss	make	fuelType	aspiration	${\tt nDoors}$	bodyStyle
##	1	3	0	alfa-romero	gas	std	two	convertible
##	2	3	0	alfa-romero	gas	std	two	convertible
##	3	1	0	alfa-romero	gas	std	two	hatchback
##	4	2	164	audi	gas	std	four	sedan
##	5	2	164	audi	gas	std	four	sedan
##	6	2	0	audi	gas	std	two	sedan
##	7	1	158	audi	gas	std	four	sedan
##	8	1	0	audi	gas	std	four	wagon
##	9	1	158	audi	gas	turbo	four	sedan

##	10	0	0	audi	gas	turbo	two	hatchback
##	11	2	192	bmw	gas	std	two	sedan
##	12	0	192	bmw	gas	std	four	sedan
##	13	0	188	bmw	gas	std	two	sedan
##	14	0	188	bmw	gas	std	four	sedan
##	15	1	0	bmw	gas	std	four	sedan
##	16	0	0	bmw	gas	std	four	sedan
##	17	0	0	bmw	gas	std	two	sedan
##	18	0	0	bmw	gas	std	four	sedan
##	19	2	121	chevrolet	gas	std	two	hatchback
##	20	1	98	chevrolet	gas	std	two	hatchback
##	21	0	81	chevrolet	gas	std	four	sedan
##	22	1	118	dodge	gas	std	two	hatchback
##	23	1	118	dodge	gas	std	two	hatchback
##	24	1	118	dodge	gas	turbo	two	hatchback
##	25	1	148	dodge	gas	std	four	hatchback
##	26	1	148	dodge	gas	std	four	sedan
##	27	1	148	dodge	gas	std	four	sedan
##	28	1	148	dodge	gas	turbo	<na></na>	sedan
##	29	-1	110	dodge	gas	std	four	wagon
##	30	3	145	dodge	gas	turbo	two	hatchback
##	31	2	137	honda	gas	std	two	hatchback
##	32	2	137	honda	gas	std	two	hatchback
##	33	1	101	honda	gas	std	two	hatchback
##	34	1	101	honda	gas	std	two	hatchback
##	35 36	1	101	honda	gas	std	two	hatchback
##		0	110 78	honda	gas	std	four	sedan
##	37 38	0 0	106	honda	gas	std	four	wagon hatchback
##	39	0	106	honda	gas	std	two	hatchback
##	40	0	85	honda honda	gas	std std	two four	natchback sedan
##	41	0	85	honda	gas	std	four	sedan
##	42	0	85	honda	gas gas	std	four	sedan
##	43	1	107	honda	gas	std	two	sedan
##	44	0	0	isuzu	gas	std	four	sedan
##	45	1	0	isuzu	gas	std	two	sedan
	46	0	0	isuzu	gas	std	four	sedan
##		2	0	isuzu	gas	std	two	hatchback
	48	0	145	jaguar	gas	std	four	sedan
	49	0	0	jaguar	gas	std	four	sedan
##		0	0	jaguar	gas	std	two	sedan
##		1	104	mazda	gas	std	two	hatchback
	52	1	104	mazda	gas	std	two	hatchback
##	53	1	104	mazda	gas	std	two	hatchback
##	54	1	113	mazda	gas	std	four	sedan
##	55	1	113	mazda	gas	std	four	sedan
##	56	3	150	mazda	gas	std	two	hatchback
##	57	3	150	mazda	gas	std	two	hatchback
##	58	3	150	mazda	gas	std	two	hatchback
##	59	3	150	mazda	gas	std	two	hatchback
##	60	1	129	mazda	gas	std	two	hatchback
##	61	0	115	mazda	gas	std	four	sedan
##	62	1	129	mazda	gas	std	two	hatchback
##	63	0	115	mazda	gas	std	four	sedan

##	64	0	0	mazda	diesel	std	<na></na>	sedan
##	65	0	115	mazda	gas	std	four	hatchback
##	66	0	118	mazda	gas	std	four	sedan
##	67	0	0	mazda	diesel	std	four	sedan
##	68	-1	93	mercedes-benz	diesel	turbo	four	sedan
##	69	-1		mercedes-benz	diesel	turbo	four	wagon
##	70	0	93	mercedes-benz	diesel	turbo	two	hardtop
##	71	-1	93	mercedes-benz	diesel	turbo	four	sedan
##	72	-1	0	mercedes-benz	gas	std	four	sedan
##	73	3	142	mercedes-benz	gas	std	two	convertible
##	74	0	0	mercedes-benz	gas	std	four	sedan
##	75	1	0	mercedes-benz	gas	std	two	hardtop
##	76	1	0	mercury	gas	turbo	two	hatchback
##	77	2	161	mitsubishi	gas	std	two	hatchback
##	78	2	161	mitsubishi	gas	std	two	hatchback
##	79	2	161	mitsubishi	gas	std	two	hatchback
##	80	1	161	mitsubishi	gas	turbo	two	hatchback
##	81	3	153	mitsubishi	gas	turbo	two	hatchback
##	82	3	153	mitsubishi	gas	std	two	hatchback
##	83	3	0	mitsubishi	gas	turbo	two	hatchback
##	84	3	0	mitsubishi	gas	turbo	two	hatchback
##	85	3	0	mitsubishi	gas	turbo	two	hatchback
##	86	1	125	mitsubishi	gas	std	four	sedan
##	87	1	125	mitsubishi	gas	std	four	sedan
##	88	1	125	mitsubishi	gas	turbo	four	sedan
##	89	-1	137	mitsubishi	gas	std	four	sedan
##	90	1	128	nissan	gas	std	two	sedan
##	91	1	128	nissan	diesel	std	two	sedan
##	92	1	128 122	nissan	gas	std	two	sedan
##	93 94	1 1	103	nissan	gas	std	four	sedan
##	94 95	1	103	nissan	gas	std std	four	wagon sedan
##	96	1	128	nissan nissan	gas	std	two two	hatchback
##	97	1	120	nissan	gas	std	four	sedan
##	98	1	103	nissan	gas gas	std	four	wagon
##	99	2	168	nissan	gas	std	two	hardtop
##	100	0	106	nissan	gas	std	four	hatchback
	101	0	106	nissan	gas	std	four	sedan
##	102	0	128	nissan	gas	std	four	sedan
##	103	0	108	nissan	gas	std	four	wagon
##	104	0	108	nissan	gas	std	four	sedan
##	105	3	194	nissan	gas	std	two	hatchback
##	106	3	194	nissan	gas	turbo	two	hatchback
##	107	1	231	nissan	gas	std	two	hatchback
##	108	0	161	peugot	gas	std	four	sedan
##	109	0	161	peugot	diesel	turbo	four	sedan
##	110	0	0	peugot	gas	std	four	wagon
##	111	0	0	peugot	diesel	turbo	four	wagon
##	112	0	161	peugot	gas	std	four	sedan
##	113	0	161	peugot	diesel	turbo	four	sedan
##	114	0	0	peugot	gas	std	four	wagon
##	115	0	0	peugot	diesel	turbo	four	wagon
	116	0	161	peugot	gas	std	four	sedan
##	117	0	161	peugot	diesel	turbo	four	sedan

##	118	0	161	peugot	gas	turbo	four	sedan
##	119	1	119	plymouth	gas	std	two	hatchback
##	120	1	119	plymouth	gas	turbo	two	hatchback
##	121	1	154	plymouth	gas	std	four	hatchback
##	122	1	154	plymouth	gas	std	four	sedan
##	123	1	154	plymouth	gas	std	four	sedan
##	124	-1	74	plymouth	gas	std	four	wagon
##	125	3	0	plymouth	gas	turbo	two	hatchback
##	126	3	186	porsche	gas	std	two	hatchback
##	127	3	0	porsche	gas	std	two	hardtop
##	128	3	0	porsche	gas	std	two	hardtop
##	129	3	0	porsche	gas	std	two	convertible
##	130	1	0	porsche	gas	std	two	hatchback
##	131	0	0	renault	gas	std	four	wagon
##	132	2	0	renault	gas	std	two	hatchback
##	133	3	150	saab	gas	std	two	hatchback
##	134	2	104	saab	gas	std	four	sedan
##	135	3	150	saab	gas	std	two	hatchback
##	136	2	104	saab	gas	std	four	sedan
##	137	3	150	saab	gas	turbo	two	hatchback
##	138	2	104	saab	gas	turbo	four	sedan
##	139	2	83	subaru	gas	std	two	hatchback
##	140	2	83	subaru	gas	std	two	hatchback
##	141	2	83	subaru	gas	std	two	hatchback
##	142	0	102	subaru	gas	std	four	sedan
##	143	0	102	subaru	gas	std	four	sedan
##	144	0	102	subaru	gas	std	four	sedan
##	145	0	102	subaru	gas	std	four	sedan
##	146	0	102	subaru	gas	turbo	four	sedan
##	147	0	89	subaru	gas	std	four	wagon
##	148	0	89	subaru	gas	std	four	wagon
##	149	0	85	subaru	gas	std	four	wagon
##	150	0	85	subaru	gas	turbo	four	wagon
##	151	1	87	toyota	gas	std	two	hatchback
## ##	152 153	1 1	87 74	toyota	gas	std	two	hatchback
##	154	0	74 77	toyota	gas	std std	four four	hatchback
	155	0	81	toyota	gas	std		wagon
##	156	0	91	toyota	gas	std	four four	wagon
	157	0	91	toyota toyota	gas gas	std	four	wagon sedan
	158	0	91	toyota	•	std	four	hatchback
	159	0	91	toyota	gas diesel	std	four	sedan
	160	0	91	toyota	diesel	std	four	hatchback
##	161	0	91	toyota	gas	std	four	sedan
##	162	0	91	toyota	gas	std	four	hatchback
##	163	0	91	toyota	gas	std	four	sedan
##	164	1	168	toyota	gas	std	two	sedan
##	165	1	168	toyota	gas	std	two	hatchback
##	166	1	168	toyota	gas	std	two	sedan
##	167	1	168	toyota	gas	std	two	hatchback
##	168	2	134	toyota	gas	std	two	hardtop
	169	2	134	toyota	gas	std	two	hardtop
	170	2	134	toyota	gas	std	two	hatchback
	171	2	134	toyota	gas	std	two	hardtop
				J	9			1

##	172	2	134	1 toyota	gas		std	two	hatchback
##	173	2	134	J	0		std	two c	convertible
##	174	-1	65	•	•		std	four	sedan
##	175	-1	65	•	J	tı	ırbo	four	sedan
##	176	-1	65	•			std	four	hatchback
##	177	-1	65	•	•		std	four	sedan
##	178	-1	65	5 toyota	•		std	four	hatchback
##	179	3	197	•	J		std	two	hatchback
##	180	3	197	•	•		std	two	hatchback
##	181	-1	90	) toyota	•		std	four	sedan
##	182	-1	(	) toyota	•		std	four	wagon
##	183	2	122	2 volkswagen	•		std	two	sedan
##	184	2	122	2 volkswagen	gas		std	two	sedan
##	185	2	94	_	•		std	four	sedan
##	186	2	94	_			std	four	sedan
##	187	2	94	1 volkswagen	gas		std	four	sedan
##	188	2	94	1 volkswagen	diesel	tı	ırbo	four	sedan
##	189	2	94	1 volkswagen	gas		std	four	sedan
##	190	3	(	) volkswagen	gas		std	two c	convertible
##	191	3	256	olkswagen	gas		std	two	hatchback
##	192	0	(	) volkswagen	gas		std	four	sedan
##	193	0	(	) volkswagen	diesel	tı	ırbo	four	sedan
##	194	0	(	) volkswagen	gas		std	four	wagon
##	195	-2	103	3 volvo	gas		std	four	sedan
##	196	-1	74	1 volvo	gas		std	four	wagon
##	197	-2	103	3 volvo	gas		std	four	sedan
##	198	-1	74	1 volvo	gas		std	four	wagon
##	199	-2	103	3 volvo	gas	tı	ırbo	four	sedan
##	200	-1	74	1 volvo	gas	tı	ırbo	four	wagon
##	201	-1	98	5 volvo	gas		std	four	sedan
##	202	-1	98	5 volvo	gas	tı	ırbo	four	sedan
##	203	-1	95	5 volvo	gas		std	four	sedan
##	204	-1	95	5 volvo	diesel	tı	ırbo	four	sedan
##	205	-1	98		gas		ırbo	four	sedan
##		drive		engineLocation		_		_	_
##	1		rwd	front	88.6	168.8	64.1	48.8	
##			rwd	front	88.6	168.8	64.1	48.8	
##			rwd	front	94.5	171.2	65.5	52.4	
##			fwd	front	99.8	176.6	66.2		
##			4wd	front	99.4		66.4		
##			fwd	front	99.8		66.3		
##			fwd	front	105.8		71.4		
##			fwd	front	105.8		71.4	55.7	
##			fwd	front	105.8		71.4	55.9	
##			4wd	front	99.5	178.2	67.9	52.0	
	11		rwd	front	101.2		64.8	54.3	
	12		rwd	front	101.2		64.8	54.3	
	13		rwd	front	101.2		64.8	54.3	
	14		rwd	front	101.2		64.8	54.3	
	15 16		rwd	front	103.5	189.0	66.9	55.7	
## ##	16 17		rwd	front	103.5	189.0 193.8	66.9 67.9	55.7	
	18		rwd	front	103.5	193.8	70.9	53.7	
##			rwd fwd	front	110.0		60.3	56.3 53.2	
##	13		ı wa	front	88.4	141.1	00.3	JJ. 2	2 1488

##	20	fwd	front	94.5	155.9	63.6	52.0	1874
##	21	fwd	front	94.5	158.8	63.6	52.0	1909
##	22	fwd	front	93.7	157.3	63.8	50.8	1876
##	23	fwd	front	93.7	157.3	63.8	50.8	1876
##	24	fwd	front	93.7	157.3	63.8	50.8	2128
##	25	fwd	front	93.7	157.3	63.8	50.6	1967
##		fwd	front	93.7	157.3	63.8	50.6	1989
##								
		fwd	front	93.7	157.3	63.8	50.6	1989
##		fwd	front	93.7	157.3	63.8	50.6	2191
	29	fwd	front	103.3	174.6	64.6	59.8	2535
##	30	fwd	front	95.9	173.2	66.3	50.2	2811
##	31	fwd	front	86.6	144.6	63.9	50.8	1713
##	32	fwd	front	86.6	144.6	63.9	50.8	1819
##	33	fwd	front	93.7	150.0	64.0	52.6	1837
##	34	fwd	front	93.7	150.0	64.0	52.6	1940
##	35	fwd	front	93.7	150.0	64.0	52.6	1956
##	36	fwd	front	96.5	163.4	64.0	54.5	2010
##	37	fwd	front	96.5	157.1	63.9	58.3	2024
##	38	fwd	front	96.5	167.5	65.2	53.3	2236
##	39	fwd	front	96.5	167.5	65.2	53.3	2289
##	40	fwd	front	96.5	175.4	65.2	54.1	2304
##	41	fwd	front	96.5	175.4	62.5	54.1	2372
##		fwd	front	96.5	175.4	65.2	54.1	2465
##		fwd	front	96.5	169.1	66.0	51.0	2293
##		rwd	front	94.3	170.7	61.8	53.5	2337
##		fwd	front	94.5	155.9	63.6	52.0	1874
	46	fwd			155.9	63.6	52.0	1909
			front	94.5				
	47	rwd	front	96.0	172.6	65.2	51.4	2734
	48	rwd	front	113.0	199.6	69.6	52.8	4066
	49	rwd	front	113.0	199.6	69.6	52.8	4066
##	50	rwd	front	102.0	191.7	70.6	47.8	3950
##	51	fwd	front	93.1	159.1	64.2	54.1	1890
##	52	fwd	front	93.1	159.1	64.2	54.1	1900
##	53	fwd	front	93.1	159.1	64.2	54.1	1905
##	54	fwd	front	93.1	166.8	64.2	54.1	1945
##	55	fwd	front	93.1	166.8	64.2	54.1	1950
##	56	rwd	front	95.3	169.0	65.7	49.6	2380
##	57	rwd	front	95.3	169.0	65.7	49.6	2380
##	58	rwd	front	95.3	169.0	65.7	49.6	2385
##		rwd	front	95.3	169.0	65.7	49.6	2500
##		fwd	front	98.8	177.8	66.5	53.7	2385
	61	fwd	front	98.8	177.8	66.5	55.5	2410
	62	fwd	front	98.8	177.8	66.5	53.7	2385
	63	fwd	front	98.8	177.8	66.5	55.5	2410
	64	fwd	front	98.8	177.8	66.5	55.5	2443
	65			98.8	177.8	66.5	55.5	2425
		fwd	front					
	66	rwd	front	104.9	175.0	66.1	54.4	2670
	67	rwd	front	104.9	175.0	66.1	54.4	2700
	68	rwd	front	110.0	190.9	70.3	56.5	3515
	69	rwd	front	110.0	190.9	70.3	58.7	3750
	70	rwd	front	106.7	187.5	70.3	54.9	3495
	71	rwd	front	115.6	202.6	71.7	56.3	3770
##	72	rwd	front	115.6	202.6	71.7	56.5	3740
##	73	rwd	front	96.6	180.3	70.5	50.8	3685

	74	rwd	front	120.9	208.1	71.7	56.7	3900
	75	rwd	front	112.0	199.2	72.0	55.4	3715
	76	rwd	front	102.7	178.4	68.0	54.8	2910
##	77	fwd	front	93.7	157.3	64.4	50.8	1918
##	78	fwd	front	93.7	157.3	64.4	50.8	1944
##	79	fwd	front	93.7	157.3	64.4	50.8	2004
##	80	fwd	front	93.0	157.3	63.8	50.8	2145
##	81	fwd	front	96.3	173.0	65.4	49.4	2370
##	82	fwd	front	96.3	173.0	65.4	49.4	2328
##	83	fwd	front	95.9	173.2	66.3	50.2	2833
##	84	fwd	front	95.9	173.2	66.3	50.2	2921
##	85	fwd	front	95.9	173.2	66.3	50.2	2926
##	86	fwd	front	96.3	172.4	65.4	51.6	2365
	87	fwd	front	96.3	172.4	65.4	51.6	2405
	88	fwd	front	96.3	172.4	65.4	51.6	2403
##		fwd	front	96.3	172.4	65.4	51.6	2403
	90	fwd	front	94.5	165.3	63.8	54.5	1889
##		fwd	front	94.5	165.3	63.8	54.5	2017
	92	fwd	front	94.5	165.3	63.8	54.5	1918
	93	fwd	front	94.5	165.3	63.8	54.5	1938
	94	fwd	front	94.5	170.2	63.8	53.5	2024
	95	fwd	front	94.5	165.3	63.8	54.5	1951
	96	fwd	front	94.5	165.6	63.8	53.3	2028
	97					63.8		
	98	fwd	front	94.5	165.3	63.8	54.5	1971 2037
	99	fwd	front	94.5	170.2	63.8	53.5	
	100	fwd	front	95.1	162.4		53.3	2008
		fwd	front	97.2	173.4	65.2	54.7	2324
	101	fwd	front	97.2	173.4	65.2	54.7	2302
	102	fwd	front	100.4	181.7	66.5	55.1	3095
	103	fwd	front	100.4	184.6	66.5	56.1	3296
	104	fwd	front	100.4	184.6	66.5	55.1	3060
	105	rwd	front	91.3	170.7	67.9	49.7	3071
	106	rwd	front	91.3	170.7	67.9	49.7	3139
	107	rwd	front	99.2	178.5	67.9	49.7	3139
	108	rwd	front	107.9	186.7	68.4	56.7	3020
	109	rwd	front	107.9	186.7	68.4	56.7	3197
	110	rwd	front	114.2	198.9	68.4	58.7	3230
	111	rwd	front	114.2	198.9	68.4	58.7	3430
	112	rwd	front	107.9	186.7	68.4	56.7	3075
	113	rwd	front	107.9	186.7	68.4	56.7	3252
	114	rwd	front	114.2	198.9	68.4	56.7	3285
	115	rwd	front	114.2	198.9	68.4	58.7	3485
	116	rwd	front	107.9	186.7	68.4	56.7	3075
	117	rwd	front	107.9	186.7	68.4	56.7	3252
	118	rwd	front	108.0	186.7	68.3	56.0	3130
	119	fwd	front	93.7	157.3	63.8	50.8	1918
	120	fwd	front	93.7	157.3	63.8	50.8	2128
	121	fwd	front	93.7	157.3	63.8	50.6	1967
	122	fwd	front	93.7	167.3	63.8	50.8	1989
##	123	fwd	front	93.7	167.3	63.8	50.8	2191
##	124	fwd	front	103.3	174.6	64.6	59.8	2535
##	125	rwd	front	95.9	173.2	66.3	50.2	2818
##	126	rwd	front	94.5	168.9	68.3	50.2	2778
##	127	rwd	rear	89.5	168.9	65.0	51.6	2756

	128	rwd	rear	89.5	168.9	65.0	51.6	2756
##	129	rwd	rear	89.5	168.9	65.0	51.6	2800
##	130	rwd	front	98.4	175.7	72.3	50.5	3366
##	131	fwd	front	96.1	181.5	66.5	55.2	2579
##	132	fwd	front	96.1	176.8	66.6	50.5	2460
##	133	fwd	front	99.1	186.6	66.5	56.1	2658
##	134	fwd	front	99.1	186.6	66.5	56.1	2695
##	135	fwd	front	99.1	186.6	66.5	56.1	2707
##	136	fwd	front	99.1	186.6	66.5	56.1	2758
	137	fwd	front	99.1	186.6	66.5	56.1	2808
	138	fwd	front	99.1	186.6	66.5	56.1	2847
	139	fwd	front	93.7	156.9	63.4	53.7	2050
##	140	fwd	front	93.7	157.9	63.6	53.7	2120
##	141	4wd	front	93.3	157.3	63.8	55.7	2240
##	142	fwd	front	97.2	172.0	65.4	52.5	2145
	143	fwd	front	97.2	172.0	65.4	52.5	2190
##	144		front	97.2	172.0	65.4	52.5	2340
	145	fwd					54.3	2385
	146	4wd 4wd	front	97.0 97.0	172.0 172.0	65.4 65.4	54.3	2510
	147		front					2290
		fwd	front	97.0	173.5	65.4	53.0	
	148	fwd	front	97.0	173.5	65.4	53.0	2455
	149	4wd	front	96.9	173.6	65.4	54.9	2420
	150	4wd	front	96.9	173.6	65.4	54.9	2650
	151	fwd	front	95.7	158.7	63.6	54.5	1985
	152	fwd	front	95.7	158.7	63.6	54.5	2040
	153	fwd	front	95.7	158.7	63.6	54.5	2015
##	154	fwd	front	95.7	169.7	63.6	59.1	2280
##	155	4wd	front	95.7	169.7	63.6	59.1	2290
##	156	4wd	front	95.7	169.7	63.6	59.1	3110
##	157	fwd	front	95.7	166.3	64.4	53.0	2081
##	158	fwd	front	95.7	166.3	64.4	52.8	2109
##	159	fwd	front	95.7	166.3	64.4	53.0	2275
##	160	fwd	front	95.7	166.3	64.4	52.8	2275
##	161	fwd	front	95.7	166.3	64.4	53.0	2094
##	162	fwd	front	95.7	166.3	64.4	52.8	2122
##	163	fwd	front	95.7	166.3	64.4	52.8	2140
##	164	rwd	front	94.5	168.7	64.0	52.6	2169
##	165	rwd	front	94.5	168.7	64.0	52.6	2204
##	166	rwd	front	94.5	168.7	64.0	52.6	2265
##	167	rwd	front	94.5	168.7	64.0	52.6	2300
##	168	rwd	front	98.4	176.2	65.6	52.0	2540
##	169	rwd	front	98.4	176.2	65.6	52.0	2536
##	170	rwd	front	98.4	176.2	65.6	52.0	2551
##	171	rwd	front	98.4	176.2	65.6	52.0	2679
##	172	rwd	front	98.4	176.2	65.6	52.0	2714
##	173	rwd	front	98.4	176.2	65.6	53.0	2975
##	174	fwd	front	102.4	175.6	66.5	54.9	2326
##	175	fwd	front	102.4	175.6	66.5	54.9	2480
##	176	fwd	front	102.4	175.6	66.5	53.9	2414
##	177	fwd	front	102.4	175.6	66.5	54.9	2414
	178	fwd	front	102.4	175.6	66.5	53.9	2458
	179	rwd	front	102.9	183.5	67.7	52.0	2976
	180	rwd	front	102.9	183.5	67.7	52.0	3016
	181	rwd	front	104.5	187.8	66.5	54.1	3131

## 183	##	182	rwd	front	104.5	187.8	66.5	54.1	3151
## 184									
## 185									
## 186									
## 188									
## 188									
## 188									
## 190									
## 191									
## 192									
## 193									
## 194									
## 195									
## 196									
## 197									
## 198									
## 199									
## 201									
## 201									
## 203			rwd			188.8			
## 204	##	202	rwd	front	109.1	188.8	68.8	55.5	3049
## 205	##	203	rwd	front	109.1	188.8	68.9	55.5	3012
## 1 dohc four 130 mpfi 3.47 2.68 9.00 ## 2 dohc four 130 mpfi 3.47 2.68 9.00 ## 3 ohcv six 152 mpfi 2.68 3.47 9.00 ## 5 ohc four 130 mpfi 3.19 3.40 10.00 ## 5 ohc five 136 mpfi 3.19 3.40 8.50 ## 7 ohc five 136 mpfi 3.19 3.40 8.50 ## 8 ohc five 136 mpfi 3.19 3.40 8.50 ## 10 ohc five 136 mpfi 3.19 3.40 8.50 ## 11 ohc five 136 mpfi 3.19 3.40 8.50 ## 12 ohc five 136 mpfi 3.19 3.40 8.50 ## 13 ohc five 136 mpfi 3.19 3.40 8.50 ## 14 ohc five 131 mpfi 3.13 3.40 8.30 ## 15 ohc five 131 mpfi 3.13 3.40 8.30 ## 16 ohc five 131 mpfi 3.13 3.40 9.00 ## 17 ohc four 108 mpfi 3.13 3.40 9.00 ## 18 ohc six 164 mpfi 3.31 3.19 9.00 ## 18 ohc six 164 mpfi 3.31 3.19 9.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc four 90 2bbl 3.03 3.11 9.60 ## 22 ohc four 90 2bbl 3.03 3.11 9.60 ## 24 ohc four 90 2bbl 3.03 3.31 9.40 ## 25 ohc four 90 2bbl 2.97 3.23 9.40 ## 26 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40	##	204	rwd	front	109.1	188.8	68.9	55.5	3217
## 1 dohc four 130 mpfi 3.47 2.68 9.00 ## 2 dohc four 130 mpfi 3.47 2.68 9.00 ## 3 ohcv six 152 mpfi 2.68 3.47 9.00 ## 4 ohc four 109 mpfi 3.19 3.40 10.00 ## 5 ohc five 136 mpfi 3.19 3.40 8.50 ## 7 ohc five 136 mpfi 3.19 3.40 8.50 ## 8 ohc five 136 mpfi 3.19 3.40 8.50 ## 10 ohc five 131 mpfi 3.13 3.40 8.50 ## 11 ohc four 108 mpfi 3.13 3.40 8.50 ## 11 ohc four 108 mpfi 3.13 3.40 8.30 ## 12 ohc four 108 mpfi 3.50 2.80 8.80 ## 13 ohc six 164 mpfi 3.31 3.19 9.00 ## 14 ohc six 164 mpfi 3.31 3.19 9.00 ## 15 ohc six 209 mpfi 3.62 3.39 8.00 ## 17 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 19 1 three 61 2bbl 2.91 3.03 9.50 ## 20 ohc four 90 2bbl 2.97 3.23 9.40 ## 23 ohc four 90 2bbl 2.97 3.23 9.40 ## 24 ohc four 90 2bbl 2.97 3.23 9.40 ## 25 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40	##	205	rwd	front	109.1	188.8	68.9	55.5	3062
## 2 dohc four 130 mpfi 3.47 2.68 9.00 ## 3 ohcv six 152 mpfi 2.68 3.47 9.00 ## 4 ohc four 109 mpfi 3.19 3.40 10.00 ## 5 ohc five 136 mpfi 3.19 3.40 8.00 ## 6 ohc five 136 mpfi 3.19 3.40 8.50 ## 7 ohc five 136 mpfi 3.19 3.40 8.50 ## 8 ohc five 136 mpfi 3.19 3.40 8.50 ## 9 ohc five 136 mpfi 3.19 3.40 8.50 ## 10 ohc five 131 mpfi 3.13 3.40 8.30 ## 11 ohc four 108 mpfi 3.13 3.40 7.00 ## 11 ohc four 108 mpfi 3.50 2.80 8.80 ## 12 ohc four 108 mpfi 3.50 2.80 8.80 ## 13 ohc six 164 mpfi 3.31 3.19 9.00 ## 14 ohc six 164 mpfi 3.31 3.19 9.00 ## 15 ohc six 209 mpfi 3.62 3.39 8.00 ## 17 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc four 90 2bbl 2.91 3.03 9.50 ## 22 ohc four 90 2bbl 2.91 3.03 9.40 ## 23 ohc four 90 2bbl 2.97 3.23 9.40 ## 24 ohc four 90 2bbl 2.97 3.23 9.40 ## 25 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40	##		<pre>engineType nrCylinds</pre>	engine	Size fuelS	ystem	bore st	troke co	ompressionRatio
## 3 ohcv six 152 mpfi 2.68 3.47 9.00 ## 4 ohc four 109 mpfi 3.19 3.40 10.00 ## 5 ohc five 136 mpfi 3.19 3.40 8.50 ## 7 ohc five 136 mpfi 3.19 3.40 8.50 ## 8 ohc five 136 mpfi 3.19 3.40 8.50 ## 8 ohc five 136 mpfi 3.19 3.40 8.50 ## 9 ohc five 131 mpfi 3.13 3.40 8.50 ## 10 ohc five 131 mpfi 3.13 3.40 8.30 ## 11 ohc four 108 mpfi 3.50 2.80 8.80 ## 12 ohc four 108 mpfi 3.50 2.80 8.80 ## 13 ohc six 164 mpfi 3.31 3.19 9.00 ## 14 ohc six 164 mpfi 3.31 3.19 9.00 ## 15 ohc six 164 mpfi 3.31 3.19 9.00 ## 16 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 19 1 three 61 2bbl 2.91 3.03 9.50 ## 20 ohc four 90 2bbl 2.97 3.23 9.40 ## 23 ohc four 90 2bbl 2.97 3.23 9.40 ## 24 ohc four 90 2bbl 2.97 3.23 9.40 ## 25 ohc four 90 2bbl 2.97 3.23 9.40 ## 26 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40	##	1	dohc four		130	mpfi	3.47	2.68	9.00
## 4 ohc four 109 mpfi 3.19 3.40 10.00 ## 5 ohc five 136 mpfi 3.19 3.40 8.00 ## 6 ohc five 136 mpfi 3.19 3.40 8.50 ## 7 ohc five 136 mpfi 3.19 3.40 8.50 ## 8 ohc five 136 mpfi 3.19 3.40 8.50 ## 9 ohc five 131 mpfi 3.13 3.40 8.30 ## 10 ohc five 131 mpfi 3.13 3.40 7.00 ## 11 ohc four 108 mpfi 3.50 2.80 8.80 ## 12 ohc four 108 mpfi 3.50 2.80 8.80 ## 13 ohc six 164 mpfi 3.31 3.19 9.00 ## 14 ohc six 164 mpfi 3.31 3.19 9.00 ## 15 ohc six 164 mpfi 3.31 3.19 9.00 ## 16 ohc six 209 mpfi 3.62 3.39 8.00 ## 17 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 19 1 three 61 2bbl 2.91 3.03 9.50 ## 20 ohc four 90 2bbl 3.03 3.11 9.60 ## 22 ohc four 90 2bbl 2.97 3.23 9.40 ## 23 ohc four 98 mpfi 3.03 3.39 7.60	##	2	dohc four			mpfi	3.47	2.68	
## 5 ohc five 136 mpfi 3.19 3.40 8.00 ## 6 ohc five 136 mpfi 3.19 3.40 8.50 ## 7 ohc five 136 mpfi 3.19 3.40 8.50 ## 8 ohc five 136 mpfi 3.19 3.40 8.50 ## 8 ohc five 136 mpfi 3.19 3.40 8.50 ## 9 ohc five 131 mpfi 3.13 3.40 8.30 ## 10 ohc four 108 mpfi 3.50 2.80 8.80 ## 11 ohc four 108 mpfi 3.50 2.80 8.80 ## 12 ohc four 108 mpfi 3.50 2.80 8.80 ## 14 ohc six 164 mpfi 3.31 3.19 9.00 ## 15 ohc six 164 mpfi 3.31 3.19 9.00 ## 16 ohc six 209 mpfi 3.62 3.39 8.00 ## 17 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 19 1 three 61 2bbl 2.91 3.03 9.50 ## 20 ohc four 90 2bbl 3.03 3.11 9.60 ## 22 ohc four 90 2bbl 2.97 3.23 9.40 ## 23 ohc four 98 mpfi 3.03 3.39 7.60	##	3	ohcv six			-		3.47	
## 6 ohc five 136 mpfi 3.19 3.40 8.50 ## 7 ohc five 136 mpfi 3.19 3.40 8.50 ## 8 ohc five 136 mpfi 3.19 3.40 8.50 ## 9 ohc five 131 mpfi 3.13 3.40 8.30 ## 10 ohc four 108 mpfi 3.50 2.80 8.80 ## 11 ohc four 108 mpfi 3.50 2.80 8.80 ## 12 ohc four 108 mpfi 3.31 3.19 9.00 ## 14 ohc six 164 mpfi 3.31 3.19 9.00 ## 15 ohc six 164 mpfi 3.31 3.19 9.00 ## 16 ohc six 209 mpfi 3.62 3.39 8.00 ## 17 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 19 1 three 61 2bbl 2.91 3.03 9.50 ## 20 ohc four 90 2bbl 2.97 3.23 9.40 ## 22 ohc four 90 2bbl 2.97 3.23 9.40 ## 25 ohc four 90 2bbl 2.97 3.23 9.40 ## 26 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40						-			
## 7 ohc five 136 mpfi 3.19 3.40 8.50 ## 8 ohc five 136 mpfi 3.19 3.40 8.50 ## 9 ohc five 131 mpfi 3.13 3.40 7.00 ## 10 ohc five 131 mpfi 3.13 3.40 7.00 ## 11 ohc four 108 mpfi 3.50 2.80 8.80 ## 12 ohc four 108 mpfi 3.50 2.80 8.80 ## 13 ohc six 164 mpfi 3.31 3.19 9.00 ## 14 ohc six 164 mpfi 3.31 3.19 9.00 ## 15 ohc six 164 mpfi 3.31 3.19 9.00 ## 16 ohc six 209 mpfi 3.62 3.39 8.00 ## 17 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 19 1 three 61 2bbl 2.91 3.03 9.50 ## 20 ohc four 90 2bbl 3.03 3.11 9.60 ## 21 ohc four 90 2bbl 2.97 3.23 9.40 ## 23 ohc four 90 2bbl 2.97 3.23 9.40 ## 24 ohc four 90 2bbl 2.97 3.23 9.40 ## 25 ohc four 90 2bbl 2.97 3.23 9.40 ## 26 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40						-			
## 8 ohc five 136 mpfi 3.19 3.40 8.50 ## 9 ohc five 131 mpfi 3.13 3.40 7.00 ## 10 ohc four 108 mpfi 3.50 2.80 8.80 ## 12 ohc four 108 mpfi 3.50 2.80 8.80 ## 13 ohc six 164 mpfi 3.31 3.19 9.00 ## 14 ohc six 164 mpfi 3.31 3.19 9.00 ## 15 ohc six 164 mpfi 3.31 3.19 9.00 ## 16 ohc six 209 mpfi 3.62 3.39 8.00 ## 17 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 19 1 three 61 2bbl 2.91 3.03 9.50 ## 20 ohc four 90 2bbl 3.03 3.11 9.60 ## 21 ohc four 90 2bbl 2.97 3.23 9.40 ## 23 ohc four 90 2bbl 2.97 3.23 9.40 ## 24 ohc four 90 2bbl 2.97 3.23 9.40 ## 25 ohc four 90 2bbl 2.97 3.23 9.40 ## 26 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40						-			
## 9						-			
## 10 ohc five 131 mpfi 3.13 3.40 7.00 ## 11 ohc four 108 mpfi 3.50 2.80 8.80 ## 12 ohc four 108 mpfi 3.50 2.80 8.80 ## 13 ohc six 164 mpfi 3.31 3.19 9.00 ## 14 ohc six 164 mpfi 3.31 3.19 9.00 ## 15 ohc six 209 mpfi 3.62 3.39 8.00 ## 17 ohc six 209 mpfi 3.62 3.39 8.00 ## 18 ohc six 209 mpfi 3.62 3.39 8.00 ## 19 1 three 61 2bbl 2.91 3.03 9.50 ## 20 ohc four 90 2bbl 3.03 3.11 9.60 ## 21 ohc four 90 2bbl 2.97 3.23 9.40 ## 23 ohc four 98 mpfi 3.03 3.39 7.60 ## 25 ohc four 90 2bbl 2.97 3.23 9.40 ## 26 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 28 ohc four 90 2bbl 2.97 3.23 9.40						-			
## 11 ohc four 108 mpfi 3.50 2.80 8.80  ## 12 ohc four 108 mpfi 3.50 2.80 8.80  ## 13 ohc six 164 mpfi 3.31 3.19 9.00  ## 14 ohc six 164 mpfi 3.31 3.19 9.00  ## 15 ohc six 209 mpfi 3.62 3.39 8.00  ## 17 ohc six 209 mpfi 3.62 3.39 8.00  ## 18 ohc six 209 mpfi 3.62 3.39 8.00  ## 19 1 three 61 2bbl 2.91 3.03 9.50  ## 20 ohc four 90 2bbl 3.03 3.11 9.60  ## 21 ohc four 90 2bbl 2.97 3.23 9.40  ## 23 ohc four 90 2bbl 2.97 3.23 9.40  ## 24 ohc four 90 2bbl 2.97 3.23 9.40  ## 25 ohc four 90 2bbl 2.97 3.23 9.40  ## 26 ohc four 90 2bbl 2.97 3.23 9.40  ## 27 ohc four 90 2bbl 2.97 3.23 9.40  ## 27 ohc four 90 2bbl 2.97 3.23 9.40  ## 27 ohc four 90 2bbl 2.97 3.23 9.40  ## 27 ohc four 90 2bbl 2.97 3.23 9.40  ## 27 ohc four 90 2bbl 2.97 3.23 9.40  ## 27 ohc four 90 2bbl 2.97 3.23 9.40  ## 28 ohc four 90 2bbl 2.97 3.23 9.40						-			
## 12 ohc four 108 mpfi 3.50 2.80 8.80  ## 13 ohc six 164 mpfi 3.31 3.19 9.00  ## 14 ohc six 164 mpfi 3.31 3.19 9.00  ## 15 ohc six 164 mpfi 3.31 3.19 9.00  ## 16 ohc six 209 mpfi 3.62 3.39 8.00  ## 17 ohc six 209 mpfi 3.62 3.39 8.00  ## 18 ohc six 209 mpfi 3.62 3.39 8.00  ## 19 1 three 61 2bbl 2.91 3.03 9.50  ## 20 ohc four 90 2bbl 3.03 3.11 9.60  ## 21 ohc four 90 2bbl 3.03 3.11 9.60  ## 22 ohc four 90 2bbl 2.97 3.23 9.41  ## 23 ohc four 98 mpfi 3.03 3.39 7.60  ## 24 ohc four 90 2bbl 2.97 3.23 9.40  ## 25 ohc four 90 2bbl 2.97 3.23 9.40  ## 26 ohc four 90 2bbl 2.97 3.23 9.40  ## 27 ohc four 90 2bbl 2.97 3.23 9.40  ## 28 ohc four 90 2bbl 2.97 3.23 9.40						-			
## 13						-			
## 14 ohc six 164 mpfi 3.31 3.19 9.00  ## 15 ohc six 209 mpfi 3.62 3.39 8.00  ## 17 ohc six 209 mpfi 3.62 3.39 8.00  ## 18 ohc six 209 mpfi 3.62 3.39 8.00  ## 19 1 three 61 2bbl 2.91 3.03 9.50  ## 20 ohc four 90 2bbl 3.03 3.11 9.60  ## 21 ohc four 90 2bbl 2.97 3.23 9.41  ## 23 ohc four 90 2bbl 2.97 3.23 9.40  ## 24 ohc four 98 mpfi 3.03 3.39 7.60  ## 25 ohc four 90 2bbl 2.97 3.23 9.40  ## 26 ohc four 90 2bbl 2.97 3.23 9.40  ## 27 ohc four 90 2bbl 2.97 3.23 9.40  ## 28 ohc four 90 3bbl 2.97 3.23 9.40						-			
## 15 ohc six 164 mpfi 3.31 3.19 9.00  ## 16 ohc six 209 mpfi 3.62 3.39 8.00  ## 17 ohc six 209 mpfi 3.62 3.39 8.00  ## 18 ohc six 209 mpfi 3.62 3.39 8.00  ## 19 1 three 61 2bbl 2.91 3.03 9.50  ## 20 ohc four 90 2bbl 3.03 3.11 9.60  ## 21 ohc four 90 2bbl 3.03 3.11 9.60  ## 22 ohc four 90 2bbl 2.97 3.23 9.41  ## 23 ohc four 90 2bbl 2.97 3.23 9.40  ## 24 ohc four 98 mpfi 3.03 3.39 7.60  ## 25 ohc four 90 2bbl 2.97 3.23 9.40  ## 26 ohc four 90 2bbl 2.97 3.23 9.40  ## 27 ohc four 90 2bbl 2.97 3.23 9.40  ## 28 ohc four 90 2bbl 2.97 3.23 9.40						_			
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## 20 ohc four 90 2bbl 3.03 3.11 9.60  ## 21 ohc four 90 2bbl 3.03 3.11 9.60  ## 22 ohc four 90 2bbl 2.97 3.23 9.41  ## 23 ohc four 90 2bbl 2.97 3.23 9.40  ## 24 ohc four 98 mpfi 3.03 3.39 7.60  ## 25 ohc four 90 2bbl 2.97 3.23 9.40  ## 26 ohc four 90 2bbl 2.97 3.23 9.40  ## 27 ohc four 90 2bbl 2.97 3.23 9.40  ## 28 ohc four 98 mpfi 3.03 3.39 7.60						-			
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## 22 ohc four 90 2bbl 2.97 3.23 9.41 ## 23 ohc four 90 2bbl 2.97 3.23 9.40 ## 24 ohc four 98 mpfi 3.03 3.39 7.60 ## 25 ohc four 90 2bbl 2.97 3.23 9.40 ## 26 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 28 ohc four 98 mpfi 3.03 3.39 7.60									
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## 26 ohc four 90 2bbl 2.97 3.23 9.40 ## 27 ohc four 90 2bbl 2.97 3.23 9.40 ## 28 ohc four 98 mpfi 3.03 3.39 7.60						-			
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## 28 ohc four 98 mpfi 3.03 3.39 7.60									
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##	20	- h -	£	150		2 60	2 00	7 00
		ohc	four	156		3.60	3.90	7.00
##		ohc	four	92	1bbl		3.41	9.60
	32	ohc	four	92	1bbl		3.41	9.20
##		ohc	four	79	1bbl		3.07	10.10
##		ohc	four	92	1bbl		3.41	9.20
##		ohc	four	92	1bbl		3.41	9.20
##		ohc	four	92	1bbl		3.41	9.20
##		ohc	four	92	1bbl		3.41	9.20
	38	ohc	four	110	1bbl		3.58	9.00
##	39	ohc	four	110	1bbl		3.58	9.00
##	40	ohc	four	110	1bbl	3.15	3.58	9.00
##	41	ohc	four	110	1bbl	3.15	3.58	9.00
##	42	ohc	four	110	mpfi	3.15	3.58	9.00
##	43	ohc	four	110	2bbl	3.15	3.58	9.10
##	44	ohc	four	111	2bbl	3.31	3.23	8.50
##	45	ohc	four	90	2bbl	3.03	3.11	9.60
##	46	ohc	four	90	2bbl	3.03	3.11	9.60
##	47	ohc	four	119	spfi	3.43	3.23	9.20
##	48	dohc	six	258	mpfi	3.63	4.17	8.10
##	49	dohc	six	258	mpfi	3.63	4.17	8.10
##	50	ohcv	twelve	326	mpfi	3.54	2.76	11.50
##	51	ohc	four	91	2bb1	3.03	3.15	9.00
##	52	ohc	four	91	2bbl	3.03	3.15	9.00
##	53	ohc	four	91	2bbl	3.03	3.15	9.00
##	54	ohc	four	91	2bbl		3.15	9.00
##	55	ohc	four	91	2bbl		3.15	9.00
	56	rotor	two	70	4bbl		0.00	9.40
##	57	rotor	two	70	4bbl		0.00	9.40
##	58	rotor	two	70	4bbl		0.00	9.40
	59	rotor	two	80	mpfi		0.00	9.40
##		ohc	four	122	2bbl		3.39	8.60
##		ohc	four	122	2bbl		3.39	8.60
	62	ohc	four	122	2bbl		3.39	8.60
	63	ohc	four	122	2bbl		3.39	8.60
	64	ohc	four	122		3.39	3.39	22.70
	65	ohc	four	122	2bbl		3.39	8.60
##		ohc	four	140	mpfi		3.16	8.00
##		ohc	four	134	-	3.43	3.64	22.00
##		ohc	five	183		3.58	3.64	21.50
	69	ohc	five	183		3.58	3.64	21.50
	70	ohc	five	183		3.58	3.64	21.50
	71	ohc	five	183		3.58	3.64	21.50
	72	ohcv	eight	234	mpfi		3.10	8.30
##		ohcv	eight	234	mpfi		3.10	8.30
##		ohcv	eight	308	mpfi		3.35	8.00
##		ohcv	eight	304	mpfi		3.35	8.00
	76	ohc	four	140	mpfi		3.12	8.00
	77	ohc	four	92	2bbl		3.23	9.40
	78	ohc	four	92	2bb1		3.23	9.40
	79	ohc	four	92	2bb1		3.23	9.40
##		ohc	four	98	spdi		3.39	7.60
##		ohc	four	110	spdi spdi		3.46	7.50
##		ohc	four	122	2bbl		3.46	8.50
##		ohc	four	156	spdi		3.40	7.00
π#	00	OIIC	Toul	100	spui	0.00	5.00	1.00

##	84	ohc	four	156	spdi	3.59	3.86	7.00
	85	ohc	four	156	spdi		3.86	7.00
	86	ohc	four	122	2bbl		3.46	8.50
##		ohc	four	122	2bb1		3.46	8.50
	88	ohc	four	110	spdi		3.46	7.50
	89	ohc	four	110	spdi		3.46	7.50
	90	ohc	four	97	2bbl		3.29	9.40
	91	ohc	four	103		2.99	3.47	21.90
	92	ohc	four	97	2bbl		3.29	9.40
	93	ohc	four	97	2bbl		3.29	9.40
##	94	ohc	four	97	2bbl		3.29	9.40
##	95	ohc	four	97	2bbl		3.29	9.40
##	96	ohc	four	97	2bbl	3.15	3.29	9.40
##	97	ohc	four	97	2bbl	3.15	3.29	9.40
##	98	ohc	four	97	2bbl	3.15	3.29	9.40
##	99	ohc	four	97	2bbl	3.15	3.29	9.40
##	100	ohc	four	120	2bbl	3.33	3.47	8.50
##	101	ohc	four	120	2bbl	3.33	3.47	8.50
##	102	ohcv	six	181	mpfi	3.43	3.27	9.00
##	103	ohcv	six	181	mpfi	3.43	3.27	9.00
##	104	ohcv	six	181	mpfi	3.43	3.27	9.00
##	105	ohcv	six	181	mpfi	3.43	3.27	9.00
##	106	ohcv	six	181	mpfi	3.43	3.27	7.80
##	107	ohcv	six	181	mpfi	3.43	3.27	9.00
##	108	1	four	120	mpfi	3.46	3.19	8.40
	109	1	four	152		3.70	3.52	21.00
	110	1	four	120	mpfi		3.19	8.40
	111	1	four	152		3.70	3.52	21.00
	112	1	four	120	mpfi		2.19	8.40
	113	1	four	152		3.70	3.52	21.00
	114	1	four	120	mpfi		2.19	8.40
	115	1	four	152		3.70	3.52	21.00
	116	1	four	120	mpfi		3.19	8.40
	117	1	four	152		3.70	3.52	21.00
	118 119	l ohc	four four	134 90	mpfi 2bbl		3.21 3.23	7.00 9.40
	120	ohc		98	spdi		3.23	7.60
	121	ohc	four four	90	2bbl		3.23	9.40
	122	ohc	four	90	2bb1		3.23	9.40
	123	ohc	four	98		2.97	3.23	9.40
	124	ohc	four	122	2bb1		3.46	8.50
	125	ohc	four	156	spdi		3.86	7.00
	126	ohc	four	151	mpfi		3.11	9.50
	127	ohcf	six	194	mpfi		2.90	9.50
##	128	ohcf	six	194	mpfi		2.90	9.50
##	129	ohcf	six	194	mpfi		2.90	9.50
##	130	dohcv	eight	203	mpfi	3.94	3.11	10.00
##	131	ohc	four	132	mpfi	3.46	3.90	8.70
##	132	ohc	four	132	mpfi	3.46	3.90	8.70
##	133	ohc	four	121	mpfi	3.54	3.07	9.31
	134	ohc	four	121	mpfi		3.07	9.30
	135	ohc	four	121	mpfi		2.07	9.30
	136	ohc	four	121	mpfi		3.07	9.30
##	137	dohc	four	121	mpfi	3.54	3.07	9.00

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	138	dohc	four	121	mpfi 3.54	3.07	9.00
	139	ohcf	four	97	2bbl 3.62	2.36	9.00
	140	ohcf	four	108	2bbl 3.62	2.64	8.70
	141	ohcf	four	108	2bbl 3.62	2.64	8.70
	142	ohcf	four	108	2bbl 3.62	2.64	9.50
	143	ohcf	four	108	2bbl 3.62	2.64	9.50
	144	ohcf	four	108	mpfi 3.62	2.64	9.00
	145	ohcf	four	108	2bbl 3.62	2.64	9.00
	146	ohcf	four	108	mpfi 3.62	2.64	7.70
##	147	ohcf	four	108	2bbl 3.62	2.64	9.00
	148	ohcf	four	108	mpfi 3.62	2.64	9.00
##	149	ohcf	four	108	2bbl 3.62	2.64	9.00
##	150	ohcf	four	108	mpfi 3.62	2.64	7.70
##	151	ohc	four	92	2bbl 3.05	3.03	9.00
##	152	ohc	four	92	2bbl 3.05	3.03	9.00
##	153	ohc	four	92	2bbl 3.05	3.03	9.00
##	154	ohc	four	92	2bbl 3.05	3.03	9.00
##	155	ohc	four	92	2bbl 3.05	3.03	9.00
##	156	ohc	four	92	2bbl 3.05	3.03	9.00
##	157	ohc	four	98	2bbl 3.19	3.03	9.00
##	158	ohc	four	98	2bbl 3.19	3.03	9.00
##	159	ohc	four	110	idi 3.27	3.35	22.50
##	160	ohc	four	110	idi 3.27	3.35	22.50
##	161	ohc	four	98	2bbl 3.19	3.03	9.00
##	162	ohc	four	98	2bbl 3.19	3.03	9.00
##	163	ohc	four	98	2bbl 3.19	3.03	9.00
##	164	ohc	four	98	2bbl 3.19	3.03	9.00
##	165	ohc	four	98	2bbl 3.19	3.03	9.00
##	166	dohc	four	98	mpfi 3.24	3.08	9.40
##	167	dohc	four	98	mpfi 3.24	3.08	9.40
##	168	ohc	four	146	mpfi 3.62	3.50	9.30
##	169	ohc	four	146	mpfi 3.62	3.50	9.30
##	170	ohc	four	146	mpfi 3.62	3.50	9.30
##	171	ohc	four	146	mpfi 3.62	3.50	9.30
##	172	ohc	four	146	mpfi 3.62	3.50	9.30
##	173	ohc	four	146	mpfi 3.62	3.50	9.30
##	174	ohc	four	122	mpfi 3.31	3.54	8.70
##	175	ohc	four	110	idi 3.27	3.35	22.50
##	176	ohc	four	122	mpfi 3.31	3.54	8.70
##	177	ohc	four	122	mpfi 3.31	3.54	8.70
##	178	ohc	four	122	mpfi 3.31	3.54	8.70
##	179	dohc	six	171	mpfi 3.27	3.35	9.30
##	180	dohc	six	171	mpfi 3.27	3.35	9.30
##	181	dohc	six	171	mpfi 3.27	3.35	9.20
##	182	dohc	six	161	mpfi 3.27	3.35	9.20
##	183	ohc	four	97	idi 3.01	3.40	23.00
##	184	ohc	four	109	mpfi 3.19	3.40	9.00
##	185	ohc	four	97	idi 3.01	3.40	23.00
##	186	ohc	four	109	mpfi 3.19	3.40	9.00
	187	ohc	four	109	mpfi 3.19	3.40	9.00
##	188	ohc	four	97	idi 3.01	3.40	23.00
	189	ohc	four	109	mpfi 3.19	3.40	10.00
##	190	ohc	four	109	mpfi 3.19	3.40	8.50
##	191	ohc	four	109	mpfi 3.19	3.40	8.50

##	192	ohc	five		136	mpfi 3.19	3.40	8.50
	193	ohc	four		97	idi 3.01	3.40	23.00
##	194	ohc	four		109	mpfi 3.19	3.40	9.00
	195	ohc	four		141	mpfi 3.78	3.15	9.50
	196	ohc	four		141	mpfi 3.78	3.15	9.50
	197	ohc	four		141	mpfi 3.78	3.15	9.50
	198	ohc	four		141	mpfi 3.78	3.15	9.50
	199	ohc	four		130	mpfi 3.62	3.15	7.50
	200	ohc	four		130	mpfi 3.62	3.15	7.50
	201	ohc	four		141	mpfi 3.78	3.15	9.50
	202	ohc	four		141	mpfi 3.78	3.15	8.70
	203	ohcv	six		173	mpfi 3.58		8.80
	204	ohc	six		145	idi 3.01	3.40	23.00
	205	ohc	four		141	mpfi 3.78	3.15	9.50
##	1				highwayMpg			
## ##		111	5000 5000	21		13495		
##		111		21		16500		
##		154 102	5000 5500	19 24		16500 13950		
##		115	5500	18		17450		
##		110	5500	19		15250		
##		110	5500	19		17710		
##		110	5500	19		18920		
##		140	5500	17		23875		
##		160	5500	16	22	0		
##		101	5800	23		16430		
##		101	5800	23		16925		
	13	121	4250	21		20970		
	14	121	4250	21		21105		
##	15	121	4250	20		24565		
##		182	5400	16		30760		
##	17	182	5400	16	22	41315		
##	18	182	5400	15	20	36880		
##	19	48	5100	47	53	5151		
##	20	70	5400	38	43	6295		
##	21	70	5400	38	43	6575		
##	22	68	5500	37	41	5572		
##	23	68	5500	31	38	6377		
##		102	5500	24	30	7957		
##		68	5500	31	38	6229		
	26	68	5500	31	38	6692		
	27	68	5500	31	38	7609		
##		102	5500	24	30	8558		
	29	88	5000	24	30	8921		
##		145	5000	19	24			
##		58	4800	49	54	6479		
##		76	6000	31	38	6855		
##		60 76	5500 6000	38	42	5399 6530		
##		76 76	6000 6000	30 30	34	6529 7129		
## ##		76	6000	30	34 34	7129 7295		
##		76	6000	30	34	7295 7295		
##		86	5800	27	33	7895		
##		86	5800	27	33	9095		

	40	0.0	F000	07	00	0045
##		86	5800	27	33	8845
##	41	86	5800	27	33	10295
##	42	101	5800	24	28	12945
##	43	100	5500	25	31	10345
##	44	78	4800	24	29	6785
##	45	70	5400	38	43	0
##	46	70	5400	38	43	0
	47	90	5000	24	29	11048
##	48	176	4750	15	19	32250
##	49	176	4750	15	19	35550
##	50	262	5000	13	17	36000
##	51	68	5000	30	31	5195
##	52	68	5000	31	38	6095
##	53	68	5000	31	38	6795
##	54	68	5000	31	38	6695
##	55	68	5000	31	38	7395
##	56	101	6000	17	23	10945
##	57	101	6000	17	23	11845
##	58	101	6000	17	23	13645
##	59	135	6000	16	23	15645
##	60	84	4800	26	32	8845
##	61	84	4800	26	32	8495
##	62	84	4800	26	32	10595
##	63	84	4800	26	32	10245
##	64	64	4650	36	42	10795
##	65	84	4800	26	32	11245
##	66	120	5000	19	27	18280
##	67	72	4200	31	39	18344
##	68	123	4350	22	25	25552
##	69	123	4350	22	25	28248
##	70			22		
		123	4350		25	28176
##	71	123	4350	22	25	31600
##	72	155	4750	16	18	34184
##	73	155	4750	16	18	35056
##	74	184	4500	14	16	40960
##	75	184	4500	14	16	45400
##	76	175	5000	19	24	16503
##	77	68	5500	37	41	5389
##	78	68	5500	31	38	6189
##	79	68	5500	31	38	6669
##	80	102	5500	24	30	7689
##	81	116	5500	23	30	9959
##	82	88	5000	25	32	8499
##	83		5000	19		
		145			24	12629
##	84	145	5000	19	24	14869
##	85	145	5000	19	24	14489
##	86	88	5000	25	32	6989
##	87	88	5000	25	32	8189
##	88	116	5500	23	30	9279
##	89	116	5500	23	30	9279
##	90	69	5200	31	37	5499
##	91	55	4800	45	50	7099
##	92	69	5200	31	37	6649
##	93	69	5200	31	37	6849
		- •				

##	94	69	5200	31	37	7349
##	95	69	5200	31	37	7299
##	96	69	5200	31	37	7799
##	97	69	5200	31	37	7499
##	98	69	5200	31	37	7999
##	99	69	5200	31	37	8249
##	100	97	5200	27	34	8949
##	101	97	5200	27	34	9549
##	102	152	5200	17	22	13499
##	103	152	5200	17	22	14399
##	104	152	5200	19	25	13499
##	105	160	5200	19	25	17199
##	106	200	5200	17	23	19699
##	107	160	5200	19	25	18399
##	108	97	5000	19	24	11900
##	109	95	4150	28	33	13200
##	110	97	5000	19	24	12440
##	111	95	4150	25	25	13860
##	112	95	5000	19	24	15580
##	113	95	4150	28	33	16900
##	114	95	5000	19	24	16695
##	115	95	4150	25	25	17075
##	116	97	5000	19	24	16630
##	117	95	4150	28	33	17950
##	118	142	5600	18	24	18150
##	119	68	5500	37	41	5572
##	120	102	5500	24	30	7957
##	121	68	5500	31	38	6229
##	122	68	5500	31	38	6692
##	123	68	5500	31	38	7609
##	124	88	5000	24	30	8921
##	125	145	5000	19	24	12764
##	126	143	5500	19	27	22018
##	127	207	5900	17	25	32528
##	128	207	5900	17	25	34028
##	129	207	5900	17	25	37028
##	130	288	5750	17	28	0
##	131	0	0	23	31	9295
##	132	0	0	23	31	9895
##	133	110	5250	21	28	11850
##	134	110	5250	21	28	12170
##	135	110	5250	21	28	15040
##	136	110	5250	21	28	15510
##	137	160	5500	19	26	18150
##	138	160	5500	19	26	18620
##	139	69	4900	31	36	5118
##	140	73	4400	26	31	7053
##	141	73	4400	26	31	7603
##					37	
	142	82	4800	32		7126
##	143	82	4400	28	33	7775
##	144	94	5200	26	32	9960
##	145	82	4800	24	25	9233
##	146	111	4800	24	29	11259
##	147	82	4800	28	32	7463

##	148	94	5200	25	31	10198
##	149	82	4800	23	29	8013
##	150	111	4800	23	23	11694
##	151	62	4800	35	39	5348
##	152	62	4800	31	38	6338
##	153	62	4800	31	38	6488
##	154	62	4800	31	37	6918
##	155	62	4800	27	32	7898
##	156	62	4800	27	32	8778
##	157	70	4800	30	37	6938
##	158	70	4800	30	37	7198
##	159	56	4500	34	36	7898
##						
	160	56	4500	38	47	7788
##	161	70	4800	38	47	7738
##	162	70	4800	28	34	8358
##	163	70	4800	28	34	9258
##	164	70	4800	29	34	8058
##	165	70	4800	29	34	8238
##	166	112	6600	26	29	9298
##	167	112	6600	26	29	9538
##	168	116	4800	24	30	8449
##	169	116	4800	24	30	9639
##	170	116	4800	24	30	9989
##	171	116	4800	24	30	11199
##	172	116	4800	24	30	11549
##	173	116	4800	24	30	17669
##	174	92	4200	29	34	8948
##	175	73	4500	30	33	10698
##	176	92	4200	27	32	9988
##	177	92	4200	27	32	10898
	178			27	32	
##		92	4200			11248
##	179	161	5200	20	24	16558
##	180	161	5200	19	24	15998
##	181	156	5200	20	24	15690
##	182	156	5200	19	24	15750
##	183	52	4800	37	46	7775
##	184	85	5250	27	34	7975
##	185	52	4800	37	46	7995
##	186	85	5250	27	34	8195
##	187	85	5250	27	34	8495
##	188	68	4500	37	42	9495
##	189	100	5500	26	32	9995
##	190	90	5500	24	29	11595
##	191	90	5500	24	29	9980
##	192	110	5500	19	24	13295
##	193	68	4500	33	38	13845
##	194	88	5500	25	31	12290
##	195	114	5400	23	28	12940
##	196	114	5400	23	28	13415
##	197	114	5400	24	28	15985
##						
##	198	114	5400 5100	24	28	16515
	199	162	5100 5100	17	22	18420
##	200	162	5100	17	22	18950
##	201	114	5400	23	28	16845

```
## 202
              160
                     5300
                                           25 19045
                               19
## 203
              134
                                           23 21485
                     5500
                               18
## 204
              106
                     4800
                                           27 22470
                                26
## 205
              114
                     5400
                               19
                                           25 22625
```

(e) Cree un nuevo conjunto de datos imputando la media en todas las columnas que tengan valores de tipo double.

```
# Convertir el objeto en un dataframe
df <- as.data.frame(carIns)

# Calcula la Media e imputa en todas las columnas de tipo double
dataMedia <- df %>%
    mutate_if(is.double, ~ ifelse(is.na(.), mean(., na.rm = TRUE), .))
# mutate_if realiza cambios condicionales en las columnas de acuerdo a una condicion especifica
#is.double funcion que devuelve TRUE para las columnas que cumplan la condicion de tipo double

# Imprime el conjunto de datos
print(dataMedia)
```

##		$\operatorname{\mathtt{symb}}$	${\tt normLoss}$	make	fuelType	aspiration		bodyStyle
##	1	3	NA	alfa-romero	gas	std	two	convertible
##	2	3	NA	alfa-romero	gas	std	two	convertible
##	3	1	NA	alfa-romero	gas	std	two	hatchback
##	4	2	164	audi	gas	std	four	sedan
##	5	2	164	audi	gas	std	four	sedan
##	6	2	NA	audi	gas	std	two	sedan
##	7	1	158	audi	gas	std	four	sedan
##	8	1	NA	audi	gas	std	four	wagon
##	9	1	158	audi	gas	turbo	four	sedan
##	10	0	NA	audi	gas	turbo	two	hatchback
##	11	2	192	bmw	gas	std	two	sedan
##	12	0	192	bmw	gas	std	four	sedan
##	13	0	188	bmw	gas	std	two	sedan
##	14	0	188	bmw	gas	std	four	sedan
##	15	1	NA	bmw	gas	std	four	sedan
##	16	0	NA	bmw	gas	std	four	sedan
##	17	0	NA	bmw	gas	std	two	sedan
##	18	0	NA	bmw	gas	std	four	sedan
##	19	2	121	chevrolet	gas	std	two	hatchback
##	20	1	98	chevrolet	gas	std	two	hatchback
##	21	0	81	chevrolet	gas	std	four	sedan
##	22	1	118	dodge	gas	std	two	hatchback
##	23	1	118	dodge	gas	std	two	hatchback
##	24	1	118	dodge	gas	turbo	two	hatchback
##	25	1	148	dodge	gas	std	four	hatchback
##	26	1	148	dodge	gas	std	four	sedan
##	27	1	148	dodge	gas	std	four	sedan
##	28	1	148	dodge	gas	turbo	<na></na>	sedan
##	29	-1	110	dodge	gas	std	four	wagon
##	30	3	145	dodge	gas	turbo	two	hatchback
##	31	2	137	honda	gas	std	two	hatchback
##	32	2	137	honda	gas	std	two	hatchback
##	33	1	101	honda	gas	std	two	hatchback

	34	1	101	honda	gas	std	two	hatchback
##	35	1	101	honda	gas	std	two	hatchback
##	36	0	110	honda	gas	std	four	sedan
##	37	0	78	honda	gas	std	four	wagon
##	38	0	106	honda	gas	std	two	hatchback
##	39	0	106	honda	gas	std	two	hatchback
##	40	0	85	honda	gas	std	four	sedan
##	41	0	85	honda	gas	std	four	sedan
##	42	0	85	honda	gas	std	four	sedan
##	43	1	107	honda	gas	std	two	sedan
##	44	0	NA	isuzu	gas	std	four	sedan
##	45	1	NA	isuzu	gas	std	two	sedan
##	46	0	NA	isuzu	gas	std	four	sedan
##	47	2	NA	isuzu	gas	std	two	hatchback
##	48	0	145	jaguar	gas	std	four	sedan
##	49	0	NA	jaguar	gas	std	four	sedan
##	50	0	NA	jaguar	gas	std	two	sedan
##	51	1	104	mazda	gas	std	two	hatchback
##	52	1	104	mazda	gas	std	two	hatchback
##	53	1	104	mazda	gas	std	two	hatchback
##	54	1	113	mazda	gas	std	four	sedan
##	55	1	113	mazda	gas	std	four	sedan
##	56	3	150	mazda	gas	std	two	hatchback
##	57	3	150	mazda	gas	std	two	hatchback
##	58	3	150	mazda	gas	std	two	hatchback
##	59	3	150	mazda	gas	std	two	hatchback
##	60	1	129	mazda	gas	std	two	hatchback
##	61	0	115	mazda	gas	std	four	sedan
##	62	1	129	mazda	gas	std	two	hatchback
##	63	0	115	mazda	gas	std	four	sedan
##	64	0	NA	mazda	diesel	std	<na></na>	sedan
##	65	0	115	mazda	gas	std	four	hatchback
##	66	0	118	mazda	gas	std	four	sedan
##	67	0	NA	mazda	diesel	std	four	sedan
##	68	-1	93	mercedes-benz	diesel	turbo	four	sedan
##	69	-1		mercedes-benz	diesel	turbo	four	wagon
##	70	0	93	mercedes-benz	diesel	turbo	two	hardtop
##	71	-1		mercedes-benz	diesel	turbo	four	sedan
	72	-1		mercedes-benz	gas	std	four	sedan
	73	3		mercedes-benz	gas	std		convertible
	74	0	NA	mercedes-benz	gas	std		sedan
	75	1	NA	mercedes-benz	gas	std	two	hardtop
	76	1	NA	mercury	gas	turbo	two	hatchback
##	77	2	161	mitsubishi	gas	std	two	hatchback
##	78	2	161	mitsubishi	gas	std	two	hatchback
	79	2	161	mitsubishi	gas	std	two	hatchback
	80	1	161	mitsubishi	gas	turbo	two	hatchback
	81	3	153	mitsubishi	gas	turbo	two	hatchback
	82	3	153	mitsubishi	gas	std	two	hatchback
	83	3	NA	mitsubishi	gas	turbo	two	hatchback
	84	3	NA NA	mitsubishi		turbo	two	hatchback
	85	3	NA NA	mitsubishi	gas gas	turbo	two	hatchback
	86	1	125	mitsubishi		std	four	sedan
	87	1	125	mitsubishi	gas		four	
##	01	Т	123	mingnoisiil	gas	std	rour	sedan

##	22	1	125	mitsubishi	an c	turbo	four	sedan
##	89	-1	137	mitsubishi	gas gas	std	four	sedan
##	90	1	128	nissan	gas	std	two	sedan
##	91	1	128	nissan	diesel	std	two	sedan
##	92	1	128	nissan	gas	std	two	sedan
##	93	1	122	nissan	gas	std	four	sedan
##	94	1	103	nissan	gas	std	four	wagon
##	95	1	128	nissan	gas	std	two	sedan
##	96	1	128	nissan	gas	std	two	hatchback
##	97	1	122	nissan	gas	std	four	sedan
##	98	1	103	nissan	gas	std	four	wagon
##	99	2	168	nissan	gas	std	two	hardtop
##	100	0	106	nissan	gas	std	four	hatchback
##	101	0	106	nissan	gas	std	four	sedan
##	102	0	128	nissan	gas	std	four	sedan
##	103	0	108	nissan	gas	std	four	wagon
##	104	0	108	nissan	gas	std	four	sedan
##	105	3	194	nissan	gas	std	two	hatchback
##	106	3	194	nissan	gas	turbo	two	hatchback
##	107	1	231	nissan	gas	std	two	hatchback
##	108	0	161	peugot	gas	std	four	sedan
##	109	0	161	peugot	diesel	turbo	four	sedan
##	110	0	NA	peugot	gas	std	four	wagon
##	111	0	NA	peugot	diesel	turbo	four	wagon
##	112	0	161	peugot	gas	std	four	sedan
##	113	0	161	peugot	diesel	turbo	four	sedan
##	114	0	NA	peugot	gas	std	four	wagon
##	115	0	NA	peugot	diesel	turbo	four	wagon
##	116	0	161	peugot	gas	std	four	sedan
##	117	0	161	peugot	diesel	turbo	four	sedan
##	118	0	161	peugot	gas	turbo	four	sedan
##	119	1	119	plymouth	gas	std	two	hatchback
##	120	1	119	plymouth	gas	turbo	two	hatchback
##	121	1	154	plymouth	gas	std	four	hatchback
##	122	1	154	plymouth	gas	std	four	sedan
##	123	1	154	plymouth	gas	std	four	sedan
##	124	-1	74	plymouth	gas	std	four	wagon
##	125	3	NA	plymouth	gas	turbo	two	hatchback
	126	3	186	porsche	gas	std	two	hatchback
	127	3	NA	porsche	gas	std	two	hardtop
	128	3	NA	porsche	gas	std	two	hardtop
##	129	3	NA	porsche	gas	std	two	convertible
##	130	1	NA	porsche	gas	std	two	hatchback
##	131	0	NA	renault	gas	std	four	wagon
##	132	2	NA	renault	gas	std	two	hatchback
##	133	3	150	saab	gas	std	two	hatchback
##	134	2	104	saab	gas	std	four	sedan
##	135	3	150	saab	gas	std	two	hatchback
##	136	2	104	saab	gas	std	four	sedan
##	137	3	150	saab	gas	turbo	two	hatchback
##	138	2	104	saab	gas	turbo	four	sedan
##	139	2	83	subaru	gas	std	two	hatchback
##	140	2	83	subaru	gas	std	two	hatchback
##	141	2	83	subaru	gas	std	two	hatchback
					0			

	142	0	102	subaru	gas	std	four	sedan
##	143	0	102	subaru	gas	std	four	sedan
##	144	0	102	subaru	gas	std	four	sedan
##	145	0	102	subaru	gas	std	four	sedan
##	146	0	102	subaru	gas	turbo	four	sedan
##	147	0	89	subaru	gas	std	four	wagon
##	148	0	89	subaru	gas	std	four	wagon
##	149	0	85	subaru	gas	std	four	wagon
##	150	0	85	subaru	gas	turbo	four	wagon
##	151	1	87	toyota	gas	std	two	hatchback
##	152	1	87	toyota	gas	std	two	hatchback
##	153	1	74	toyota	gas	std	four	hatchback
##	154	0	77	toyota	gas	std	four	wagon
##	155	0	81	toyota	gas	std	four	wagon
##	156	0	91	toyota	gas	std	four	wagon
##	157	0	91	toyota	gas	std	four	sedan
##	158	0	91	toyota	gas	std	four	hatchback
##	159	0	91	toyota	diesel	std	four	sedan
##	160	0	91	toyota	diesel	std	four	hatchback
##	161	0	91	toyota	gas	std	four	sedan
##	162	0	91	toyota	gas	std	four	hatchback
##	163	0	91	toyota	gas	std	four	sedan
##	164	1	168	toyota	gas	std	two	sedan
##	165	1	168	toyota	gas	std	two	hatchback
##	166	1	168	toyota	gas	std	two	sedan
##	167	1	168	toyota	gas	std	two	hatchback
##	168	2	134	toyota	gas	std	two	hardtop
##	169	2	134	toyota	gas	std	two	hardtop
##	170	2	134	toyota	gas	std	two	hatchback
##	171	2	134	toyota	gas	std	two	hardtop
##	172	2	134	toyota	gas	std	two	hatchback
##	173	2	134	toyota	gas	std		convertible
##	174	-1	65	toyota	gas	std	four	sedan
##	175	-1	65	toyota	diesel	turbo	four	sedan
##	176	-1	65	toyota	gas	std	four	hatchback
##	177	-1	65	toyota	gas	std	four	sedan
##	178	-1	65	toyota	gas	std	four	hatchback
	179	3	197	toyota	gas	std	two	hatchback
##	180	3	197	toyota	gas	std	two	hatchback
##	181	-1	90	toyota	gas	std	four	sedan
##	182	-1	NA	toyota	gas	std	four	wagon
##	183	2	122	volkswagen	diesel	std	two	sedan
##	184	2	122	volkswagen	gas	std	two	sedan
##	185	2	94	volkswagen	diesel	std	four	sedan
##	186	2	94	volkswagen	gas	std	four	sedan
##	187	2	94	volkswagen	gas	std	four	sedan
##	188	2	94	volkswagen	diesel	turbo	four	sedan
##	189	2	94	volkswagen	gas	std	four	sedan
##	190	3	NA	volkswagen	gas	std		convertible
##	191	3	256	volkswagen	gas	std	two	hatchback
##	192	0	NA	volkswagen	gas	std	four	sedan
##	193	0	NA	volkswagen	diesel	turbo	four	sedan
##	194	0	NA	volkswagen	gas	std	four	wagon
##	195	-2	103	volvo	gas	std	four	sedan

##	196	-1	74	4 volvo	gas		std	four	wagon
	197	-2	103		0		std	four	sedan
##	198	-1	74		O		std	four	wagon
##	199	-2	103		O	tı	ırbo	four	sedan
##	200	-1	74		0		ırbo	four	wagon
##	201	-1	9!	5 volvo	•		std	four	sedan
##	202	-1	9!		0	tı	ırbo	four	sedan
##	203	-1	9!		•		std	four	sedan
##	204	-1	9!		_	tı	ırbo	four	sedan
##	205	-1	9!			tı	ırbo	four	sedan
##		driveWhe	els (	engineLocation	_	length	width	height	curbWeight
##	1		rwd	front	88.6	168.8	64.1	48.8	2548
##	2		rwd	front	88.6	168.8	64.1	48.8	2548
##	3		rwd	front	94.5	171.2	65.5	52.4	2823
##	4		fwd	front	99.8	176.6	66.2	54.3	2337
##	5		4wd	front	99.4	176.6	66.4	54.3	2824
##	6		fwd	front	99.8	177.3	66.3	53.1	2507
##	7		fwd	front	105.8	192.7	71.4	55.7	2844
##	8		fwd	front	105.8	192.7	71.4	55.7	2954
##	9		fwd	front	105.8	192.7	71.4	55.9	3086
##	10		4wd	front	99.5	178.2	67.9	52.0	3053
##	11		rwd	front	101.2	176.8	64.8	54.3	2395
##	12		rwd	front	101.2	176.8	64.8	54.3	2395
	13		rwd	front	101.2	176.8	64.8	54.3	2710
	14		rwd	front	101.2	176.8	64.8	54.3	2765
##	15		rwd	front	103.5	189.0	66.9	55.7	3055
##	16		rwd	front	103.5	189.0	66.9	55.7	3230
	17		rwd	front	103.5	193.8	67.9	53.7	3380
##	18		rwd	front	110.0	197.0	70.9	56.3	3505
	19		fwd	front	88.4	141.1	60.3	53.2	1488
	20		fwd	front	94.5	155.9	63.6	52.0	1874
##			fwd	front	94.5	158.8	63.6	52.0	1909
##			fwd	front	93.7	157.3	63.8	50.8	1876
##			fwd	front	93.7	157.3	63.8	50.8	1876
##			fwd	front	93.7	157.3	63.8	50.8	2128
	25		fwd	front	93.7	157.3	63.8	50.6	1967
##			fwd	front	93.7	157.3	63.8	50.6	1989
##			fwd	front	93.7	157.3	63.8	50.6	1989
	28		fwd	front	93.7		63.8	50.6	2191
	29 30		fwd fwd	front front	103.3 95.9	174.6 173.2	64.6 66.3	59.8 50.2	2535 2811
##			fwd	front	86.6	144.6	63.9	50.8	1713
	32		fwd	front	86.6	144.6	63.9	50.8	1819
	33		fwd	front	93.7	150.0	64.0	52.6	1837
	34		fwd	front	93.7	150.0	64.0	52.6	1940
##			fwd	front	93.7	150.0	64.0	52.6	1956
	36		fwd	front	96.5	163.4	64.0	54.5	2010
	37		fwd	front	96.5	157.1	63.9	58.3	2010
	38		fwd	front	96.5	167.5	65.2	53.3	2236
	39		fwd	front	96.5	167.5	65.2	53.3	2289
	40		fwd	front	96.5	175.4	65.2	54.1	2304
##			fwd	front	96.5	175.4	62.5	54.1	2372
	42		fwd	front	96.5	175.4	65.2	54.1	2465
	43		fwd	front	96.5	169.1	66.0	51.0	2293

##	44	rwd	front	94.3	170.7	61.8	53.5	2337
##	45	fwd	front	94.5	155.9	63.6	52.0	1874
##	46	fwd	front	94.5	155.9	63.6	52.0	1909
##	47	rwd	front	96.0	172.6	65.2	51.4	2734
##	48	rwd	front	113.0	199.6	69.6	52.8	4066
##	49	rwd	front	113.0	199.6	69.6	52.8	4066
##	50	rwd	front	102.0	191.7	70.6	47.8	3950
##	51	fwd	front	93.1	159.1	64.2	54.1	1890
##	52	fwd	front	93.1	159.1	64.2	54.1	1900
##	53	fwd	front	93.1	159.1	64.2	54.1	1905
##	54	fwd	front	93.1	166.8	64.2	54.1	1945
##	55	fwd	front	93.1	166.8	64.2	54.1	1950
##	56	rwd	front	95.3	169.0	65.7	49.6	2380
##	57	rwd	front	95.3	169.0	65.7	49.6	2380
##	58	rwd	front	95.3	169.0	65.7	49.6	2385
##	59	rwd	front	95.3	169.0	65.7	49.6	2500
##	60	fwd	front	98.8	177.8	66.5	53.7	2385
##	61	fwd	front	98.8	177.8	66.5	55.5	2410
##	62	fwd	front	98.8	177.8	66.5	53.7	2385
##	63	fwd	front	98.8	177.8	66.5	55.5	2410
##	64	fwd	front	98.8	177.8	66.5	55.5	2443
##	65	fwd	front	98.8	177.8	66.5	55.5	2425
##	66	rwd	front	104.9	175.0	66.1	54.4	2670
##	67	rwd	front	104.9	175.0	66.1	54.4	2700
##	68	rwd	front	110.0	190.9	70.3	56.5	3515
##	69	rwd	front	110.0	190.9	70.3	58.7	3750
##	70	rwd	front	106.7	187.5	70.3	54.9	3495
##	71	rwd	front	115.6	202.6	71.7	56.3	3770
##	72	rwd	front	115.6	202.6	71.7	56.5	3740
##	73	rwd	front	96.6	180.3	70.5	50.8	3685
##	74	rwd	front	120.9	208.1	71.7	56.7	3900
##	75	rwd	front	112.0	199.2	72.0	55.4	3715
##	76	rwd	front	102.7	178.4	68.0	54.8	2910
##	77	fwd	front	93.7	157.3	64.4	50.8	1918
##	78	fwd	front	93.7	157.3	64.4	50.8	1944
##	79	fwd	front	93.7	157.3	64.4	50.8	2004
##		fwd	front	93.0	157.3	63.8	50.8	2145
##		fwd	front	96.3	173.0	65.4	49.4	2370
	82	fwd	front	96.3	173.0	65.4	49.4	2328
	83	fwd	front	95.9	173.2	66.3	50.2	2833
	84	fwd	front	95.9	173.2	66.3	50.2	2921
	85	fwd	front	95.9	173.2	66.3	50.2	2926
	86	fwd	front	96.3	172.4	65.4	51.6	2365
	87	fwd	front	96.3	172.4	65.4	51.6	2405
	88	fwd	front	96.3	172.4	65.4	51.6	2403
	89	fwd	front	96.3	172.4	65.4	51.6	2403
	90	fwd	front	94.5	165.3	63.8	54.5	1889
##		fwd	front	94.5	165.3	63.8	54.5	2017
	92	fwd	front	94.5	165.3	63.8	54.5	1918
	93	fwd	front	94.5	165.3	63.8	54.5	1938
	94	fwd	front	94.5	170.2	63.8	53.5	2024
	95	fwd	front	94.5	165.3	63.8	54.5	1951
	96	fwd	front	94.5	165.6	63.8	53.3	2028
##	97	fwd	front	94.5	165.3	63.8	54.5	1971

##	98	fwd	front	94.5	170.2	63.8	53.5	2037
##	99	fwd	front	95.1	162.4	63.8	53.3	2008
##	100	fwd	front	97.2	173.4	65.2	54.7	2324
##	101	fwd	front	97.2	173.4	65.2	54.7	2302
##	102	fwd	front	100.4	181.7	66.5	55.1	3095
##	103	fwd	front	100.4	184.6	66.5	56.1	3296
##	104	fwd	front	100.4	184.6	66.5	55.1	3060
##	105	rwd	front	91.3	170.7	67.9	49.7	3071
##	106	rwd	front	91.3	170.7	67.9	49.7	3139
##	107	rwd	front	99.2	178.5	67.9	49.7	3139
##	108	rwd	front	107.9	186.7	68.4	56.7	3020
##	109	rwd	front	107.9	186.7	68.4	56.7	3197
##	110	rwd	front	114.2	198.9	68.4	58.7	3230
##	111	rwd	front	114.2	198.9	68.4	58.7	3430
##	112	rwd	front	107.9	186.7	68.4	56.7	3075
##	113	rwd	front	107.9	186.7	68.4	56.7	3252
##	114	rwd	front	114.2	198.9	68.4	56.7	3285
##	115	rwd	front	114.2	198.9	68.4	58.7	3485
##	116	rwd	front	107.9	186.7	68.4	56.7	3075
##	117	rwd	front	107.9	186.7	68.4	56.7	3252
##	118	rwd	front	108.0	186.7	68.3	56.0	3130
##	119	fwd	front	93.7	157.3	63.8	50.8	1918
	120	fwd	front	93.7	157.3	63.8	50.8	2128
	121	fwd	front	93.7	157.3	63.8	50.6	1967
	122	fwd	front	93.7	167.3	63.8	50.8	1989
	123	fwd	front	93.7	167.3	63.8	50.8	2191
	124	fwd	front	103.3	174.6	64.6	59.8	2535
	125	rwd	front	95.9	173.2	66.3	50.2	2818
	126	rwd	front	94.5	168.9	68.3	50.2	2778
	127	rwd	rear	89.5	168.9	65.0	51.6	2756
	128	rwd	rear	89.5	168.9	65.0	51.6	2756
	129	rwd	rear	89.5	168.9	65.0	51.6	2800
	130	rwd	front	98.4	175.7	72.3	50.5	3366
	131	fwd	front	96.1	181.5	66.5	55.2	2579
	132	fwd	front	96.1	176.8	66.6	50.5	2460
	133	fwd	front	99.1	186.6	66.5	56.1	2658
	134	fwd	front	99.1	186.6	66.5	56.1	2695
	135	fwd	front	99.1	186.6	66.5	56.1	2707
	136	fwd	front	99.1	186.6	66.5	56.1	2758
	137	fwd	front	99.1	186.6	66.5	56.1	2808
	138	fwd	front	99.1	186.6	66.5	56.1	2847
	139	fwd	front	93.7	156.9	63.4	53.7	2050
	140	fwd	front	93.7	157.9	63.6	53.7	2120
	141	4wd	front	93.3	157.3	63.8	55.7	2240
	142	fwd	front	97.2	172.0	65.4	52.5	2145
	143	fwd	front	97.2	172.0	65.4	52.5	2190
	144	fwd	front	97.2	172.0	65.4	52.5	2340
	145	4wd	front	97.0	172.0	65.4	54.3	2385
	146	4wd 4wd	front	97.0	172.0	65.4	54.3	2510
	147	fwd	front	97.0	173.5	65.4	53.0	2290
	148	fwd	front	97.0	173.5	65.4	53.0	2455
	149	4wd	front	96.9	173.5	65.4	54.9	2420
	150					65.4		2650
		4wd	front	96.9 95.7	173.6		54.9	
##	151	fwd	front	95.7	158.7	63.6	54.5	1985

##	152	fwd	front	95.7	158.7	63.6	54.5	2040
##	153	fwd	front	95.7	158.7	63.6	54.5	2015
##	154	fwd	front	95.7	169.7	63.6	59.1	2280
##	155	4wd	front	95.7	169.7	63.6	59.1	2290
##	156	4wd	front	95.7	169.7	63.6	59.1	3110
##	157	fwd	front	95.7	166.3	64.4	53.0	2081
##	158	fwd	front	95.7	166.3	64.4	52.8	2109
##	159	fwd	front	95.7	166.3	64.4	53.0	2275
##	160	fwd	front	95.7	166.3	64.4	52.8	2275
##	161	fwd	front	95.7	166.3	64.4	53.0	2094
##	162	fwd	front	95.7	166.3	64.4	52.8	2122
##	163	fwd	front	95.7	166.3	64.4	52.8	2140
##	164	rwd	front	94.5	168.7	64.0	52.6	2169
##	165	rwd	front	94.5	168.7	64.0	52.6	2204
	166	rwd	front	94.5	168.7	64.0	52.6	2265
	167	rwd	front	94.5	168.7	64.0	52.6	2300
	168	rwd	front	98.4	176.2	65.6	52.0	2540
	169	rwd	front	98.4	176.2	65.6	52.0	2536
	170	rwd	front	98.4	176.2	65.6	52.0	2551
	171	rwd	front	98.4	176.2	65.6	52.0	2679
	172	rwd	front	98.4	176.2	65.6	52.0	2714
	173	rwd	front	98.4	176.2	65.6	53.0	2975
	174	fwd	front	102.4	175.6	66.5	54.9	2326
	175	fwd	front	102.4	175.6	66.5	54.9	2480
	176	fwd	front	102.4	175.6	66.5	53.9	2414
	177	fwd	front	102.4	175.6	66.5	54.9	2414
	178	fwd	front	102.4	175.6	66.5	53.9	2458
	179	rwd	front	102.9	183.5	67.7	52.0	2976
	180	rwd	front	102.9	183.5	67.7	52.0	3016
	181	rwd	front	104.5	187.8	66.5	54.1	3131
	182	rwd	front	104.5	187.8	66.5	54.1	3151
	183	fwd	front	97.3	171.7	65.5	55.7	2261
	184	fwd	front	97.3	171.7	65.5	55.7	2209
	185	fwd	front	97.3	171.7	65.5	55.7	2264
	186 187	fwd	front	97.3	171.7	65.5	55.7	2212
	188	fwd	front	97.3 97.3	171.7	65.5	55.7	2275
		fwd	front		171.7 171.7	65.5	55.7	2319
	189 190	fwd	front	97.3 94.5	159.3	65.5 64.2	55.7 55.6	<ul><li>2300</li><li>2254</li></ul>
	191	fwd fwd	front front	94.5	165.7	64.0	51.4	2221
	192	fwd	front	100.4	180.2	66.9	55.1	2661
	193	fwd	front	100.4	180.2	66.9	55.1	2579
	194	fwd	front	100.4	183.1	66.9	55.1	2563
	195	rwd	front	104.3	188.8	67.2	56.2	2912
	196	rwd	front	104.3	188.8	67.2	57.5	3034
	197	rwd	front	104.3	188.8	67.2	56.2	2935
	198	rwd	front	104.3	188.8	67.2	57.5	3042
	199	rwd	front	104.3	188.8	67.2	56.2	3045
	200	rwd	front	104.3	188.8	67.2	57.5	3157
	201	rwd	front	109.1	188.8	68.9	55.5	2952
	202	rwd	front	109.1	188.8	68.8	55.5	3049
	203	rwd	front	109.1	188.8	68.9	55.5	3012
	204	rwd	front	109.1	188.8	68.9	55.5	3217
	205	rwd	front	109.1	188.8	68.9	55.5	3062

##		engineType	nrCylinds	engineSize	fuelSystem	bore	stroke
##	1	dohc	four	130	mpfi	3.470000	2.680000
##	2	dohc	four	130	mpfi	3.470000	2.680000
##	3	ohcv	six	152	mpfi	2.680000	3.470000
##	4	ohc	four	109	mpfi	3.190000	3.400000
##	5	ohc	five	136	mpfi	3.190000	3.400000
##	6	ohc	five	136	mpfi	3.190000	3.400000
##	7	ohc	five	136	mpfi	3.190000	3.400000
##	8	ohc	five	136		3.190000	
##	9	ohc	five	131	_	3.130000	
##	10	ohc	five	131	-	3.130000	
##	11	ohc	four	108	-	3.500000	
##	12	ohc	four	108	-	3.500000	
##	13	ohc	six	164	-	3.310000	
##	14	ohc	six	164	-	3.310000	
##	15	ohc	six	164	-	3.310000	
##	16	ohc	six	209	-	3.620000	
##	17	ohc	six	209	-	3.620000	
##	18	ohc	six	209	-	3.620000	
##	19	1	three	61		2.910000	
	20 21	ohc	four	90		3.030000	
##	22	ohc ohc	four four	90 90		3.030000 2.970000	
##		ohc	four	90		2.970000	
	23 24	ohc	four	98		3.030000	
	25	ohc	four	90	-	2.970000	
	26	ohc	four	90		2.970000	
	27	ohc	four	90		2.970000	
	28	ohc	four	98		3.030000	
	29	ohc	four	122	-	3.340000	
##	30	ohc	four	156		3.600000	
##	31	ohc	four	92		2.910000	
##	32	ohc	four	92		2.910000	
	33	ohc	four	79		2.910000	
##	34	ohc	four	92		2.910000	
##	35	ohc	four	92	1bbl	2.910000	3.410000
##	36	ohc	four	92		2.910000	
##	37	ohc	four	92	1bbl	2.920000	3.410000
##	38	ohc	four	110	1bbl	3.150000	3.580000
##	39	ohc	four	110	1bbl	3.150000	3.580000
##	40	ohc	four	110	1bbl	3.150000	3.580000
##	41	ohc	four	110	1bbl	3.150000	3.580000
##	42	ohc	four	110	mpfi	3.150000	3.580000
##	43	ohc	four	110	2bbl	3.150000	3.580000
##	44	ohc	four	111	2bbl	3.310000	3.230000
##	45	ohc	four	90	2bbl	3.030000	3.110000
##	46	ohc	four	90	2bbl	3.030000	3.110000
	47	ohc	four	119	-	3.430000	
	48	dohc	six	258	-	3.630000	
	49	dohc	six	258	-	3.630000	
	50	ohcv	twelve	326	-	3.540000	
	51	ohc	four	91		3.030000	
	52	ohc	four	91		3.030000	
##	53	ohc	four	91	2bbl	3.030000	3.150000

##	54	ohc	four	91	2hh1	3.030000	3 150000
##		ohc	four	91		3.080000	
##		rotor	two	70		3.329751	
##		rotor	two	70		3.329751	
##		rotor	two	70		3.329751	
##		rotor	two	80		3.329751	
##		ohc	four	122	-	3.390000	
##		ohc	four	122		3.390000	
##		ohc	four	122		3.390000	
##	63	ohc	four	122		3.390000	
##	64	ohc	four	122		3.390000	
##	65	ohc	four	122		3.390000	
##	66	ohc	four	140		3.760000	
##	67	ohc	four	134	-	3.430000	
##	68	ohc	five	183		3.580000	
##	69	ohc	five	183		3.580000	
##	70	ohc	five	183		3.580000	
	71	ohc	five	183		3.580000	
##	72	ohcv	eight	234	mpfi	3.460000	3.100000
##	73	ohcv	eight	234	-	3.460000	
##	74	ohcv	eight	308	mpfi	3.800000	3.350000
##	75	ohcv	eight	304	mpfi	3.800000	3.350000
##	76	ohc	four	140	mpfi	3.780000	3.120000
##	77	ohc	four	92	2bbl	2.970000	3.230000
##	78	ohc	four	92	2bbl	2.970000	3.230000
##	79	ohc	four	92	2bbl	2.970000	3.230000
##	80	ohc	four	98	spdi	3.030000	3.390000
##	81	ohc	four	110	spdi	3.170000	3.460000
##	82	ohc	four	122	2bbl	3.350000	3.460000
##	83	ohc	four	156	spdi	3.580000	3.860000
##		ohc	four	156	-	3.590000	
##		ohc	four	156	-	3.590000	
##		ohc	four	122		3.350000	
##		ohc	four	122		3.350000	
##		ohc	four	110	-	3.170000	
##	89	ohc	four	110		3.170000	
##		ohc	four	97		3.150000	
##		ohc	four	103		2.990000	
##		ohc	four	97		3.150000	
##		ohc	four	97		3.150000	
##		ohc	four	97		3.150000	
##		ohc	four	97		3.150000	
##		ohc	four	97		3.150000	
##		ohc	four	97		3.150000	
##		ohc	four	97		3.150000	
##		ohc	four	97		3.150000	
	100	ohc	four	120		3.330000	
	101	ohc	four	120		3.330000	
	102	ohcv	six	181	-	3.430000	
	103	ohcv	six	181	-	3.430000	
	104 105	ohcv ohcv	six	181 181	-	3.430000	
	105	oncv	six	181	_	3.430000 3.430000	
	107	ohcv	six	181	_	3.430000	
##	101	OHCA	six	101	шЪт1	0.430000	3.210000

шш	100	,	four	100	:	2 460000	2 100000
	108	1		120	-	3.460000	
##	109	1	four	152		3.700000	
	110	1	four	120	-	3.460000	
	111	1	four	152		3.700000	
	112	1	four	120	-	3.460000	
	113	1	four	152		3.700000	
	114	1	four	120	-	3.460000	
	115	1	four	152		3.700000	
	116	1	four	120	-	3.460000	
	117	1	four	152		3.700000	
	118	1	four	134	-	3.610000	
	119	ohc	four	90		2.970000	
	120	ohc	four	98	-	3.030000	
	121	ohc	four	90		2.970000	
	122	ohc	four	90		2.970000	
	123	ohc	four	98		2.970000	
	124	ohc	four	122	2bbl	3.350000	3.460000
	125	ohc	four	156	-	3.590000	
	126	ohc	four	151	-	3.940000	
##	127	ohcf	six	194	mpfi	3.740000	2.900000
##	128	ohcf	six	194	-	3.740000	
##	129	ohcf	six	194	mpfi	3.740000	2.900000
##	130	dohcv	eight	203	mpfi	3.940000	3.110000
##	131	ohc	four	132	mpfi	3.460000	3.900000
##	132	ohc	four	132	mpfi	3.460000	3.900000
##	133	ohc	four	121	mpfi	3.540000	3.070000
##	134	ohc	four	121	mpfi	3.540000	3.070000
##	135	ohc	four	121	mpfi	2.540000	2.070000
##	136	ohc	four	121	mpfi	3.540000	3.070000
##	137	dohc	four	121	mpfi	3.540000	3.070000
##	138	dohc	four	121	mpfi	3.540000	3.070000
##	139	ohcf	four	97	2bbl	3.620000	2.360000
##	140	ohcf	four	108	2bbl	3.620000	2.640000
##	141	ohcf	four	108	2bbl	3.620000	2.640000
##	142	ohcf	four	108	2bbl	3.620000	2.640000
##	143	ohcf	four	108	2bbl	3.620000	2.640000
##	144	ohcf	four	108	mpfi	3.620000	2.640000
##	145	ohcf	four	108	2bbl	3.620000	2.640000
##	146	ohcf	four	108	mpfi	3.620000	2.640000
##	147	ohcf	four	108	2bbl	3.620000	2.640000
##	148	ohcf	four	108	mpfi	3.620000	2.640000
##	149	ohcf	four	108	2bbl	3.620000	2.640000
##	150	ohcf	four	108	mpfi	3.620000	2.640000
##	151	ohc	four	92	2bbl	3.050000	3.030000
##	152	ohc	four	92	2bbl	3.050000	3.030000
##	153	ohc	four	92	2bbl	3.050000	3.030000
##	154	ohc	four	92	2bbl	3.050000	3.030000
##	155	ohc	four	92	2bbl	3.050000	3.030000
##	156	ohc	four	92	2bbl	3.050000	3.030000
##	157	ohc	four	98	2bbl	3.190000	3.030000
##	158	ohc	four	98	2bbl	3.190000	3.030000
##	159	ohc	four	110		3.270000	
##	160	ohc	four	110		3.270000	
##	161	ohc	four	98		3.190000	

##	162	ohc	four		98	2bb1	3.190000	3.0	230000
	163	ohc	four		98		3.190000		
	164	ohc	four		98		3.190000		
	165	ohc	four		98		3.190000		
##	166	dohc	four		98		3.240000		
	167	dohc	four		98	_	3.240000		
	168	ohc	four		146	_	3.620000		
	169	ohc	four		146	-	3.620000		
	170	ohc	four		146	-	3.620000		
	171	ohc	four		146	-	3.620000		
##	172	ohc	four		146	-	3.620000		
##	173	ohc	four		146	-	3.620000		
##	174	ohc	four		122	-	3.310000		
##	175	ohc	four		110	-	3.270000		
##	176	ohc	four		122		3.310000		
##	177	ohc	four		122	-	3.310000		
##	178	ohc	four		122	-	3.310000		
##	179	dohc	six		171	-	3.270000		
##	180	dohc	six		171	-	3.270000		
##	181	dohc	six		171	mpfi	3.270000	3.3	350000
##	182	dohc	six		161	-	3.270000		
##	183	ohc	four		97	-	3.010000		
##	184	ohc	four		109	mpfi	3.190000	3.4	400000
##	185	ohc	four		97	idi	3.010000	3.4	400000
##	186	ohc	four		109	mpfi	3.190000	3.4	400000
##	187	ohc	four		109	mpfi	3.190000	3.4	400000
##	188	ohc	four		97	idi	3.010000	3.4	400000
##	189	ohc	four		109	mpfi	3.190000	3.4	400000
##	190	ohc	four		109	mpfi	3.190000	3.4	400000
##	191	ohc	four		109	mpfi	3.190000	3.4	400000
##	192	ohc	five		136	mpfi	3.190000	3.4	400000
##	193	ohc	four		97	idi	3.010000	3.4	400000
##	194	ohc	four		109	mpfi	3.190000	3.4	400000
##	195	ohc	four		141	mpfi	3.780000	3.3	150000
##	196	ohc	four		141	mpfi	3.780000	3.3	150000
##	197	ohc	four		141	_	3.780000		
	198	ohc	four		141	mpfi	3.780000	3.3	150000
	199	ohc	four		130	-	3.620000		
	200	ohc	four		130		3.620000		
	201	ohc	four		141	_	3.780000		
	202	ohc	four		141	-	3.780000		
	203	ohcv	six		173	-	3.580000		
	204	ohc	six		145		3.010000		
	205	ohc	four		141	-	3.780000		
##		compression	Ratio horseF						_
	1		9.00	111	5000	2:			13495
##			9.00	111	5000	2:			16500
##			9.00	154	5000	19			16500
##			10.00	102	5500	24			13950
##			8.00	115	5500	18			17450
##			8.50	110	5500	19			15250
##			8.50	110	5500	19			17710
##			8.50	110	5500	19			18920
##	9		8.30	140	5500	17	1	20	23875

##	10	7.00	160	5500	16	22	NA
##	11	8.80	101	5800	23	29	16430
##	12	8.80	101	5800	23	29	16925
##	13	9.00	121	4250	21	28	20970
##	14	9.00	121	4250	21	28	21105
##	15	9.00	121	4250	20	25	24565
##	16	8.00	182	5400	16	22	30760
##	17	8.00	182	5400	16	22	41315
##	18	8.00	182	5400	15	20	36880
##	19	9.50	48	5100	47	53	5151
##	20	9.60	70	5400	38	43	6295
##	21	9.60	70	5400	38	43	6575
##	22	9.41	68	5500	37	41	5572
##	23	9.40	68	5500	31	38	6377
##	24	7.60	102	5500	24	30	7957
##	25	9.40	68	5500	31	38	6229
##	26	9.40	68	5500	31	38	6692
##	27	9.40	68	5500	31	38	7609
##	28	7.60	102	5500	24	30	8558
##	29	8.50	88	5000	24	30	8921
##	30	7.00	145	5000	19	24	12964
##	31	9.60	58	4800	49	54	6479
##	32	9.20	76	6000	31	38	6855
##	33	10.10	60	5500	38	42	5399
##	34	9.20	76	6000	30	34	6529
##	35	9.20	76	6000	30	34	7129
##	36	9.20	76	6000	30	34	7295
##	37	9.20	76	6000	30	34	7295
##	38	9.00	86	5800	27	33	7895
##	39	9.00	86	5800	27	33	9095
##	40	9.00	86	5800	27	33	8845
##	41	9.00	86	5800	27	33	10295
##	42	9.00	101	5800	24	28	12945
##		9.10	100	5500	25	31	10345
##	44	8.50	78	4800	24	29	6785
	45	9.60	70	5400	38	43	NA
##		9.60	70	5400	38	43	NA
##		9.20	90	5000	24		11048
##		8.10	176	4750	15		32250
##		8.10	176	4750	15		35550
##		11.50	262	5000	13		36000
##		9.00	68	5000	30	31	5195
##		9.00	68	5000	31	38	6095
##		9.00	68	5000	31	38	6795
##		9.00	68	5000	31	38	6695
##		9.00	68	5000	31	38	7395
##		9.40	101	6000	17	23	
##		9.40	101	6000	17		11845
##		9.40	101	6000	17		13645
##		9.40	135	6000	16		15645
##		8.60	84	4800	26	32	8845
##		8.60	84	4800	26	32	8495
##		8.60	84	4800	26		10595
##	63	8.60	84	4800	26	32	10245

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##		22.70	64	4650	36	42 10795
##		8.60	84	4800	26	32 11245
##		8.00	120	5000	19	27 18280
	67	22.00	72	4200	31	39 18344
##	68	21.50	123	4350	22	25 25552
##	69	21.50	123	4350	22	25 28248
##	70	21.50	123	4350	22	25 28176
##	71	21.50	123	4350	22	25 31600
##	72	8.30	155	4750	16	18 34184
##	73	8.30	155	4750	16	18 35056
##	74	8.00	184	4500	14	16 40960
##	75	8.00	184	4500	14	16 45400
##	76	8.00	175	5000	19	24 16503
##	77	9.40	68	5500	37	41 5389
##	78	9.40	68	5500	31	38 6189
	79	9.40	68	5500	31	38 6669
##	80	7.60	102	5500	24	30 7689
##	81	7.50	116	5500	23	30 9959
	82	8.50	88	5000	25	32 8499
##		7.00	145	5000	19	24 12629
	84	7.00	145	5000	19	24 14869
	85	7.00	145	5000	19	24 14489
	86	8.50	88	5000	25	32 6989
	87	8.50	88	5000	25	32 8189
	88	7.50	116	5500	23	30 9279
	89	7.50	116	5500	23	30 9279
	90	9.40	69 55	5200	31	37 5499
	91	21.90	55	4800	45	50 7099
	92	9.40	69	5200	31	37 6649
	93	9.40	69	5200	31	37 6849
##	94	9.40	69	5200	31	37 7349
	95	9.40	69	5200	31	37 7299
	96	9.40	69	5200	31	37 7799
	97	9.40	69	5200	31	37 7499
	98	9.40	69	5200	31	37 7999
	99	9.40	69	5200	31	37 8249
##	100	8.50	97	5200	27	34 8949
##	101	8.50	97	5200	27	34 9549
##	102	9.00	152	5200	17	22 13499
##	103	9.00	152	5200	17	22 14399
##	104	9.00	152	5200	19	25 13499
##	105	9.00	160	5200	19	25 17199
##	106	7.80	200	5200	17	23 19699
##	107	9.00	160	5200	19	25 18399
##	108	8.40	97	5000	19	24 11900
##	109	21.00	95	4150	28	33 13200
##	110	8.40	97	5000	19	24 12440
##	111	21.00	95	4150	25	25 13860
##	112	8.40	95	5000	19	24 15580
##	113	21.00	95	4150	28	33 16900
##	114	8.40	95	5000	19	24 16695
##	115	21.00	95	4150	25	25 17075
##	116	8.40	97	5000	19	24 16630
	117	21.00	95	4150	28	33 17950
					-	

##	118	7.00	142	5600	18	24	18150
##	119	9.40	68	5500	37	41	5572
##	120	7.60	102	5500	24	30	7957
##	121	9.40	68	5500	31	38	6229
##	122	9.40	68	5500	31	38	6692
##	123	9.40	68	5500	31	38	7609
##	124	8.50	88	5000	24	30	8921
##	125	7.00	145	5000	19		12764
	126	9.50	143	5500	19		22018
	127	9.50	207	5900	17	25	32528
	128	9.50	207	5900	17		34028
	129	9.50	207	5900	17		37028
	130	10.00	288	5750	17	28	NA
	131	8.70	NA	NA	23	31	9295
	132	8.70	NA	NA	23	31	9895
	133	9.31	110	5250	21		11850
	134	9.30	110	5250	21		12170
	135	9.30	110	5250	21		15040
	136	9.30	110	5250	21		15510
	137	9.00	160	5500	19		18150
	138	9.00	160	5500	19		18620
	139	9.00	69	4900	31	36	5118
	140	8.70	73	4400	26	31	7053
	141	8.70	73	4400	26	31	7603
	142	9.50	82	4800	32	37	7126
	143	9.50	82	4400	28	33	7775
	144	9.00	94	5200	26	32	9960
	145	9.00	82	4800	24	25	9233
	146	7.70	111	4800	24		11259
	147	9.00	82	4800	28	32	7463
	148	9.00	94	5200	25		10198
	149	9.00	82	4800	23	29	8013
	150	7.70	111	4800	23		11694
	151 152	9.00 9.00	62 62	4800	35	39	5348
##	152	9.00	62	4800 4800	31 31	38 38	6338 6488
	154	9.00	62	4800	31	37	6918
	155	9.00	62	4800	27	32	7898
##	156	9.00	62	4800	27	32	8778
##	157	9.00	70	4800	30	37	6938
##	158	9.00	70	4800	30	37	7198
##	159	22.50	56	4500	34	36	7898
##	160	22.50	56	4500	38	47	7788
##	161	9.00	70	4800	38	47	7738
##	162	9.00	70	4800	28	34	8358
##	163	9.00	70	4800	28	34	9258
##	164	9.00	70	4800	29	34	8058
##	165	9.00	70	4800	29	34	8238
##	166	9.40	112	6600	26	29	9298
##	167	9.40	112	6600	26	29	9538
##	168	9.30	116	4800	24	30	8449
##	169	9.30	116	4800	24	30	9639
##	170	9.30	116	4800	24	30	9989
##	171	9.30	116	4800	24		11199

```
## 172
                     9.30
                                  116
                                          4800
                                                     24
                                                                 30 11549
## 173
                                          4800
                                                                 30 17669
                     9.30
                                  116
                                                     24
## 174
                    8.70
                                   92
                                          4200
                                                     29
                                                                 34
                                                                    8948
## 175
                                   73
                                          4500
                                                                 33 10698
                   22.50
                                                     30
## 176
                     8.70
                                   92
                                          4200
                                                     27
                                                                 32
                                                                     9988
                                   92
## 177
                     8.70
                                          4200
                                                     27
                                                                 32 10898
## 178
                     8.70
                                   92
                                          4200
                                                     27
                                                                 32 11248
## 179
                     9.30
                                  161
                                          5200
                                                     20
                                                                 24 16558
## 180
                     9.30
                                  161
                                          5200
                                                     19
                                                                 24 15998
## 181
                     9.20
                                  156
                                          5200
                                                     20
                                                                 24 15690
## 182
                     9.20
                                  156
                                          5200
                                                     19
                                                                 24 15750
## 183
                   23.00
                                          4800
                                                     37
                                                                     7775
                                   52
                                                                 46
## 184
                     9.00
                                   85
                                          5250
                                                     27
                                                                 34
                                                                     7975
                   23.00
## 185
                                   52
                                          4800
                                                     37
                                                                 46 7995
## 186
                                          5250
                                                     27
                    9.00
                                   85
                                                                 34
                                                                     8195
## 187
                    9.00
                                   85
                                          5250
                                                     27
                                                                 34
                                                                     8495
## 188
                                                     37
                                                                 42
                   23.00
                                   68
                                          4500
                                                                     9495
## 189
                    10.00
                                  100
                                          5500
                                                     26
                                                                 32
                                                                     9995
## 190
                                   90
                                                                 29 11595
                    8.50
                                          5500
                                                     24
## 191
                    8.50
                                   90
                                          5500
                                                     24
                                                                 29 9980
## 192
                     8.50
                                  110
                                         5500
                                                     19
                                                                 24 13295
## 193
                   23.00
                                   68
                                          4500
                                                     33
                                                                 38 13845
                                                                 31 12290
## 194
                     9.00
                                   88
                                          5500
                                                     25
## 195
                     9.50
                                                     23
                                                                 28 12940
                                  114
                                          5400
## 196
                     9.50
                                  114
                                          5400
                                                     23
                                                                 28 13415
## 197
                    9.50
                                  114
                                          5400
                                                     24
                                                                 28 15985
## 198
                     9.50
                                          5400
                                                     24
                                                                 28 16515
                                  114
## 199
                    7.50
                                  162
                                          5100
                                                     17
                                                                 22 18420
## 200
                                                                 22 18950
                     7.50
                                  162
                                          5100
                                                     17
## 201
                     9.50
                                          5400
                                                     23
                                                                 28 16845
                                  114
## 202
                     8.70
                                  160
                                          5300
                                                     19
                                                                 25 19045
## 203
                     8.80
                                  134
                                          5500
                                                     18
                                                                 23 21485
## 204
                   23.00
                                  106
                                          4800
                                                     26
                                                                 27 22470
## 205
                                          5400
                                                                 25 22625
                     9.50
                                  114
                                                     19
```

(f) Cree un nuevo conjunto de datos ingresando la moda en todas las columnas que tienen valores de tipo entero.

```
# Convertir el objeto en un dataframe
df <- as.data.frame(carIns)

# Función para calcular la moda
calculate_mode <- function(x) {
  mod <- as.data.frame(table(x))
  mod <- mod[which.max(mod$Freq), 1]
  return(mod)
}

# Calcula la Moda de las columnas numericas de un dataframe y reemplaza los valores NA por la moda corr
dataModa <- df %>%
  mutate(across(where(is.numeric), ~ ifelse(is.na(.), calculate_mode(.), .)))
# across selecciona las columnas que cumplen una determinada condicion, en nuestro caso las columnas nu
```

##	symb	normLoss	make	fuelType	aspiration	nDoors	bodyStyle
## 1	3	42	alfa-romero	gas	std		convertible
## 2	3	42	alfa-romero	gas	std	two	convertible
## 3	1	42	alfa-romero	gas	std	two	hatchback
## 4	2	164	audi	gas	std	four	sedan
## 5	2	164	audi	gas	std	four	sedan
## 6	2	42	audi	gas	std	two	sedan
## 7	1	158	audi	gas	std	four	sedan
## 8	1	42	audi	gas	std	four	wagon
## 9	1	158	audi	gas	turbo	four	sedan
## 10	0	42	audi	gas	turbo	two	hatchback
## 11	2	192	bmw	gas	std	two	sedan
## 12	0	192	bmw	gas	std	four	sedan
## 13	0	188	bmw	gas	std	two	sedan
## 14	0	188	bmw	gas	std	four	sedan
## 15	1	42	bmw	gas	std	four	sedan
## 16	0	42	bmw	gas	std	four	sedan
## 17	0	42	bmw	gas	std	two	sedan
## 18	0	42	bmw	gas	std	four	sedan
## 19	2	121	chevrolet	gas	std	two	hatchback
## 20	1	98	chevrolet	gas	std	two	hatchback
## 21	0	81	chevrolet	gas	std	four	sedan
## 22	1	118	dodge	gas	std	two	hatchback
## 23	1	118	dodge	gas	std	two	hatchback
## 24	1	118	dodge	gas	turbo	two	hatchback
## 25	1	148	dodge	gas	std	four	hatchback
## 26	1	148	dodge	gas	std	four	sedan
## 27	1	148	dodge	gas	std	four	sedan
## 28	1	148	dodge	gas	turbo	<na></na>	sedan
## 29	-1	110	dodge	gas	std	four	wagon
## 30	3	145	dodge	gas	turbo	two	hatchback
## 31	2	137	honda	gas	std	two	hatchback
## 32	2	137	honda	gas	std	two	hatchback
## 33	1	101	honda	gas	std	two	hatchback
## 34	1	101	honda	gas	std	two	hatchback
## 35	1	101	honda	gas	std	two	hatchback
## 36	0	110	honda	gas	std	four	sedan
## 37 ## 38	0	78 106	honda	gas	std	four	wagon hatchback
## 30 ## 39	0	106	honda honda	gas	std std	two	hatchback
## 39 ## 40	0	85	honda	gas	std	two	sedan
## 40	0	85	honda	gas	std	four four	sedan
## 41 ## 42	0	85	honda	gas	std	four	sedan
## 42	1	107	honda	gas	std	two	sedan
## 43 ## 44	0	42	isuzu	gas	std	four	sedan
## 44 ## 45	1	42	isuzu	gas	std	two	sedan
## 45 ## 46	0	42	isuzu	gas	std	four	sedan
## 47	2	42	isuzu	gas gas	std	two	hatchback
## 48	0	145	jaguar	gas	std	four	sedan
## 49	0	42	jaguar	gas	std	four	sedan
## 49	0	42	jaguar	gas	std	two	sedan
mm 00	U	72	Jaguar	gas	buu	UWU	seuali

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## ##	52	1 1	104 104	mazda	gas	std	two	hatchback hatchback
##	53	1	104	mazda mazda	gas	std std	two	hatchback
##	54	1	113	mazda	gas	std	two four	sedan
##	55	1	113	mazda	gas	std	four	sedan
##	56	3	150	mazda	gas	std	two	hatchback
##	57	3	150	mazda	gas	std	two	hatchback
##	58	3	150	mazda	gas	std	two	hatchback
##	59	3	150	mazda	gas	std	two	hatchback
##	60	1	129	mazda	gas gas	std	two	hatchback
##	61	0	115	mazda	gas	std	four	sedan
##	62	1	129	mazda	gas	std	two	hatchback
##	63	0	115	mazda	gas	std	four	sedan
##	64	0	42	mazda	diesel	std	<na></na>	sedan
##	65	0	115	mazda	gas	std	four	hatchback
##	66	0	118	mazda	gas	std	four	sedan
##	67	0	42	mazda	diesel	std	four	sedan
##	68	-1		mercedes-benz	diesel	turbo	four	sedan
##	69	-1		mercedes-benz	diesel	turbo	four	wagon
##	70	0		mercedes-benz	diesel	turbo	two	hardtop
##	71	-1		mercedes-benz	diesel	turbo	four	sedan
##	72	-1		mercedes-benz	gas	std	four	sedan
##	73	3		mercedes-benz	gas	std		convertible
##	74	0		mercedes-benz	gas	std	four	sedan
##	75	1		mercedes-benz	gas	std	two	hardtop
##	76	1	42	mercury	gas	turbo	two	hatchback
##	77	2	161	mitsubishi	gas	std	two	hatchback
##	78	2	161	mitsubishi	gas	std	two	hatchback
##	79	2	161	mitsubishi	gas	std	two	hatchback
##	80	1	161	mitsubishi	gas	turbo	two	hatchback
##	81	3	153	mitsubishi	gas	turbo	two	hatchback
##	82	3	153	mitsubishi	gas	std	two	hatchback
##	83	3	42	mitsubishi	gas	turbo	two	hatchback
##	84	3	42	mitsubishi	gas	turbo	two	hatchback
##	85	3	42	mitsubishi	gas	turbo	two	hatchback
##	86	1	125	mitsubishi	gas	std	four	sedan
##	87	1	125	mitsubishi	gas	std	four	sedan
##	88	1	125	mitsubishi	gas	turbo	four	sedan
##	89	-1	137	mitsubishi	gas	std	four	sedan
##	90	1	128	nissan	gas	std	two	sedan
##	91	1	128	nissan	diesel	std	two	sedan
##	92	1	128	nissan	gas	std	two	sedan
##	93	1	122	nissan	gas	std	four	sedan
##	94	1	103	nissan	gas	std	four	wagon
##	95	1	128	nissan	gas	std	two	sedan
##	96	1	128	nissan	gas	std	two	hatchback
##	97	1	122	nissan	gas	std	four	sedan
##	98	1	103	nissan	gas	std	four	wagon
##	99	2	168	nissan	gas	std	two	hardtop
	100	0	106	nissan	gas	std	four	hatchback
	101	0	106	nissan	gas	std	four	sedan
	102	0	128	nissan	gas	std	four	sedan
	103	0	108	nissan	gas	std	four	wagon
##	104	0	108	nissan	gas	std	four	sedan

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## ##	105 106	3 3	194 194	nissan	gas	std turbo	two	hatchback hatchback
##	107	1	231	nissan	gas	std	two	hatchback
##	107	0	161	nissan	gas	std	two four	sedan
##	109	0	161	peugot	gas diesel	turbo	four	sedan
##	110	0	42	peugot	gas	std	four	
##	111	0	42	peugot	diesel	turbo	four	wagon
##	112	0	161	peugot peugot	gas	std	four	wagon sedan
##	113	0	161	peugot	diesel	turbo	four	sedan
##	114	0	42	peugot	gas	std	four	wagon
##	115	0	42	peugot	diesel	turbo	four	wagon
##	116	0	161	peugot	gas	std	four	sedan
##	117	0	161	peugot	diesel	turbo	four	sedan
##	118	0	161	peugot	gas	turbo	four	sedan
##	119	1	119	plymouth	gas	std	two	hatchback
##	120	1	119	plymouth	gas	turbo	two	hatchback
##	121	1	154	plymouth	gas	std	four	hatchback
##	122	1	154	plymouth	gas	std	four	sedan
##	123	1	154	plymouth	gas	std	four	sedan
##	124	-1	74	plymouth	gas	std	four	wagon
##	125	3	42	plymouth	gas	turbo	two	hatchback
##	126	3	186	porsche	gas	std	two	hatchback
##	127	3	42	porsche	gas	std	two	hardtop
##	128	3	42	porsche	gas	std	two	hardtop
##	129	3	42	porsche	gas	std	two	${\tt convertible}$
##	130	1	42	porsche	gas	std	two	hatchback
##	131	0	42	renault	gas	std	four	wagon
##	132	2	42	renault	gas	std	two	hatchback
##	133	3	150	saab	gas	std	two	hatchback
##	134	2	104	saab	gas	std	four	sedan
##	135	3	150	saab	gas	std	two	hatchback
##	136	2	104	saab	gas	std	four	sedan
##	137	3	150	saab	gas	turbo	two	hatchback
##	138	2	104	saab	gas	turbo	four	sedan
##	139	2	83	subaru	gas	std	two.	hatchback
##	140	2	83	subaru	gas	std	two.	hatchback
##	141	2	83	subaru	gas	std	two	hatchback
	142	0	102	subaru	gas	std	four	sedan
##	143	0	102	subaru	gas	std	four	sedan
##	144	0	102 102	subaru	gas	std	four	sedan
##	145 146	0	102	subaru subaru	gas	std turbo	four four	sedan sedan
##	147	0	89	subaru	gas	std	four	
##	148	0	89	subaru	gas gas	std	four	wagon wagon
##	149	0	85	subaru	gas	std	four	wagon
##	150	0	85	subaru	gas	turbo	four	wagon
##	151	1	87	toyota	gas	std	two	hatchback
##	152	1	87	toyota	gas	std	two	hatchback
##	153	1	74	toyota	gas	std	four	hatchback
##	154	0	77	toyota	gas	std	four	wagon
##	155	0	81	toyota	gas	std	four	wagon
##	156	0	91	toyota	gas	std	four	wagon
	157	0	91	toyota	gas	std	four	sedan
	158	0	91	toyota	gas	std	four	hatchback
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	159	0	91	toyota	diesel		std	four	sedan
##	160	0	91	toyota	diesel		std	four	hatchback
##	161	0	91	toyota	gas		std	four	sedan
##	162	0	91	toyota	gas		std	four	hatchback
##	163	0	91	toyota	gas		std	four	sedan
##	164	1	168	toyota	gas		std	two	sedan
##	165	1	168	toyota	gas		std	two	hatchback
##	166	1	168	toyota	gas		std	two	sedan
##	167	1	168	toyota	gas		std	two	hatchback
##	168	2	134	toyota	gas		std	two	hardtop
##	169	2	134	toyota	gas		std	two	hardtop
##	170	2	134	toyota	gas		std	two	hatchback
##	171	2	134	toyota	gas		std	two	hardtop
##	172	2	134	toyota	gas		std	two	hatchback
##	173	2	134	toyota	gas		std		convertible
##	174	-1	65	toyota	gas		std	four	sedan
##	175	-1	65	toyota	diesel	ti	ırbo	four	sedan
##	176	-1	65	toyota	gas		std	four	hatchback
##	177	-1	65	toyota	gas		std	four	sedan
##	178	-1	65	toyota	gas		std	four	hatchback
##	179	3	197	toyota	gas		std	two	hatchback
##	180	3	197	toyota	gas		std	two	hatchback
##	181	-1	90	toyota	gas		std	four	sedan
##	182	-1	42	toyota	gas		std	four	wagon
##	183	2	122	volkswagen	diesel		std	two	sedan
##	184	2	122	volkswagen	gas		std	two	sedan
##	185	2	94	volkswagen	diesel		std	four	sedan
##	186	2	94	volkswagen	gas		std	four	sedan
##	187	2	94	volkswagen	gas		std	four	sedan
##	188	2	94	volkswagen	diesel	tı	ırbo	four	sedan
##	189	2	94	volkswagen	gas		std	four	sedan
##	190	3	42	volkswagen	gas		std		convertible
##	191	3	256	volkswagen	gas		std	two	hatchback
##	192	0	42	volkswagen	gas		std	four	sedan
##	193	0	42	volkswagen	diesel	ti	ırbo	four	sedan
##	194	0	42	volkswagen	gas		std	four	wagon
	195	-2	103	volvo	gas		std	four	sedan
	196	-1	74		gas		std	four	wagon
	197	-2	103		gas		std	four	sedan
	198	-1	74		gas	4	std	four	wagon
	199	-2	103		gas		ırbo	four	sedan
	200	-1	74		gas	τι	ırbo	four	wagon
	201	-1 -1	95 05	volvo	gas	+	std	four	sedan
	202	-1	95	volvo	gas	ti	ırbo	four	sedan
	203	-1	95	volvo	gas	4	std	four	sedan
	204	-1	95	volvo	diesel		ırbo	four	sedan
	205	-1	95	volvo	gas		ırbo	four	sedan
##	4	arivewne		ngineLocation v		_		_	•
##			rwd	front	88.6	168.8	64.1	48.8	
	2		rwd	front	88.6	168.8	64.1	48.8	
## ##			rwd	front	94.5	171.2	65.5	52.4	
			fwd	front	99.8	176.6	66.2	54.3	
##			4wd	front	99.4	176.6	66.4	54.3	
##	Ö		fwd	front	99.8	177.3	66.3	53.1	2507

##	7	fwd	front	105.8	192.7	71.4	55.7	2844
##	8	fwd	front	105.8	192.7	71.4	55.7	2954
##	9	fwd	front	105.8	192.7	71.4	55.9	3086
##	10	4wd	front	99.5	178.2	67.9	52.0	3053
##	11	rwd	front	101.2	176.8	64.8	54.3	2395
##	12	rwd	front	101.2	176.8	64.8	54.3	2395
##	13	rwd	front	101.2	176.8	64.8	54.3	2710
##	14	rwd	front	101.2	176.8	64.8	54.3	2765
##	15	rwd	front	103.5	189.0	66.9	55.7	3055
##	16	rwd	front	103.5	189.0	66.9	55.7	3230
##	17	rwd	front	103.5	193.8	67.9	53.7	3380
##	18	rwd	front	110.0	197.0	70.9	56.3	3505
##	19	fwd	front	88.4	141.1	60.3	53.2	1488
##	20	fwd	front	94.5	155.9	63.6	52.0	1874
##	21	fwd	front	94.5	158.8	63.6	52.0	1909
##	22	fwd	front	93.7	157.3	63.8	50.8	1876
	23	fwd	front	93.7	157.3	63.8	50.8	1876
	24	fwd	front	93.7	157.3	63.8	50.8	2128
	25	fwd	front	93.7	157.3	63.8	50.6	1967
	26	fwd	front	93.7	157.3	63.8	50.6	1989
	27	fwd	front	93.7	157.3	63.8	50.6	1989
##	28	fwd	front	93.7	157.3	63.8	50.6	2191
	29	fwd	front	103.3	174.6	64.6	59.8	2535
	30	fwd	front	95.9	173.2	66.3	50.2	2811
	31	fwd	front	86.6	144.6	63.9	50.8	1713
## ##	32 33	fwd	front	86.6	144.6	63.9	50.8	1819
##	34	fwd fwd	front front	93.7 93.7	150.0 150.0	64.0 64.0	52.6 52.6	1837 1940
##	35	fwd	front	93.7	150.0	64.0	52.6	1956
##	36	fwd	front	96.5	163.4	64.0	54.5	2010
##	37	fwd	front	96.5	157.1	63.9	58.3	2024
##	38	fwd	front	96.5	167.5	65.2	53.3	2236
##	39	fwd	front	96.5	167.5	65.2	53.3	2289
##		fwd	front	96.5	175.4	65.2	54.1	2304
##		fwd	front	96.5	175.4	62.5	54.1	2372
##	42	fwd	front	96.5	175.4	65.2	54.1	2465
##	43	fwd	front	96.5	169.1	66.0	51.0	2293
##	44	rwd	front	94.3	170.7	61.8	53.5	2337
##	45	fwd	front	94.5	155.9	63.6	52.0	1874
##	46	fwd	front	94.5	155.9	63.6	52.0	1909
##	47	rwd	front	96.0	172.6	65.2	51.4	2734
##	48	rwd	front	113.0	199.6	69.6	52.8	4066
##	49	rwd	front	113.0	199.6	69.6	52.8	4066
##	50	rwd	front	102.0	191.7	70.6	47.8	3950
##	51	fwd	front	93.1	159.1	64.2	54.1	1890
##	52	fwd	front	93.1	159.1	64.2	54.1	1900
	53	fwd	front	93.1	159.1	64.2	54.1	1905
	54	fwd	front	93.1	166.8	64.2	54.1	1945
	55	fwd	front	93.1	166.8	64.2	54.1	1950
	56	rwd	front	95.3	169.0	65.7	49.6	2380
	57	rwd	front	95.3	169.0	65.7	49.6	2380
	58	rwd	front	95.3	169.0	65.7	49.6	2385
	59	rwd	front	95.3	169.0	65.7	49.6	2500
##	60	fwd	front	98.8	177.8	66.5	53.7	2385

##	61	fwd	front	98.8	177.8	66.5	55.5	2410
##	62	fwd	front	98.8	177.8	66.5	53.7	2385
##	63	fwd	front	98.8	177.8	66.5	55.5	2410
##	64	fwd	front	98.8	177.8	66.5	55.5	2443
##	65	fwd	front	98.8	177.8	66.5	55.5	2425
##	66	rwd	front	104.9	175.0	66.1	54.4	2670
##	67	rwd	front	104.9	175.0	66.1	54.4	2700
##	68	rwd	front	110.0	190.9	70.3	56.5	3515
##	69	rwd	front	110.0	190.9	70.3	58.7	3750
##	70	rwd	front	106.7	187.5	70.3	54.9	3495
##	71	rwd	front	115.6	202.6	71.7	56.3	3770
##	72	rwd	front	115.6	202.6	71.7	56.5	3740
##	73	rwd	front	96.6	180.3	70.5	50.8	3685
##	74	rwd	front	120.9	208.1	71.7	56.7	3900
##	75	rwd	front	112.0	199.2	72.0	55.4	3715
##	76	rwd	front	102.7	178.4	68.0	54.8	2910
##	77	fwd	front	93.7	157.3	64.4	50.8	1918
##	78	fwd	front	93.7	157.3	64.4	50.8	1944
##	79	fwd	front	93.7	157.3	64.4	50.8	2004
##	80	fwd	front	93.0	157.3	63.8	50.8	2145
##	81	fwd	front	96.3	173.0	65.4	49.4	2370
##	82	fwd	front	96.3	173.0	65.4	49.4	2328
##	83	fwd	front	95.9	173.2	66.3	50.2	2833
##	84	fwd	front	95.9	173.2	66.3	50.2	2921
##	85	fwd	front	95.9	173.2	66.3	50.2	2926
##	86	fwd	front	96.3	172.4	65.4	51.6	2365
##	87	fwd	front	96.3	172.4	65.4	51.6	2405
##	88	fwd	front	96.3	172.4	65.4	51.6	2403
##		fwd	front	96.3	172.4	65.4	51.6	2403
	90	fwd	front	94.5	165.3	63.8	54.5	1889
	91	fwd	front	94.5	165.3	63.8	54.5	2017
	92	fwd	front	94.5	165.3	63.8	54.5	1918
	93	fwd	front	94.5	165.3	63.8	54.5	1938
##	94	fwd	front	94.5	170.2	63.8	53.5	2024
##	95	fwd	front	94.5	165.3	63.8	54.5	1951
##	96	fwd	front	94.5	165.6	63.8	53.3	2028
##	97	fwd	front	94.5	165.3	63.8	54.5	1971
##	98	fwd	front	94.5	170.2	63.8	53.5	2037
	99	fwd	front	95.1	162.4	63.8	53.3	2008
##	100	fwd	front	97.2	173.4	65.2	54.7	2324
##	101	fwd	front	97.2	173.4	65.2	54.7	2302
##	102	fwd	front	100.4	181.7	66.5	55.1	3095
	103	fwd	front	100.4	184.6	66.5	56.1	3296
	104	fwd	front	100.4	184.6	66.5	55.1	3060
##	105	rwd	front	91.3	170.7	67.9	49.7	3071
	106	rwd	front	91.3	170.7	67.9	49.7	3139
	107	rwd	front	99.2	178.5	67.9	49.7	3139
##	108	rwd	front	107.9	186.7	68.4	56.7	3020
	109	rwd	front	107.9	186.7	68.4	56.7	3197
	110	rwd	front	114.2	198.9	68.4	58.7	3230
	111	rwd	front	114.2	198.9	68.4	58.7	3430
	112	rwd	front	107.9	186.7	68.4	56.7	3075
	113	rwd	front	107.9	186.7	68.4	56.7	3252
	114	rwd	front	114.2	198.9	68.4	56.7	3285
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##	115	rwd	front	114.2	198.9	68.4	58.7	3485
##	116	rwd	front	107.9	186.7	68.4	56.7	3075
##	117	rwd	front	107.9	186.7	68.4	56.7	3252
##	118	rwd	front	108.0	186.7	68.3	56.0	3130
##	119	fwd	front	93.7	157.3	63.8	50.8	1918
##	120	fwd	front	93.7	157.3	63.8	50.8	2128
##	121	fwd	front	93.7	157.3	63.8	50.6	1967
##	122	fwd	front	93.7	167.3	63.8	50.8	1989
##	123	fwd	front	93.7	167.3	63.8	50.8	2191
##	124	fwd	front	103.3	174.6	64.6	59.8	2535
	125	rwd	front	95.9	173.2	66.3	50.2	2818
	126	rwd	front	94.5	168.9	68.3	50.2	2778
	127	rwd	rear	89.5	168.9	65.0	51.6	2756
	128	rwd	rear	89.5	168.9	65.0	51.6	2756
	129	rwd	rear	89.5	168.9	65.0	51.6	2800
	130	rwd	front	98.4	175.7	72.3	50.5	3366
	131	fwd	front	96.1	181.5	66.5	55.2	2579
	132	fwd	front	96.1	176.8	66.6	50.5	2460
	133	fwd	front	99.1	186.6	66.5	56.1	2658
	134	fwd	front	99.1	186.6	66.5	56.1	2695
	135	fwd	front	99.1	186.6	66.5	56.1	2707
	136	fwd	front	99.1	186.6	66.5	56.1	2758
	137	fwd	front	99.1	186.6	66.5	56.1	2808
	138	fwd	front	99.1	186.6	66.5	56.1	2847
	139	fwd	front	93.7	156.9	63.4	53.7	2050
	140	fwd	front	93.7	157.9	63.6	53.7	2120
	141	4wd	front	93.3	157.3	63.8	55.7	2240
	142	fwd	front	97.2	172.0	65.4	52.5	2145
	143	fwd	front	97.2	172.0	65.4	52.5	2190
	144	fwd	front	97.2	172.0	65.4	52.5	2340
	145	4wd	front	97.0	172.0	65.4	54.3	2385
	146	4wd	front	97.0	172.0	65.4	54.3	2510
	147 148	fwd	front	97.0	173.5	65.4	53.0	2290
	149	fwd 4rrd	front	97.0	173.5	65.4 65.4	53.0	2455
	150	4wd 4wd	front	96.9 96.9	173.6 173.6	65.4	54.9 54.9	2420 2650
	151	fwd	front front	95.7	158.7	63.6		1985
	152	fwd	front	95.7	158.7	63.6	54.5 54.5	2040
	153	fwd	front	95.7 95.7	158.7	63.6	54.5	2040
	154	fwd	front	95.7 95.7	169.7	63.6	59.1	2280
	155	4wd	front	95.7	169.7	63.6	59.1	2290
	156	4wd	front	95.7	169.7	63.6	59.1	3110
	157	fwd	front	95.7	166.3	64.4	53.0	2081
	158	fwd	front	95.7	166.3	64.4	52.8	2109
	159	fwd	front	95.7	166.3	64.4	53.0	2275
	160	fwd	front	95.7	166.3	64.4	52.8	2275
	161	fwd	front	95.7	166.3	64.4	53.0	2094
	162	fwd	front	95.7	166.3	64.4	52.8	2122
	163	fwd	front	95.7	166.3	64.4	52.8	2140
	164	rwd	front	94.5	168.7	64.0	52.6	2169
	165	rwd	front	94.5	168.7	64.0	52.6	2204
	166	rwd	front	94.5	168.7	64.0	52.6	2265
	167	rwd	front	94.5	168.7	64.0	52.6	2300
	168	rwd	front	98.4	176.2	65.6	52.0	2540

##	169	rwd	front	98.4	176.2	65.6	52.0	2536
	170	rwd	front	98.4	176.2	65.6	52.0	2551
	171	rwd	front	98.4	176.2	65.6	52.0	2679
	172	rwd	front	98.4	176.2	65.6	52.0	2714
##	173	rwd	front	98.4	176.2	65.6	53.0	2975
##	174	fwd	front	102.4	175.6	66.5	54.9	2326
	175	fwd	front	102.4	175.6	66.5	54.9	2480
	176	fwd	front	102.4	175.6	66.5	53.9	2414
	177	fwd	front	102.4	175.6	66.5	54.9	2414
	178	fwd	front	102.4	175.6	66.5	53.9	2458
	179	rwd	front	102.9	183.5	67.7	52.0	2976
	180	rwd	front	102.9	183.5	67.7	52.0	3016
	181	rwd	front	104.5	187.8	66.5	54.1	3131
	182	rwd	front	104.5	187.8	66.5	54.1	3151
	183	fwd	front	97.3	171.7	65.5	55.7	2261
	184	fwd	front	97.3	171.7	65.5	55.7	2209
	185	fwd	front	97.3	171.7	65.5	55.7	2264
	186	fwd	front	97.3	171.7	65.5	55.7	2212
	187	fwd	front	97.3	171.7	65.5	55.7	2275
	188	fwd	front	97.3	171.7	65.5	55.7	2319
	189	fwd	front	97.3	171.7	65.5	55.7	2300
	190	fwd	front	94.5	159.3	64.2	55.6	2254
	191	fwd	front	94.5	165.7	64.0	51.4	2221
	192	fwd	front	100.4	180.2	66.9	55.1	2661
	193	fwd	front	100.4	180.2	66.9	55.1	2579
	194	fwd	front	100.4	183.1	66.9	55.1	2563
	195	rwd	front	104.3	188.8	67.2	56.2	2912
	196	rwd	front	104.3	188.8	67.2	57.5	3034
	197	rwd	front	104.3	188.8	67.2	56.2	2935
	198	rwd	front	104.3	188.8	67.2	57.5	3042
	199	rwd	front	104.3	188.8	67.2	56.2	3045
	200	rwd	front	104.3	188.8	67.2	57.5	3157
	201	rwd	front	109.1	188.8	68.9	55.5	2952
	202	rwd	front	109.1	188.8	68.8	55.5	3049
	203	rwd	front	109.1	188.8	68.9	55.5	3012
	204	rwd	front	109.1	188.8	68.9	55.5	3217
##	205	rwd	front	109.1	188.8	68.9	55.5	3062
##		<pre>engineType nrCylinds</pre>	engine	Size fuelS	ystem	bore	stroke (	compressionRatio
##	1	dohc four	_	130	mpfi	3.47	2.68	9.00
##	2	dohc four		130	mpfi	3.47	2.68	9.00
##	3	ohcv six		152	mpfi	2.68	3.47	9.00
##	4	ohc four		109	mpfi	3.19	3.40	10.00
##	5	ohc five		136	mpfi	3.19	3.40	8.00
##	6	ohc five		136	mpfi	3.19	3.40	8.50
##	7	ohc five		136	mpfi	3.19	3.40	8.50
##	8	ohc five		136	mpfi	3.19	3.40	8.50
##	9	ohc five		131	mpfi	3.13	3.40	8.30
##	10	ohc five		131	mpfi	3.13	3.40	7.00
##	11	ohc four		108	mpfi	3.50	2.80	8.80
	12	ohc four		108	mpfi	3.50	2.80	8.80
	13	ohc six		164	mpfi	3.31	3.19	9.00
	14	ohc six		164	mpfi	3.31	3.19	9.00
##	15	ohc six		164	mpfi	3.31	3.19	9.00
##	16	ohc six		209	mpfi	3.62	3.39	8.00
					-			

##	17	ohc	six	209	mpfi	3.62	3.39	8.00
##	18	ohc	six	209	mpfi	3.62	3.39	8.00
##	19	1	three	61	2bbl	2.91	3.03	9.50
##	20	ohc	four	90	2bbl	3.03	3.11	9.60
##		ohc	four	90	2bbl	3.03	3.11	9.60
##	22	ohc	four	90	2bb1	2.97	3.23	9.41
##	23	ohc	four	90	2bbl	2.97	3.23	9.40
	24	ohc	four	98	mpfi	3.03	3.39	7.60
	25	ohc	four	90	2bbl	2.97	3.23	9.40
	26	ohc	four	90	2bbl	2.97	3.23	9.40
##		ohc	four	90	2bbl	2.97	3.23	9.40
	28	ohc	four	98	mpfi	3.03	3.39	7.60
##		ohc	four	122	2bbl	3.34	3.46	8.50
##	30	ohc	four	156	mfi	3.60	3.90	7.00
##	31	ohc	four	92	1bbl	2.91	3.41	9.60
##	32	ohc	four	92	1bbl	2.91	3.41	9.20
##	33	ohc	four	79	1bbl	2.91	3.07	10.10
	34	ohc	four	92	1bbl	2.91	3.41	9.20
##		ohc	four	92	1bbl	2.91	3.41	9.20
##		ohc	four	92	1bbl	2.91	3.41	9.20
##		ohc	four	92	1bbl	2.92	3.41	9.20
##		ohc	four	110	1bbl	3.15	3.58	9.00
##		ohc	four	110	1bbl	3.15	3.58	9.00
##		ohc	four	110	1bbl	3.15	3.58	9.00
##		ohc	four	110	1bbl	3.15	3.58	9.00
##		ohc	four	110	mpfi	3.15	3.58	9.00
##		ohc	four	110	2bbl	3.15	3.58	9.10
##		ohc	four	111	2bbl	3.31	3.23	8.50
##		ohc	four	90	2bbl	3.03	3.11	9.60
##		ohc	four	90	2bb1	3.03	3.11	9.60
##		ohc	four	119	spfi	3.43	3.23	9.20
##		dohc	six	258	mpfi	3.63	4.17	8.10
##		dohc	six	258	mpfi	3.63	4.17	8.10
	50	ohcv	twelve	326	mpfi	3.54	2.76	11.50
##		ohc	four	91	2bbl	3.03	3.15	9.00
	52	ohc	four	91	2bbl	3.03	3.15	9.00
##		ohc	four	91	2bbl	3.03	3.15	9.00
##		ohc	four	91	2bbl	3.03	3.15	9.00
##		ohc	four	91	2bb1		3.15	9.00
	56	rotor	two	70		31.00	25.00	9.40
	57	rotor	two.	70		31.00	25.00	9.40
	58	rotor	two	70		31.00	25.00	9.40
	59	rotor	two	80	-	31.00	25.00	9.40
##		ohc	four	122	2bbl		3.39	8.60
##		ohc	four	122	2bbl		3.39	8.60
	62	ohc	four	122	2bbl	3.39	3.39	8.60
	63 64	ohc	four	122	2bbl	3.39	3.39	8.60
	64 65	ohc	four	122	idi	3.39	3.39	22.70
	65 66	ohc	four	122	2bbl	3.39	3.39	8.60
	66 67	ohc	four	140	mpfi	3.76	3.16	8.00
	67 68	ohc	four	134	idi		3.64	22.00
	68 60	ohc	five	183	idi	3.58	3.64	21.50
## ##		ohc	five	183	idi	3.58	3.64	21.50
##	10	ohc	five	183	idi	3.58	3.64	21.50

								0.4 50
##		ohc	five	183	idi	3.58	3.64	21.50
##		ohcv	eight	234	mpfi	3.46	3.10	8.30
##		ohcv	eight	234	mpfi	3.46	3.10	8.30
##		ohcv	eight	308	mpfi	3.80	3.35	8.00
##		ohcv	eight	304	mpfi	3.80	3.35	8.00
##		ohc	four	140	mpfi	3.78	3.12	8.00
##		ohc	four	92	2bbl	2.97	3.23	9.40
	78	ohc	four	92	2bbl	2.97	3.23	9.40
##		ohc	four	92	2bbl	2.97	3.23	9.40
##		ohc	four	98	spdi	3.03	3.39	7.60
##		ohc	four	110	spdi	3.17	3.46	7.50
##		ohc	four	122	2bbl	3.35	3.46	8.50
##		ohc	four	156	spdi	3.58	3.86	7.00
##		ohc	four	156	spdi	3.59	3.86	7.00
##		ohc	four	156	spdi	3.59	3.86	7.00
##	86	ohc	four	122	2bbl	3.35	3.46	8.50
##		ohc	four	122	2bbl	3.35	3.46	8.50
##		ohc	four	110	spdi	3.17	3.46	7.50
##	89	ohc	four	110	spdi	3.17	3.46	7.50
##	90	ohc	four	97	2bbl	3.15	3.29	9.40
##	91	ohc	four	103	idi	2.99	3.47	21.90
##	92	ohc	four	97	2bbl	3.15	3.29	9.40
##	93	ohc	four	97	2bbl	3.15	3.29	9.40
##	94	ohc	four	97	2bbl	3.15	3.29	9.40
##	95	ohc	four	97	2bbl	3.15	3.29	9.40
##	96	ohc	four	97	2bbl	3.15	3.29	9.40
##	97	ohc	four	97	2bbl	3.15	3.29	9.40
##	98	ohc	four	97	2bbl	3.15	3.29	9.40
##	99	ohc	four	97	2bbl	3.15	3.29	9.40
##	100	ohc	four	120	2bbl	3.33	3.47	8.50
##	101	ohc	four	120	2bbl	3.33	3.47	8.50
##	102	ohcv	six	181	mpfi	3.43	3.27	9.00
##	103	ohcv	six	181	mpfi	3.43	3.27	9.00
##	104	ohcv	six	181	mpfi	3.43	3.27	9.00
##	105	ohcv	six	181	mpfi	3.43	3.27	9.00
##	106	ohcv	six	181	mpfi	3.43	3.27	7.80
##	107	ohcv	six	181	mpfi	3.43	3.27	9.00
##	108	1	four	120	mpfi	3.46	3.19	8.40
##	109	1	four	152	idi	3.70	3.52	21.00
##	110	1	four	120	mpfi	3.46	3.19	8.40
##	111	1	four	152	idi	3.70	3.52	21.00
##	112	1	four	120	mpfi	3.46	2.19	8.40
##	113	1	four	152	idi	3.70	3.52	21.00
##	114	1	four	120	mpfi	3.46	2.19	8.40
##	115	1	four	152	idi	3.70	3.52	21.00
##	116	1	four	120	mpfi	3.46	3.19	8.40
##	117	1	four	152	idi	3.70	3.52	21.00
	118	1	four	134	mpfi	3.61	3.21	7.00
	119	ohc	four	90	2bbl	2.97	3.23	9.40
	120	ohc	four	98	spdi	3.03	3.39	7.60
	121	ohc	four	90	2bbl	2.97	3.23	9.40
	122	ohc	four	90	2bbl	2.97	3.23	9.40
	123	ohc	four	98	2bbl	2.97	3.23	9.40
	124	ohc	four	122	2bbl	3.35	3.46	8.50

##	125	ohc	four	156	spdi	3.59	3.86	7.00
##	126	ohc	four	151	mpfi	3.94	3.11	9.50
##	127	ohcf	six	194	mpfi	3.74	2.90	9.50
	128	ohcf	six	194	mpfi	3.74	2.90	9.50
	129	ohcf	six	194	mpfi	3.74	2.90	9.50
	130	dohcv	eight	203	mpfi	3.94	3.11	10.00
	131	ohc	four	132	mpfi	3.46	3.90	8.70
	132	ohc	four	132	mpfi	3.46	3.90	8.70
	133	ohc	four	121	mpfi	3.54	3.07	9.31
	134	ohc	four	121	mpfi	3.54	3.07	9.30
	135	ohc	four	121	mpfi	2.54	2.07	9.30
	136	ohc	four	121	mpfi	3.54	3.07	9.30
	137	dohc	four	121	mpfi	3.54	3.07	9.00
	138	dohc	four	121	mpfi	3.54	3.07	9.00
	139	ohcf	four	97	2bb1	3.62	2.36	9.00
	140	ohcf	four	108	2bbl	3.62	2.64	8.70
	141	ohcf	four	108	2bbl	3.62	2.64	8.70
	142	ohcf	four	108	2bbl	3.62	2.64	9.50
	143	ohcf	four	108	2bbl	3.62	2.64	9.50
	144	ohcf	four	108	mpfi	3.62	2.64	9.00
	145	ohcf	four	108	2bb1	3.62	2.64	9.00
	146	ohcf	four	108	mpfi	3.62	2.64	7.70
	147 148	ohcf	four	108 108	2bbl	3.62 3.62	2.64 2.64	9.00 9.00
	149	ohcf ohcf	four four	108	mpfi 2bbl	3.62	2.64	9.00
	150	ohcf	four	108	mpfi	3.62	2.64	7.70
	151	ohc	four	92	mpii 2bbl	3.05	3.03	9.00
	152	ohc	four	92	2bb1	3.05	3.03	9.00
	153	ohc	four	92	2bb1	3.05	3.03	9.00
	154	ohc	four	92	2bb1	3.05	3.03	9.00
	155	ohc	four	92	2bb1	3.05	3.03	9.00
	156	ohc	four	92	2bbl	3.05	3.03	9.00
	157	ohc	four	98	2bbl	3.19	3.03	9.00
	158	ohc	four	98	2bbl	3.19	3.03	9.00
##	159	ohc	four	110	idi	3.27	3.35	22.50
##	160	ohc	four	110	idi	3.27	3.35	22.50
##	161	ohc	four	98	2bbl	3.19	3.03	9.00
##	162	ohc	four	98	2bbl	3.19	3.03	9.00
##	163	ohc	four	98	2bbl	3.19	3.03	9.00
##	164	ohc	four	98	2bbl	3.19	3.03	9.00
##	165	ohc	four	98	2bbl	3.19	3.03	9.00
	166	dohc	four	98	mpfi	3.24	3.08	9.40
##	167	dohc	four	98	mpfi	3.24	3.08	9.40
##	168	ohc	four	146	mpfi	3.62	3.50	9.30
	169	ohc	four	146	mpfi	3.62	3.50	9.30
	170	ohc	four	146	mpfi	3.62	3.50	9.30
	171	ohc	four	146	mpfi	3.62	3.50	9.30
	172	ohc	four	146	mpfi	3.62	3.50	9.30
	173	ohc	four	146	mpfi	3.62	3.50	9.30
	174	ohc	four	122	mpfi	3.31	3.54	8.70
	175 176	ohc	four	110	idi	3.27	3.35	22.50
	176	ohc	four	122	mpfi	3.31	3.54	8.70
	177 178	ohc ohc	four	122 122	mpfi mpfi	3.31	3.54 3.54	8.70 8.70
##	110	OHC	four	122	mpfi	3.31	0.04	0.70

##	179	dohc	six		171	mpfi	3.27	3.35	9.30
##	180	dohc	six		171	mpfi	3.27	3.35	9.30
##	181	dohc	six		171	mpfi	3.27	3.35	9.20
##	182	dohc	six		161	mpfi	3.27	3.35	9.20
	183	ohc	four		97	idi	3.01	3.40	23.00
	184	ohc	four		109	mpfi	3.19	3.40	9.00
	185	ohc	four		97	idi	3.01	3.40	23.00
	186	ohc	four		109	mpfi	3.19	3.40	9.00
	187	ohc	four		109		3.19	3.40	9.00
					97	mpfi		3.40	23.00
	188	ohc	four			idi	3.01		
	189	ohc	four		109	mpfi	3.19	3.40	10.00
	190	ohc	four		109	mpfi	3.19	3.40	8.50
	191	ohc	four		109	mpfi	3.19	3.40	8.50
	192	ohc	five		136	mpfi	3.19	3.40	8.50
##	193	ohc	four		97	idi	3.01	3.40	23.00
##	194	ohc	four		109	mpfi	3.19	3.40	9.00
##	195	ohc	four		141	mpfi	3.78	3.15	9.50
##	196	ohc	four		141	mpfi	3.78	3.15	9.50
##	197	ohc	four		141	mpfi	3.78	3.15	9.50
##	198	ohc	four		141	mpfi	3.78	3.15	9.50
##	199	ohc	four		130	mpfi	3.62	3.15	7.50
##	200	ohc	four		130	mpfi	3.62	3.15	7.50
	201	ohc	four		141	mpfi	3.78	3.15	9.50
	202	ohc	four		141	mpfi	3.78	3.15	8.70
	203	ohcv	six		173	mpfi	3.58	2.87	8.80
	204	ohc	six		145	idi	3.01	3.40	23.00
	205	ohc	four		141	mpfi	3.78	3.15	9.50
##	200	OHC							
##						_	0.70	0.10	0.00
##	1	horsePower	peakRpm c	ityMpg	highwayMpg	price	0.70	0.10	3.00
##		horsePower	peakRpm c 5000	ityMpg 21	highwayMpg 27	price 13495	0.70	0.10	3.00
## ##	2	horsePower 111 111	peakRpm c 5000 5000	ityMpg 21 21	highwayMpg 27 27	price 13495 16500	0.70	0.10	3.00
## ## ##	2	horsePower 111 111 154	peakRpm c 5000 5000 5000	ityMpg 21 21 19	highwayMpg 27 27 26	price 13495 16500 16500	0.70	0.10	3.00
## ## ## ##	2 3 4	horsePower 111 111 154 102	peakRpm c 5000 5000 5000 5500	ityMpg 21 21 19 24	highwayMpg 27 27 26 30	price 13495 16500 16500 13950	0.70	0.10	3.00
## ## ## ##	2 3 4 5	horsePower 111 111 154 102 115	peakRpm c 5000 5000 5000 5500 5500	ityMpg 21 21 19 24 18	highwayMpg 27 27 26 30 22	price 13495 16500 16500 13950 17450	0.70	0.10	3.00
## ## ## ## ##	2 3 4 5 6	horsePower 111 111 154 102 115 110	peakRpm c 5000 5000 5000 5500 5500 5500	ityMpg 21 21 19 24 18	highwayMpg 27 27 26 30 22 25	price 13495 16500 16500 13950 17450 15250	0.70	0.10	3.00
## ## ## ## ##	2 3 4 5 6 7	horsePower 111 111 154 102 115 110	peakRpm c 5000 5000 5000 5500 5500 5500 5500	ityMpg 21 21 19 24 18	highwayMpg 27 27 26 30 22 25 25	price 13495 16500 16500 13950 17450 15250 17710	0.70	0.10	3.00
## ## ## ## ##	2 3 4 5 6 7	horsePower 111 111 154 102 115 110	peakRpm c 5000 5000 5000 5500 5500 5500	ityMpg 21 21 19 24 18	highwayMpg 27 27 26 30 22 25 25	price 13495 16500 16500 13950 17450 15250	0.70	0.10	3.00
## ## ## ## ##	2 3 4 5 6 7 8	horsePower 111 111 154 102 115 110	peakRpm c 5000 5000 5000 5500 5500 5500 5500	ityMpg 21 21 19 24 18 19	highwayMpg 27 27 26 30 22 25 25	price 13495 16500 16500 13950 17450 15250 17710	3.10	0.10	3.00
## ## ## ## ## ##	2 3 4 5 6 7 8	horsePower 111 111 154 102 115 110 110	peakRpm 5000 5000 5000 5500 5500 5500 5500 55	ityMpg 21 21 19 24 18 19 19	highwayMpg 27 27 26 30 22 25 25	price 13495 16500 16500 13950 17450 15250 17710 18920 23875	3.10	0.10	
## ## ## ## ## ##	2 3 4 5 6 7 8 9	horsePower 111 111 154 102 115 110 110 110	peakRpm 5000 5000 5000 5500 5500 5500 5500 55	ityMpg 21 21 19 24 18 19 19	highwayMpg 27 27 26 30 22 25 25 20 20	price 13495 16500 16500 13950 17450 15250 17710 18920 23875	3.10	0.10	
## ## ## ## ## ## ##	2 3 4 5 6 7 8 9 10	horsePower 111 111 154 102 115 110 110 140 160	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 19	highwayMpg 27 27 26 30 22 25 25 20 22 29	price 13495 16500 16500 13950 17450 15250 17710 18920 23875	3.10	0.10	
## ## ## ## ## ## ##	2 3 4 5 6 7 8 9 10 11	horsePower 111 111 154 102 115 110 110 140 160 101	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23	highwayMpg 27 27 26 30 22 25 25 25 20 22 29	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430	3.10	0.10	
## ## ## ## ## ## ## ##	2 3 4 5 6 7 8 9 10 11 12	horsePower 111 111 154 102 115 110 110 110 140 160 101 101 121	peakRpm 5 5000 5000 5500 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 23 21	highwayMpg 27 27 26 30 22 25 25 25 20 29 29	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925	3.10	0.10	
######################################	2 3 4 5 6 7 8 9 10 11 12 13	horsePower 111 111 154 102 115 110 110 110 140 160 101 101 121	peakRpm 5 5000 5000 5500 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 23 21 21	highwayMpg 27 27 26 30 22 25 25 25 20 22 29 29 28	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105	3.10	0.10	
## ## ## ## ## ## ## ##	2 3 4 5 6 7 8 9 10 11 12 13 14 15	horsePower 111 111 154 102 115 110 110 110 140 160 101 101 121 121	peakRpm 5 5000 5000 5500 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 23 21 21 20	highwayMpg 27 27 26 30 22 25 25 25 20 22 29 29 28 28	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565	3.10	0.10	
## ## ## ## ## ## ## ## ##	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	horsePower 111 111 154 102 115 110 110 140 160 101 101 121 121 121 182	peakRpm 5 5000 5000 5500 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 23 21 20 16	highwayMpg 27 27 26 30 22 25 25 20 22 29 29 28 28 25	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565 30760	3.10	0.10	
## ## ## ## ## ## ## ## ##	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	horsePower 111 111 154 102 115 110 110 110 140 160 101 121 121 121 182 182	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	1tyMpg 21 21 19 24 18 19 19 17 16 23 21 20 16 16	highwayMpg 27 27 26 30 22 25 25 20 22 29 29 28 28 25 25 20 22 29 29 28 28 25 25 29 29 29 29 29 29 29 29 29 29 29 29 29	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565 30760 41315	3.10	0.10	
## ## ## ## ## ## ## ## ##	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	horsePower	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 23 21 21 20 16 16 15	highwayMpg 27 27 26 30 22 25 25 20 22 29 29 28 28 25 25 20 22 29 29 28 28 25 25 20 20 22 29 29 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565 30760 41315 36880	3.10	0.10	
## ## ## ## ## ## ## ## ## ##	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	horsePower 111 111 154 102 115 110 110 110 140 160 101 101 121 121 121 182 182 182 48	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 23 21 21 20 16 16 15 47	highwayMpg 27 27 26 30 22 25 25 25 20 29 29 28 28 28 25 25 20 29 29 28 28 25 25 29 29 29 29 29 29 29 29 29 29 29 29 29	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565 30760 41315 36880 5151	3.10	0.10	
## ## ## ## ## ## ## ## ## ## ##	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	horsePower 111 111 154 102 115 110 110 110 140 160 101 121 121 121 122 182 182 182 48 70	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 23 21 21 20 16 16 15 47 38	highwayMpg 27 27 26 30 22 25 25 25 20 29 29 28 28 25 25 20 29 29 29 28 28 25 25 26 29 29 29 29 29 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565 30760 41315 36880 5151 6295			
## ## ## ## ## ## ## ## ## ## ##	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	horsePower  111 111 154 102 115 110 110 110 140 160 101 121 121 121 122 182 182 182 182 70 70	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 21 20 16 16 15 47 38 38	highwayMpg 27 27 26 30 22 25 25 25 20 22 29 28 28 28 25 20 20 53 43 43	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565 30760 41315 36880 5151 6295 6575			
## ## ## ## ## ## ## ## ## ## ## ##	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	horsePower  111 111 154 102 115 110 110 110 140 160 101 101 121 121 121 182 182 182 182 182 70 70 68	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 21 20 16 16 15 47 38 38 37	highwayMpg 27 27 26 30 22 25 25 25 20 22 29 28 28 28 25 20 20 31 43 43 41	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565 30760 41315 36880 5151 6295 6575 5572			
######################################	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	horsePower  111 111 154 102 115 110 110 110 140 160 101 121 121 121 121 182 182 182 182 182 68	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 21 20 16 16 15 47 38 38 37 31	highwayMpg 27 27 26 30 22 25 25 25 20 22 29 28 28 28 25 20 20 53 43 43 41	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565 30760 41315 36880 5151 6295 6575 5572 6377			
######################################	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	horsePower  111 111 154 102 115 110 110 110 140 160 101 121 121 121 122 182 182 182 182 48 70 70 68 68 68 102	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 21 20 16 16 15 47 38 38 37 31 24	highwayMpg 27 27 26 30 22 25 25 25 20 22 29 29 28 28 28 25 20 53 43 43 41 38 30	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565 30760 41315 36880 5151 6295 6575 5572 6377 7957			
######################################	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	horsePower  111 111 154 102 115 110 110 110 140 160 101 121 121 121 122 182 182 182 182 182 68 68 102 68	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 21 20 16 16 15 47 38 38 37 31 24 31	highwayMpg 27 27 26 30 22 25 25 25 20 22 29 29 29 28 28 25 20 53 43 41 38 30 38	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565 30760 41315 36880 5151 6295 6575 5572 6377 7957 6229			
######################################	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	horsePower  111 111 154 102 115 110 110 110 140 160 101 121 121 121 122 182 182 182 182 48 70 70 68 68 68 102	peakRpm 5 5000 5000 5000 5500 5500 5500 5500 5	ityMpg 21 21 19 24 18 19 19 17 16 23 21 20 16 16 15 47 38 38 37 31 24	highwayMpg 27 27 26 30 22 25 25 25 20 22 29 29 28 28 28 25 20 53 43 43 41 38 30	price 13495 16500 16500 13950 17450 15250 17710 18920 23875 8 16430 16925 20970 21105 24565 30760 41315 36880 5151 6295 6575 5572 6377 7957 6229			

##	27	68	5500	31	38 7609
##	28	102	5500	24	30 8558
##	29	88	5000	24	30 8921
##	30	145	5000	19	24 12964
##	31	58	4800	49	54 6479
##	32	76	6000	31	38 6855
##	33	60	5500	38	42 5399
##	34	76	6000	30	34 6529
##	35	76	6000	30	34 7129
##	36	76	6000	30	34 7295
##	37	76	6000	30	34 7295
##	38	86	5800	27	33 7895
##	39	86	5800	27	33 9095
##	40	86	5800	27	33 8845
##	41	86	5800	27	33 10295
##	42	101	5800	24	28 12945
##	43	100	5500	25	31 10345
##	44	78	4800	24	29 6785
##	45	70	5400	38	43 8
##	46	70	5400	38	43 8
##	47	90	5000	24	29 11048
##	48	176	4750	15	19 32250
##	49	176	4750	15	19 35550
##	50	262	5000	13	17 36000
##	51	68	5000	30	31 5195
##	52	68	5000	31	38 6095
##	53	68	5000	31	38 6795
##	54	68	5000	31	38 6695
##	55	68	5000	31	38 7395
##	56	101	6000	17	23 10945
##	57	101	6000	17	23 11845
##	58	101	6000	17	23 13645
##	59	135	6000	16	23 15645
##	60	84	4800	26	32 8845
##	61	84	4800	26	32 8495
##	62	84	4800	26	32 10595
##	63	84	4800	26	32 10245
##	64	64	4650	36	42 10795
##	65	84	4800	26	32 11245
##	66	120	5000	19	27 18280
##	67	72	4200	31	39 18344
##	68	123	4350	22	25 25552
##	69			22	
##	70	123 123	4350	22	
			4350		25 28176
##	71	123	4350	22	25 31600
##	72	155	4750	16	18 34184
##	73	155	4750	16	18 35056
##	74	184	4500	14	16 40960
##	75	184	4500	14	16 45400
##	76	175	5000	19	24 16503
##	77	68	5500	37	41 5389
##	78	68	5500	31	38 6189
##	79	68	5500	31	38 6669
##	80	102	5500	24	30 7689

##	81	116	5500	23	30	9959
##	82	88	5000	25	32	8499
##	83	145	5000	19	24	12629
##	84	145	5000	19	24	14869
##	85	145	5000	19	24	14489
##	86	88	5000	25	32	6989
##	87	88	5000	25	32	8189
##	88	116	5500	23	30	9279
##	89	116	5500	23	30	9279
##	90	69	5200	31	37	5499
##	91	55	4800	45	50	7099
##	92	69	5200	31	37	6649
##	93	69	5200	31	37	6849
##	94	69	5200	31	37	7349
##	95	69	5200	31	37	7299
##	96	69	5200	31	37	7799
##	97	69	5200	31	37	7499
##	98	69	5200	31	37	7999
##	99	69	5200	31	37	8249
##	100	97	5200	27	34	8949
##	101	97	5200	27	34	9549
##	102	152	5200	17	22	13499
##	103	152	5200	17	22	14399
##	104	152	5200	19	25	13499
##	105	160	5200	19	25	17199
##	106	200	5200	17	23	19699
##	107	160	5200	19	25	18399
##	108	97	5000	19	24	11900
##	109	95	4150	28	33	13200
					24	
##	110	97	5000	19		12440
##	111	95	4150	25	25	13860
##	112	95	5000	19	24	15580
##	113	95	4150	28	33	16900
##	114	95	5000	19	24	16695
##	115	95	4150	25	25	17075
##	116	97	5000	19	24	16630
##	117	95	4150	28	33	17950
##	118	142	5600	18	24	18150
##	119	68	5500	37	41	5572
##	120	102	5500	24	30	7957
##	121	68	5500	31	38	6229
##	122	68	5500	31	38	6692
##	123	68	5500	31	38	7609
##	124	88	5000	24	30	8921
##	125	145	5000	19	24	12764
##	126	143	5500	19	27	22018
##	127	207	5900	17	25	32528
##	128	207	5900	17	25	34028
##	129	207	5900	17	25	37028
##	130	288	5750	17	28	8
##	131	9	17	23	31	9295
##	132	9	17	23	31	9895
##	133	110	5250	21	28	11850
##	134	110	5250	21	28	12170

##	135	110	5250	21	28	15040
##	136	110	5250	21	28	15510
##	137	160	5500	19	26	18150
##	138	160	5500	19	26	18620
##	139	69	4900	31	36	5118
##	140	73	4400	26	31	7053
##	141	73	4400	26	31	7603
##	142	82	4800	32	37	7126
##	143	82	4400	28	33	7775
##	144	94	5200	26	32	9960
##	145	82	4800	24	25	9233
##	146	111	4800	24	29	11259
##	147	82	4800	28	32	7463
##	148	94	5200	25	31	10198
##	149	82	4800	23	29	8013
##	150	111	4800	23	23	11694
##	151	62			39	
			4800	35		5348
##	152	62	4800	31	38	6338
##	153	62	4800	31	38	6488
##	154	62	4800	31	37	6918
##	155	62	4800	27	32	7898
##	156	62	4800	27	32	8778
##	157	70	4800	30	37	6938
##	158	70	4800	30	37	7198
##	159	56	4500	34	36	7898
##	160	56	4500	38	47	7788
##	161	70	4800	38	47	7738
##	162	70	4800	28	34	8358
##	163	70	4800	28	34	9258
##	164	70	4800	29	34	8058
##	165	70	4800	29	34	8238
##	166	112	6600	26	29	9298
##	167	112	6600	26	29	9538
##	168	116	4800	24	30	8449
##	169	116	4800	24	30	9639
##	170	116	4800	24	30	9989
##	171	116	4800	24	30	11199
##	172	116	4800	24	30	11549
##	173	116	4800	24	30	17669
##	174	92	4200	29	34	8948
##	175	73	4500	30	33	10698
##	176	92	4200	27	32	9988
##	177	92	4200	27	32	10898
##	178	92	4200	27	32	11248
##	179	161	5200	20	24	16558
##	180	161	5200	19	24	15998
##	181	156	5200	20	24	15690
##	182	156	5200	19	24	15750
##	183	52	4800	37	46	7775
##	184	85	5250	27	34	7975
##	185	52	4800	37	46	7995
##	186	52 85	5250	27	34	8195
##					34	
	187	85 69	5250	27 27		8495
##	188	68	4500	37	42	9495

```
## 189
               100
                      5500
                                 26
                                            32 9995
## 190
               90
                      5500
                                 24
                                            29 11595
## 191
                      5500
               90
                                 24
                                            29 9980
## 192
                                            24 13295
               110
                      5500
                                 19
## 193
               68
                      4500
                                 33
                                            38 13845
## 194
               88
                                 25
                                            31 12290
                      5500
## 195
              114
                      5400
                                 23
                                            28 12940
                                            28 13415
## 196
              114
                      5400
                                 23
## 197
              114
                      5400
                                 24
                                            28 15985
## 198
                                            28 16515
              114
                      5400
                                 24
## 199
              162
                      5100
                                 17
                                            22 18420
## 200
              162
                      5100
                                 17
                                            22 18950
                                            28 16845
## 201
              114
                      5400
                                 23
## 202
                                            25 19045
               160
                      5300
                                 19
## 203
              134
                      5500
                                 18
                                            23 21485
## 204
               106
                      4800
                                 26
                                            27 22470
## 205
              114
                      5400
                                 19
                                            25 22625
```

(g) Cree un nuevo conjunto de datos imputando el valor más frecuente a la columna "nDoors". Sugerencia: utilice la función impute\_replace()

```
# Crea una copia del dataframe cargado
dfValFrecuente <- df

# Calcula la moda de la columna "nDoors"
modaNdoors <- calculate_mode(dfValFrecuente$nDoors)

# Reemplaza los valores NA de la columna nDoors con la moda calculada
dfValFrecuente <- dfValFrecuente %>%
    mutate(nDoors = replace_na(nDoors, modaNdoors))

# Imprime el nuevo dataframe
print(dfValFrecuente)
```

##		symb	normLoss	make	fuelType	aspiration	nDoors	bodyStyle
##	1	3	NA	alfa-romero	gas	std	two	convertible
##	2	3	NA	alfa-romero	gas	std	two	convertible
##	3	1	NA	alfa-romero	gas	std	two	hatchback
##	4	2	164	audi	gas	std	four	sedan
##	5	2	164	audi	gas	std	four	sedan
##	6	2	NA	audi	gas	std	two	sedan
##	7	1	158	audi	gas	std	four	sedan
##	8	1	NA	audi	gas	std	four	wagon
##	9	1	158	audi	gas	turbo	four	sedan
##	10	0	NA	audi	gas	turbo	two	hatchback
##	11	2	192	bmw	gas	std	two	sedan
##	12	0	192	bmw	gas	std	four	sedan
##	13	0	188	bmw	gas	std	two	sedan
##	14	0	188	bmw	gas	std	four	sedan
##	15	1	NA	bmw	gas	std	four	sedan
##	16	0	NA	bmw	gas	std	four	sedan
##	17	0	NA	bmw	gas	std	two	sedan
##	18	0	NA	bmw	gas	std	four	sedan
##	19	2	121	chevrolet	gas	std	two	hatchback

##	20	1	98	chevrolet	gas	std	two	hatchback
##	21	0	81	chevrolet	gas	std	four	sedan
##	22	1	118	dodge	gas	std	two	hatchback
##	23	1	118	dodge	gas	std	two	hatchback
##	24	1	118	dodge	gas	turbo	two	hatchback
##	25	1	148	dodge	gas	std	four	hatchback
##	26	1	148	dodge	gas	std	four	sedan
##	27	1	148	dodge	gas	std	four	sedan
##	28	1	148	dodge	gas	turbo	four	sedan
##	29	-1	110	dodge	gas	std	four	wagon
##	30	3	145	dodge	gas	turbo	two	hatchback
##	31	2	137	honda	gas	std	two	hatchback
##	32	2	137	honda	gas	std	two	hatchback
##	33	1	101	honda	gas	std	two	hatchback
##	34	1	101	honda	gas	std	two	hatchback
##	35	1	101	honda	gas	std	two	hatchback
##	36	0	110	honda	gas	std	four	sedan
##	37	0	78	honda	gas	std	four	wagon
##	38	0	106	honda	gas	std	two	hatchback
##	39	0	106	honda	gas	std	two	hatchback
##	40	0	85	honda	gas	std	four	sedan
##	41	0	85	honda	gas	std	four	sedan
##	42	0	85	honda	gas	std	four	sedan
##	43	1	107	honda	gas	std	two	sedan
##	44	0	NA	isuzu	gas	std	four	sedan
##	45	1	NA	isuzu	gas	std	two	sedan
##	46	0	NA	isuzu	gas	std	four	sedan
##	47	2	NA	isuzu	gas	std	two	hatchback
##	48	0	145	jaguar	gas	std	four	sedan
##	49	0	NA	jaguar	gas	std	four	sedan
##	50	0	NA	jaguar	gas	std	two	sedan
##	51	1	104	mazda	gas	std	two	hatchback
##	52	1	104	mazda	gas	std	two	hatchback
##	53	1	104	mazda	gas	std	two	hatchback
##	54	1	113	mazda	gas	std	four	sedan
	55	1	113	mazda	gas	std	four	sedan
##	56	3	150	mazda	gas	std	two	hatchback
##		3	150	mazda	gas	std	two	hatchback
	58	3	150	mazda	gas	std	two	hatchback
	59	3	150	mazda	gas	std	two	hatchback
	60	1	129	mazda	gas	std	two	hatchback
	61	0	115	mazda	gas	std	four	sedan
	62	1	129	mazda	gas	std	two	hatchback
	63	0	115	mazda	gas	std	four	sedan
	64	0	NA	mazda	diesel	std	four	sedan
	65	0	115	mazda	gas	std	four	hatchback
##	66	0	118	mazda	gas	std	four	sedan
##	67	0	NA	mazda	diesel	std	four	sedan
##	68	-1		mercedes-benz	diesel	turbo	four	sedan
##	69	-1		mercedes-benz	diesel	turbo	four	wagon
##	70	0		mercedes-benz	diesel	turbo	two	hardtop
	71	-1		mercedes-benz	diesel	turbo	four	sedan
	72	-1 2		mercedes-benz	gas	std	four	sedan
##	13	3	142	mercedes-benz	gas	std	two	convertible

##	74	0	NA	mercedes-benz	gas	std	four	sedan
##	75	1		mercedes-benz	gas	std	two	hardtop
##	76	1	NA	mercury	gas	turbo	two	hatchback
##	77	2	161	mitsubishi	gas	std	two	hatchback
##	78	2	161	mitsubishi	gas	std	two	hatchback
##	79	2	161	mitsubishi	gas	std	two	hatchback
##	80	1	161	mitsubishi	gas	turbo	two	hatchback
##	81	3	153	mitsubishi	gas	turbo	two	hatchback
##	82	3	153	mitsubishi	gas	std	two	hatchback
##	83	3	NA	mitsubishi	gas	turbo	two	hatchback
##	84	3	NA	mitsubishi	gas	turbo	two	hatchback
##	85	3	NA	mitsubishi	gas	turbo	two	hatchback
##	86	1	125	mitsubishi	gas	std	four	sedan
##	87	1	125	mitsubishi	gas	std	four	sedan
##	88	1	125	mitsubishi	gas	turbo	four	sedan
##	89	-1	137	mitsubishi	gas	std	four	sedan
##	90	1	128	nissan	gas	std	two	sedan
##	91	1	128	nissan	diesel	std	two	sedan
##	92	1	128	nissan	gas	std	two	sedan
##	93	1	122	nissan	gas	std	four	sedan
##	94	1	103	nissan	gas	std	four	wagon
##	95	1	128	nissan	gas	std	two	sedan
##	96	1	128	nissan	gas	std	two	hatchback
##	97	1	122	nissan	gas	std	four	sedan
##	98	1	103	nissan	gas	std	four	wagon
##	99	2	168	nissan	gas	std	two	hardtop
##	100	0	106	nissan	gas	std	four	hatchback
##	101	0	106	nissan	gas	std	four	sedan
##	102	0	128	nissan	gas	std	four	sedan
##	103	0	108	nissan	gas	std	four	wagon
##	104	0	108	nissan	gas	std	four	sedan
##	105 106	3 3	194	nissan	gas	std	two	hatchback hatchback
##	107	3 1	194 231	nissan	gas	turbo	two	
##	107	0	161	nissan	gas	std	two four	hatchback sedan
##	100	0	161	peugot	gas diesel	std turbo	four	sedan
	110	0	NA	peugot peugot		std	four	
##	111	0	NA	peugot	gas diesel	turbo	four	wagon
	112	0	161	peugot	gas	std	four	wagon sedan
	113	0	161	peugot	diesel	turbo	four	sedan
	114	0	NA	peugot	gas	std	four	wagon
##	115	0	NA	peugot	diesel	turbo	four	wagon
##	116	0	161	peugot	gas	std	four	sedan
##	117	0	161	peugot	diesel	turbo	four	sedan
##	118	0	161	peugot	gas	turbo	four	sedan
##	119	1	119	plymouth	gas	std	two	hatchback
##	120	1	119	plymouth	gas	turbo	two	hatchback
##	121	1	154	plymouth	gas	std	four	hatchback
##	122	1	154	plymouth	gas	std	four	sedan
##	123	1	154	plymouth	gas	std	four	sedan
##	124	-1	74	plymouth	gas	std	four	wagon
##	125	3	NA	plymouth	gas	turbo	two	hatchback
##	126	3	186	porsche	gas	std	two	hatchback
##	127	3	NA	porsche	gas	std	two	hardtop

##	128	3	NA	noracho	<b>#2.</b> 4	a+d	+110	hard+an
##	129	3	NA NA	porsche	gas	std std	two	hardtop convertible
##	130	1	NA NA	porsche porsche	gas			hatchback
##	131	0	NA NA	renault	gas	std	two	
##	132	2	NA NA		gas	std	four	wagon hatchback
	133	3	150	renault	gas	std	two	hatchback
##		2		saab	gas	std	two	
##	134	3	104	saab	gas	std	four	sedan
##	135 136	2	150	saab	gas	std	two	hatchback
##	137	3	104 150	saab	gas	std	four	sedan hatchback
##				saab	gas	turbo	two	
##	138	2	104	saab	gas	turbo	four	sedan
##	139	2	83	subaru	gas	std	two	hatchback
##	140	2	83	subaru	gas	std	two	hatchback
##	141	2	83	subaru	gas	std	two	hatchback
##	142	0	102	subaru	gas	std	four	sedan
##	143	0	102	subaru	gas	std	four	sedan
##	144	0	102	subaru	gas	std	four	sedan
##	145	0	102	subaru	gas	std	four	sedan
##	146	0	102	subaru	gas	turbo	four	sedan
##	147	0	89	subaru	gas	std	four	wagon
##	148	0	89	subaru	gas	std	four	wagon
##	149	0	85	subaru	gas	std	four	wagon
##	150	0	85	subaru	gas	turbo	four	wagon
##	151	1	87	toyota	gas	std	two	hatchback
##	152	1	87	toyota	gas	std	two	hatchback
##	153	1	74	toyota	gas	std	four	hatchback
##	154	0	77	toyota	gas	std	four	wagon
##	155	0	81	toyota	gas	std	four	wagon
##	156	0	91	toyota	gas	std	four	wagon
##	157	0	91	toyota	gas	std	four	sedan
##	158	0	91	toyota	gas	std	four	hatchback
##	159	0	91	toyota	diesel	std	four	sedan
##	160	0	91	toyota	diesel	std	four	hatchback
##	161	0	91	toyota	gas	std	four	sedan
##	162	0	91	toyota	gas	std	four	hatchback
##	163	0	91	toyota	gas	std	four	sedan
	164	1	168	toyota	gas	std	two	sedan
	165	1	168	toyota	gas	std	two	hatchback
	166	1	168	toyota	gas	std	two	sedan
	167	1	168	toyota	gas	std	two	hatchback
##	168	2	134	toyota	gas	std	two	hardtop
##	169	2	134	toyota	gas	std	two	hardtop
##	170	2	134	toyota	gas	std	two	hatchback
##	171	2	134	toyota	gas	std	two	hardtop
##	172	2	134	toyota	gas	std		hatchback
##	173	2	134	toyota	gas	std	two	convertible
##	174	-1	65	toyota	gas	std	four	sedan
##	175	-1	65	toyota	diesel	turbo	four	sedan
##	176	-1	65	toyota	gas	std		hatchback
##	177	-1	65	toyota	gas	std	four	sedan
##	178	-1	65	toyota	gas	std	four	hatchback
##	179	3	197	toyota	gas	std	two	hatchback
##	180	3	197	toyota	gas	std	two	hatchback
##	181	-1	90	toyota	gas	std	four	sedan

##	182	-1	NA	toyota	ma c		std	four	112 00
##	183	2	122	volkswagen	gas diesel		std	two	wagon sedan
##	184	2	122	volkswagen	gas		std	two	sedan
##	185	2	94	volkswagen	diesel		std	four	sedan
##	186	2	94	volkswagen	gas		std	four	sedan
##	187	2	94	volkswagen	gas		std		sedan
##	188	2	94	volkswagen	diesel	tu	rbo	four four	sedan
##	189	2	94	volkswagen	gas		std	four	sedan
##	190	3	NA	volkswagen	gas		std		onvertible
##	191	3	256	volkswagen	gas		std	two	hatchback
##	192	0	NA	volkswagen	gas		std	four	sedan
##	193	0	NA	volkswagen	diesel	tu	rbo	four	sedan
##	194	0	NA	volkswagen	gas		std	four	wagon
##	195	-2	103	volvo	gas		std	four	sedan
##	196	-1	74	volvo	gas		std	four	wagon
##	197	-2	103	volvo	gas		std	four	sedan
##	198	-1	74	volvo	gas		std	four	wagon
##	199	-2	103	volvo	gas	tu	rbo	four	sedan
##	200	-1	74	volvo	gas	tu	rbo	four	wagon
##	201	-1	95	volvo	gas		std	four	sedan
##	202	-1	95	volvo	gas	tu	rbo	four	sedan
##	203	-1	95	volvo	gas		std	four	sedan
##	204	-1	95	volvo	diesel	tu	rbo	four	sedan
##	205	-1	95	volvo	gas	tu	rbo	four	sedan
##		drive	Wheels engi	ineLocation wh	neelBase	length	width	height	curbWeight
##	1		rwd	front	88.6	168.8	64.1	48.8	2548
##	2		rwd	front	88.6	168.8	64.1	48.8	2548
##	3		rwd	front	94.5	171.2	65.5	52.4	2823
##	4		fwd	front	99.8	176.6	66.2	54.3	2337
##	5		4wd	front	99.4	176.6	66.4	54.3	2824
##	6		fwd	front	99.8	177.3	66.3	53.1	2507
##	7		fwd	front	105.8	192.7	71.4	55.7	2844
##	8		fwd	front	105.8	192.7	71.4	55.7	2954
##	9		fwd	front	105.8	192.7	71.4	55.9	3086
##	10		4wd	front	99.5	178.2	67.9	52.0	3053
##	11		rwd	front	101.2	176.8	64.8	54.3	2395
##	12		rwd	front	101.2	176.8	64.8	54.3	2395
##			rwd	front	101.2		64.8	54.3	2710
##			rwd	front	101.2		64.8		2765
##			rwd	front	103.5		66.9		3055
	16		rwd	front	103.5		66.9		3230
	17		rwd	front	103.5		67.9		3380
	18		rwd	front	110.0		70.9		3505
	19		fwd	front	88.4		60.3		1488
##			fwd	front	94.5		63.6	52.0	1874
	21		fwd	front	94.5		63.6	52.0	1909
	22		fwd	front	93.7		63.8		1876
##			fwd	front	93.7		63.8		1876
##			fwd	front	93.7		63.8		2128
##			fwd	front	93.7		63.8		1967
##			fwd	front	93.7		63.8		1989
##			fwd	front	93.7		63.8		1989
##			fwd	front	93.7		63.8		2191
##	29		fwd	front	103.3	174.6	64.6	59.8	2535

##	30	fwd	front	95.9	173.2	66.3	50.2	2811
##	31	fwd	front	86.6	144.6	63.9	50.8	1713
##	32	fwd	front	86.6	144.6	63.9	50.8	1819
##	33	fwd	front	93.7	150.0	64.0	52.6	1837
##	34	fwd	front	93.7	150.0	64.0	52.6	1940
##	35	fwd	front	93.7	150.0	64.0	52.6	1956
##	36	fwd	front	96.5	163.4	64.0	54.5	2010
##	37	fwd	front	96.5	157.1	63.9	58.3	2024
##	38	fwd	front	96.5	167.5	65.2	53.3	2236
##	39	fwd	front	96.5	167.5	65.2	53.3	2289
##	40	fwd	front	96.5	175.4	65.2	54.1	2304
	41	fwd	front	96.5	175.4	62.5	54.1	2372
##	42	fwd	front	96.5	175.4	65.2	54.1	2465
##	43	fwd	front	96.5	169.1	66.0	51.0	2293
	44	rwd	front	94.3	170.7	61.8	53.5	2337
##		fwd	front	94.5	155.9	63.6	52.0	1874
	46	fwd	front	94.5	155.9	63.6	52.0	1909
	47	rwd	front	96.0	172.6	65.2	51.4	2734
	48	rwd	front	113.0	199.6	69.6	52.8	4066
##		rwd	front	113.0	199.6	69.6	52.8	4066
##		rwd	front	102.0	191.7	70.6	47.8	3950
##		fwd	front	93.1	159.1	64.2	54.1	1890
	52	fwd	front	93.1	159.1	64.2	54.1	1900
	53	fwd	front	93.1	159.1	64.2	54.1	1905
	54	fwd	front	93.1	166.8	64.2	54.1	1945
## ##	56	fwd	front	93.1	166.8 169.0	64.2	54.1	1950
##	57	rwd	front	95.3	169.0	65.7	49.6	2380
##	58	rwd	front	95.3	169.0	65.7	49.6	2380
##	59	rwd rwd	front front	95.3 95.3	169.0	65.7 65.7	49.6 49.6	2385 2500
##	60	fwd	front	98.8	177.8	66.5	53.7	2385
##	61	fwd	front	98.8	177.8	66.5	55.5	2410
##	62	fwd	front	98.8	177.8	66.5	53.7	2385
##	63	fwd	front	98.8	177.8	66.5	55.5	2410
	64	fwd	front	98.8	177.8	66.5	55.5	2443
##	65	fwd	front	98.8	177.8	66.5	55.5	2425
##		rwd	front	104.9	175.0	66.1	54.4	2670
	67	rwd	front	104.9	175.0	66.1	54.4	2700
	68	rwd	front	110.0	190.9	70.3	56.5	3515
##	69	rwd	front	110.0	190.9	70.3	58.7	3750
##	70	rwd	front	106.7	187.5	70.3	54.9	3495
##	71	rwd	front	115.6	202.6	71.7	56.3	3770
##	72	rwd	front	115.6	202.6	71.7	56.5	3740
##	73	rwd	front	96.6	180.3	70.5	50.8	3685
##	74	rwd	front	120.9	208.1	71.7	56.7	3900
##	75	rwd	front	112.0	199.2	72.0	55.4	3715
##	76	rwd	front	102.7	178.4	68.0	54.8	2910
##	77	fwd	front	93.7	157.3	64.4	50.8	1918
##	78	fwd	front	93.7	157.3	64.4	50.8	1944
##	79	fwd	front	93.7	157.3	64.4	50.8	2004
	80	fwd	front	93.0	157.3	63.8	50.8	2145
	81	fwd	front	96.3	173.0	65.4	49.4	2370
	82	fwd	front	96.3	173.0	65.4	49.4	2328
##	83	fwd	front	95.9	173.2	66.3	50.2	2833

##	84	fwd	front	95.9	173.2	66.3	50.2	2921
##	85	fwd	front	95.9	173.2	66.3	50.2	2926
##	86	fwd	front	96.3	172.4	65.4	51.6	2365
##	87	fwd	front	96.3	172.4	65.4	51.6	2405
##		fwd	front	96.3	172.4	65.4	51.6	2403
##	89	fwd	front	96.3	172.4	65.4	51.6	2403
##	90	fwd	front	94.5	165.3	63.8	54.5	1889
##	91	fwd	front	94.5	165.3	63.8	54.5	2017
##	92	fwd	front	94.5	165.3	63.8	54.5	1918
	93	fwd	front	94.5	165.3	63.8	54.5	1938
##	94	fwd	front	94.5	170.2	63.8	53.5	2024
	95	fwd	front	94.5	165.3	63.8	54.5	1951
	96	fwd	front	94.5	165.6	63.8	53.3	2028
	97	fwd	front	94.5	165.3	63.8	54.5	1971
	98	fwd	front	94.5	170.2	63.8	53.5	2037
	99	fwd	front	95.1	162.4	63.8	53.3	2008
	100	fwd	front	97.2	173.4	65.2	54.7	2324
	101	fwd	front	97.2	173.4	65.2	54.7	2302
	102	fwd	front	100.4	181.7	66.5	55.1	3095
	103	fwd	front	100.4	184.6	66.5	56.1	3296
	104	fwd	front	100.4	184.6	66.5	55.1	3060
	105	rwd	front	91.3	170.7	67.9	49.7	3071
	106	rwd	front	91.3	170.7	67.9	49.7	3139
	107	rwd	front	99.2	178.5	67.9	49.7	3139
	108	rwd	front	107.9	186.7	68.4	56.7	3020
	109 110	rwd	front front	107.9 114.2	186.7 198.9	68.4 68.4	56.7 58.7	3197 3230
	111	rwd rwd	front	114.2	198.9	68.4	58.7	3430
	112	rwd	front	107.9	186.7	68.4	56.7	3075
	113	rwd	front	107.9	186.7	68.4	56.7	3252
	114	rwd	front	114.2	198.9	68.4	56.7	3285
	115	rwd	front	114.2	198.9	68.4	58.7	3485
	116	rwd	front	107.9	186.7	68.4	56.7	3075
	117	rwd	front	107.9	186.7	68.4	56.7	3252
	118	rwd	front	108.0	186.7	68.3	56.0	3130
	119	fwd	front	93.7	157.3	63.8	50.8	1918
##	120	fwd	front	93.7	157.3	63.8	50.8	2128
##	121	fwd	front	93.7	157.3	63.8	50.6	1967
	122	fwd	front	93.7	167.3	63.8	50.8	1989
	123	fwd	front	93.7	167.3	63.8	50.8	2191
##	124	fwd	front	103.3	174.6	64.6	59.8	2535
##	125	rwd	front	95.9	173.2	66.3	50.2	2818
##	126	rwd	front	94.5	168.9	68.3	50.2	2778
##	127	rwd	rear	89.5	168.9	65.0	51.6	2756
##	128	rwd	rear	89.5	168.9	65.0	51.6	2756
##	129	rwd	rear	89.5	168.9	65.0	51.6	2800
##	130	rwd	front	98.4	175.7	72.3	50.5	3366
##	131	fwd	front	96.1	181.5	66.5	55.2	2579
	132	fwd	front	96.1	176.8	66.6	50.5	2460
	133	fwd	front	99.1	186.6	66.5	56.1	2658
	134	fwd	front	99.1	186.6	66.5	56.1	2695
	135	fwd	front	99.1	186.6	66.5	56.1	2707
	136	fwd	front	99.1	186.6	66.5	56.1	2758
##	137	fwd	front	99.1	186.6	66.5	56.1	2808

##	138	fwd	front	99.1	186.6	66.5	56.1	2847
##	139	fwd	front	93.7	156.9	63.4	53.7	2050
##	140	fwd	front	93.7	157.9	63.6	53.7	2120
##	141	4wd	front	93.3	157.3	63.8	55.7	2240
##	142	fwd	front	97.2	172.0	65.4	52.5	2145
##	143	fwd	front	97.2	172.0	65.4	52.5	2190
##	144	fwd	front	97.2	172.0	65.4	52.5	2340
##	145	4wd	front	97.0	172.0	65.4	54.3	2385
##	146	4wd	front	97.0	172.0	65.4	54.3	2510
##	147	fwd	front	97.0	173.5	65.4	53.0	2290
##	148	fwd	front	97.0	173.5	65.4	53.0	2455
##	149	4wd	front	96.9	173.6	65.4	54.9	2420
##	150	4wd	front	96.9	173.6	65.4	54.9	2650
##	151	fwd	front	95.7	158.7	63.6	54.5	1985
##	152	fwd	front	95.7	158.7	63.6	54.5	2040
##	153	fwd	front	95.7	158.7	63.6	54.5	2015
##	154	fwd	front	95.7	169.7	63.6	59.1	2280
##	155	4wd	front	95.7	169.7	63.6	59.1	2290
##	156	4wd	front	95.7	169.7	63.6	59.1	3110
##	157	fwd	front	95.7	166.3	64.4	53.0	2081
##	158	fwd	front	95.7	166.3	64.4	52.8	2109
##	159	fwd	front	95.7	166.3	64.4	53.0	2275
##	160	fwd	front	95.7	166.3	64.4	52.8	2275
##	161	fwd	front	95.7	166.3	64.4	53.0	2094
##	162	fwd	front	95.7	166.3	64.4	52.8	2122
##	163	fwd	front	95.7	166.3	64.4	52.8	2140
##	164	rwd	front	94.5	168.7	64.0	52.6	2169
##	165	rwd	front	94.5	168.7	64.0	52.6	2204
##	166	rwd	front	94.5	168.7	64.0	52.6	2265
##	167	rwd	front	94.5	168.7	64.0	52.6	2300
##	168	rwd	front	98.4	176.2	65.6	52.0	2540
##	169	rwd	front	98.4	176.2	65.6	52.0	2536
##	170	rwd	front	98.4	176.2	65.6	52.0	2551
##	171	rwd	front	98.4	176.2	65.6	52.0	2679
##	172	rwd	front	98.4	176.2	65.6	52.0	2714
##	173	rwd	front	98.4	176.2	65.6	53.0	2975
##	174	fwd	front	102.4	175.6	66.5	54.9	2326
##	175	fwd	front	102.4	175.6	66.5	54.9	2480
##	176	fwd	front	102.4	175.6	66.5	53.9	2414
##	177	fwd	front	102.4	175.6	66.5	54.9	2414
##	178	fwd	front	102.4	175.6	66.5	53.9	2458
##	179	rwd	front	102.9	183.5	67.7	52.0	2976
##	180	rwd	front	102.9	183.5	67.7	52.0	3016
	181	rwd	front	104.5	187.8	66.5	54.1	3131
	182	rwd	front	104.5	187.8	66.5	54.1	3151
	183	fwd	front	97.3	171.7	65.5	55.7	2261
	184	fwd	front	97.3	171.7	65.5	55.7	2209
	185	fwd	front	97.3	171.7	65.5	55.7	2264
	186	fwd	front	97.3	171.7	65.5	55.7	2212
	187	fwd	front	97.3	171.7	65.5	55.7	2275
	188	fwd	front	97.3	171.7	65.5	55.7	2319
	189	fwd	front	97.3	171.7	65.5	55.7	2300
	190	fwd	front	94.5	159.3	64.2	55.6	2254
	191	fwd	front	94.5	165.7	64.0	51.4	2221

##	192	fwd	l	front	100.4	180.2	2 66.	9 55	.1 2661
	193	fwd		front	100.4	180.2			
##	194	fwd	l	front	100.4	183.1			
##	195	rwd	l	front	104.3	188.8			
	196	rwd	l	front	104.3	188.8			.5 3034
	197	rwd	l	front	104.3	188.8			
##	198	rwd	l	front	104.3	188.8	3 67.	2 57	.5 3042
##	199	rwd	l	front	104.3	188.8	3 67.	2 56	.2 3045
##	200	rwd	l	front	104.3	188.8	3 67.	2 57	.5 3157
##	201	rwd	l	front	109.1	188.8	8 68.	9 55	.5 2952
##	202	rwd	l	front	109.1	188.8	8 68.	8 55	.5 3049
##	203	rwd	l	front	109.1	188.8	8 68.	9 55	.5 3012
##	204	rwd	l	front	109.1	188.8	8 68.	9 55	.5 3217
##	205	rwd	l	front	109.1	188.8	8 68.	9 55	.5 3062
##		engineType	$\operatorname{nrCylinds}$	engineSize	fuelS	ystem	bore	stroke	${\tt compressionRatio}$
##	1	dohc	four	130	)	mpfi	3.47	2.68	9.00
##	2	dohc	four	130	)	mpfi	3.47	2.68	9.00
##	3	ohcv	six	152		-	2.68	3.47	9.00
##		ohc	four	109		-	3.19	3.40	10.00
##		ohc	five	136		-	3.19	3.40	8.00
##		ohc	five	136		-	3.19	3.40	8.50
##		ohc	five	136		-	3.19	3.40	8.50
##		ohc	five	136		-	3.19	3.40	8.50
##		ohc	five	131		-	3.13	3.40	8.30
##		ohc	five	131		-	3.13	3.40	7.00
	11	ohc	four	108		-	3.50	2.80	8.80
	12	ohc	four	108		-	3.50	2.80	8.80
	13	ohc	six	164		-	3.31	3.19	9.00
	14 15	ohc ohc	six six	164 164		-	3.31	3.19 3.19	9.00 9.00
	16	ohc	six	209		-	3.62	3.19	8.00
	17	ohc	six	203		-	3.62	3.39	8.00
##	18	ohc	six	209		-	3.62	3.39	8.00
	19	1	three	61		-	2.91	3.03	9.50
	20	ohc	four	90			3.03	3.11	9.60
	21	ohc	four	90			3.03	3.11	9.60
	22	ohc	four	90			2.97	3.23	9.41
##		ohc	four	90			2.97	3.23	9.40
	24	ohc	four	98			3.03	3.39	7.60
	25	ohc	four	90		_	2.97	3.23	9.40
##	26	ohc	four	90	)		2.97	3.23	9.40
##	27	ohc	four	90	)	2bbl	2.97	3.23	9.40
##	28	ohc	four	98	3	mpfi	3.03	3.39	7.60
##	29	ohc	four	122	2	2bbl	3.34	3.46	8.50
##	30	ohc	four	156	3	mfi	3.60	3.90	7.00
##	31	ohc	four	92	2	1bbl	2.91	3.41	9.60
##	32	ohc	four	92	2		2.91	3.41	9.20
	33	ohc	four	79			2.91	3.07	10.10
	34	ohc	four	92			2.91	3.41	9.20
	35	ohc	four	92			2.91	3.41	9.20
	36	ohc	four	92			2.91	3.41	9.20
	37	ohc	four	92			2.92	3.41	9.20
	38	ohc	four	110			3.15	3.58	9.00
##	39	ohc	four	110	)	1bbl	3.15	3.58	9.00

##		ohc	four	110	1bbl		3.58	9.00
##		ohc	four	110	1bbl		3.58	9.00
##		ohc	four	110	mpfi		3.58	9.00
##		ohc	four	110	2bbl		3.58	9.10
##		ohc	four	111	2bbl		3.23	8.50
##		ohc	four	90	2bbl		3.11	9.60
##		ohc	four	90	2bbl		3.11	9.60
##		ohc	four	119	spfi		3.23	9.20
##		dohc	six	258	mpfi		4.17	8.10
##		dohc	six	258	mpfi		4.17	8.10
	50	ohcv	twelve	326	mpfi		2.76	11.50
	51	ohc	four	91	2bbl		3.15	9.00
	52	ohc	four	91	2bbl		3.15	9.00
	53	ohc	four	91	2bbl		3.15	9.00
	54	ohc	four	91	2bbl		3.15	9.00
	55	ohc	four	91	2bbl		3.15	9.00
	56	rotor	two	70	4bbl	NA	NA	9.40
	57	rotor	two	70	4bbl	NA	NA	9.40
##		rotor	two	70	4bbl	NA	NA	9.40
	59	rotor	two	80	mpfi	NA	NA	9.40
##		ohc	four	122	2bbl		3.39	8.60
##		ohc	four	122	2bbl		3.39	8.60
##		ohc	four	122	2bbl		3.39	8.60
##		ohc	four	122	2bbl		3.39	8.60
##		ohc	four	122		3.39	3.39	22.70
##		ohc	four	122	2bbl		3.39	8.60
	66	ohc	four	140	mpfi		3.16	8.00
	67	ohc	four	134		3.43	3.64	22.00
	68	ohc	five	183		3.58	3.64	21.50
	69	ohc	five	183		3.58	3.64	21.50
	70	ohc	five	183		3.58	3.64	21.50
	71	ohc	five	183		3.58	3.64	21.50
	72	ohcv	eight	234	mpfi		3.10	8.30
	73	ohcv	eight	234	mpfi		3.10	8.30
	74	ohcv	eight	308	mpfi		3.35	8.00
	75 70	ohcv	eight	304	mpfi		3.35	8.00
##		ohc	four	140	mpfi		3.12	8.00
##		ohc	four	92	2bb1		3.23	9.40
##		ohc	four	92	2bbl		3.23	9.40
	79	ohc	four	92	2bb1		3.23	9.40
##		ohc	four	98	spdi		3.39	7.60
##		ohc	four	110	spdi		3.46	7.50
##		ohc	four	122	2bb1		3.46	8.50
##		ohc	four	156	spdi		3.86	7.00
##		ohc	four	156	spdi		3.86	7.00
##		ohc	four	156	spdi		3.86	7.00
##		ohc	four	122	2bbl		3.46	8.50
##		ohc	four	122	2bbl		3.46	8.50
	88	ohc	four	110	spdi		3.46	7.50
	89	ohc	four	110	spdi		3.46	7.50
##		ohc	four	97 103	2bbl		3.29	9.40
##		ohc	four	103		2.99	3.47	21.90
##		ohc	four	97	2bbl		3.29	9.40
##	93	ohc	four	97	2bbl	3.15	3.29	9.40

##	94	ohc	four	97	2bbl	3.15	3.29	9.40
	95	ohc	four	97	2bb1		3.29	9.40
##	96	ohc	four	97	2bb1 3		3.29	9.40
##	97	ohc	four	97	2bbl 3		3.29	9.40
##	98	ohc	four	97	2bbl 3		3.29	9.40
##	99	ohc	four	97	2bbl 3	3.15	3.29	9.40
##	100	ohc	four	120	2bbl	3.33	3.47	8.50
##	101	ohc	four	120	2bbl	3.33	3.47	8.50
##	102	ohcv	six	181	mpfi :	3.43	3.27	9.00
##	103	ohcv	six	181	mpfi	3.43	3.27	9.00
##	104	ohcv	six	181	mpfi	3.43	3.27	9.00
##	105	ohcv	six	181	mpfi	3.43	3.27	9.00
##	106	ohcv	six	181	mpfi :	3.43	3.27	7.80
##	107	ohcv	six	181	mpfi :	3.43	3.27	9.00
##	108	1	four	120	mpfi :	3.46	3.19	8.40
##	109	1	four	152	idi :	3.70	3.52	21.00
##	110	1	four	120	mpfi :	3.46	3.19	8.40
	111	1	four	152	idi :	3.70	3.52	21.00
	112	1	four	120	mpfi	3.46	2.19	8.40
##	113	1	four	152	idi :		3.52	21.00
	114	1	four	120	mpfi :	3.46	2.19	8.40
	115	1	four	152	idi :		3.52	21.00
	116	1	four	120	mpfi :		3.19	8.40
	117	1	four	152	idi :		3.52	21.00
	118	1	four	134	mpfi :		3.21	7.00
	119	ohc	four	90	2bbl :		3.23	9.40
	120	ohc	four	98	spdi :		3.39	7.60
	121	ohc	four	90	2bb1 :		3.23	9.40
	122	ohc	four	90	2bb1 :		3.23	9.40
	123	ohc	four	98	2bb1 :		3.23	9.40
	124	ohc	four	122	2bbl		3.46	8.50
	125	ohc	four	156	spdi		3.86	7.00
	126	ohc	four	151	mpfi :		3.11	9.50
	127	ohcf	six	194	mpfi :		2.90	9.50
	128 129	ohcf ohcf	six six	194 194	mpfi :		2.90 2.90	9.50 9.50
	130	dohcv		203	mpfi : mpfi :			10.00
	131		eight	132	mpri :		3.11 3.90	8.70
	132	ohc ohc	four four	132	mpri :		3.90	8.70
	133	ohc	four	121	mpfi		3.07	9.31
	134	ohc	four	121	mpfi		3.07	9.30
	135	ohc	four	121	mpfi :		2.07	9.30
	136	ohc	four	121	mpfi		3.07	9.30
	137	dohc	four	121	mpfi		3.07	9.00
	138	dohc	four	121	mpfi :		3.07	9.00
	139	ohcf	four	97	2bb1 :		2.36	9.00
	140	ohcf	four	108	2bb1		2.64	8.70
	141	ohcf	four	108	2bb1		2.64	8.70
	142	ohcf	four	108	2bbl		2.64	9.50
	143	ohcf	four	108	2bb1		2.64	9.50
	144	ohcf	four	108	mpfi		2.64	9.00
	145	ohcf	four	108	2bbl		2.64	9.00
##	146	ohcf	four	108	mpfi		2.64	7.70
##	147	ohcf	four	108	2bbl	3.62	2.64	9.00

##	148	ohcf	four	108	mpfi	3 62	2.64	9.00
	149	ohcf	four	108	mpri 2bbl		2.64	9.00
		ohcf	four	108				
	150				mpfi		2.64	7.70
	151	ohc	four	92	2bbl		3.03	9.00
	152	ohc	four	92	2bb1		3.03	9.00
	153	ohc	four	92	2bb1		3.03	9.00
	154	ohc	four	92	2bbl		3.03	9.00
	155	ohc	four	92	2bbl		3.03	9.00
	156	ohc	four	92	2bbl		3.03	9.00
##	157	ohc	four	98	2bbl		3.03	9.00
##	158	ohc	four	98	2bb1		3.03	9.00
##	159	ohc	four	110		3.27	3.35	22.50
	160	ohc	four	110		3.27	3.35	22.50
	161	ohc	four	98	2bbl		3.03	9.00
	162	ohc	four	98	2bbl		3.03	9.00
	163	ohc	four	98	2bb1		3.03	9.00
	164	ohc	four	98	2bbl	3.19	3.03	9.00
	165	ohc	four	98	2bbl		3.03	9.00
##	166	dohc	four	98	mpfi		3.08	9.40
##	167	dohc	four	98	mpfi		3.08	9.40
##	168	ohc	four	146	mpfi		3.50	9.30
##	169	ohc	four	146	mpfi		3.50	9.30
##	170	ohc	four	146	mpfi	3.62	3.50	9.30
##	171	ohc	four	146	mpfi	3.62	3.50	9.30
##	172	ohc	four	146	mpfi	3.62	3.50	9.30
##	173	ohc	four	146	mpfi	3.62	3.50	9.30
##	174	ohc	four	122	mpfi	3.31	3.54	8.70
##	175	ohc	four	110	idi	3.27	3.35	22.50
##	176	ohc	four	122	mpfi	3.31	3.54	8.70
##	177	ohc	four	122	mpfi	3.31	3.54	8.70
##	178	ohc	four	122	mpfi	3.31	3.54	8.70
##	179	dohc	six	171	mpfi	3.27	3.35	9.30
##	180	dohc	six	171	mpfi	3.27	3.35	9.30
##	181	dohc	six	171	mpfi	3.27	3.35	9.20
##	182	dohc	six	161	mpfi	3.27	3.35	9.20
##	183	ohc	four	97	idi	3.01	3.40	23.00
##	184	ohc	four	109	mpfi	3.19	3.40	9.00
##	185	ohc	four	97	idi	3.01	3.40	23.00
##	186	ohc	four	109	mpfi	3.19	3.40	9.00
##	187	ohc	four	109	mpfi	3.19	3.40	9.00
##	188	ohc	four	97	idi	3.01	3.40	23.00
##	189	ohc	four	109	mpfi	3.19	3.40	10.00
##	190	ohc	four	109	mpfi		3.40	8.50
##	191	ohc	four	109	mpfi		3.40	8.50
##	192	ohc	five	136	mpfi		3.40	8.50
##	193	ohc	four	97	_	3.01	3.40	23.00
	194	ohc	four	109	mpfi		3.40	9.00
	195	ohc	four	141	mpfi		3.15	9.50
	196	ohc	four	141	mpfi		3.15	9.50
	197	ohc	four	141	mpfi		3.15	9.50
	198	ohc	four	141	mpfi		3.15	9.50
	199	ohc	four	130	mpfi		3.15	7.50
	200	ohc	four	130	mpfi		3.15	7.50
	201	ohc	four	141	mpfi		3.15	9.50
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	202	ohc	fou		141	mpfi 3.		
	203	ohcv		ix	173	mpfi 3.		
	204	ohc		ix	145	idi 3.		
	205	ohc	fou		141	mpfi 3.	78 3.1	5 9.50
##	4				highwayMpg			
##		111	5000	21		13495		
##		111	5000	21		16500		
##		154	5000	19		16500		
## ##		102 115	5500 5500	24 18		13950 17450		
	6	110	5500	19		15250		
	7	110	5500	19		17710		
	8	110	5500	19		18920		
	9	140	5500	17		23875		
	10	160	5500	16	22	NA		
##	11	101	5800	23		16430		
##	12	101	5800	23		16925		
	13	121	4250	21		20970		
##		121	4250	21		21105		
##		121	4250	20		24565		
##		182	5400	16		30760		
##		182	5400	16		41315		
##		182	5400	15		36880		
##		48	5100	47	53	5151		
##		70	5400	38	43	6295		
##		70	5400	38	43	6575		
##	22	68	5500	37	41	5572		
##	23	68	5500	31	38	6377		
##	24	102	5500	24	30	7957		
##	25	68	5500	31	38	6229		
##	26	68	5500	31	38	6692		
##	27	68	5500	31	38	7609		
##	28	102	5500	24	30	8558		
##		88	5000	24	30	8921		
##		145	5000	19		12964		
	31	58	4800	49	54	6479		
##		76	6000	31	38	6855		
##		60	5500	38	42	5399		
##		76	6000	30	34	6529		
##		76	6000	30	34	7129		
##		76	6000	30	34	7295		
##		76	6000	30	34	7295		
##		86	5800	27	33	7895		
##		86	5800	27	33	9095		
##		86	5800	27	33	8845		
##		86	5800	27		10295		
	42	101	5800	24		12945		
	43 44	100	5500	25		10345		
	44 45	78 70	4800	24	29	6785 NA		
	45 46	70 70	5400	38	43	NA NA		
##		70 90	5400 5000	38 24	43	NA 11048		
##		176	4750	24 15		32250		
##		176	4750	15		35550		
##	43	110	4/50	13	19	55550		

##	50	262	5000	13	17	36000
##	51	68	5000	30	31	5195
##	52	68	5000	31	38	6095
##	53	68	5000	31	38	6795
##	54	68	5000	31	38	6695
##	55	68	5000	31	38	7395
##	56	101	6000	17	23	10945
##	57	101	6000	17	23	11845
##	58	101	6000	17	23	13645
##	59	135	6000	16	23	15645
##	60	84	4800	26	32	8845
##	61	84	4800	26	32	8495
##	62	84	4800	26	32	10595
##	63	84	4800	26	32	10245
##	64	64	4650	36	42	10795
##	65	84	4800	26	32	11245
##	66	120	5000	19	27	18280
##	67	72	4200	31	39	18344
##	68	123	4350	22	25	25552
##	69	123	4350	22	25	28248
##	70	123	4350	22	25	28176
##	71	123	4350	22	25	31600
##	72	155	4750	16	18	34184
##	73	155	4750	16	18	35056
##	74	184	4500	14	16	40960
##	75	184	4500	14	16	45400
##	76	175	5000	19	24	16503
##	77	68	5500	37	41	5389
##	78	68	5500	31	38	6189
##	79	68	5500	31	38	6669
##	80	102	5500	24	30	7689
##	81	116	5500	23	30	9959
##	82	88	5000	25	32	8499
##	83	145	5000	19	24	12629
##	84	145	5000	19	24	14869
##	85	145	5000	19	24	14489
	86	88	5000	25	32	6989
##	87	88	5000	25	32	8189
##	88	116	5500	23	30	9279
##	89	116	5500	23	30	9279
##	90	69	5200	31	37	5499
##	91	55	4800	45	50	7099
##	92	69	5200	31	37	6649
##	93	69	5200	31	37	6849
##	94	69	5200	31	37	7349
##	95	69	5200	31	37	7299
##	96	69	5200	31	37	7799
##	97	69	5200	31	37	7499
##	98	69	5200	31	37	7999
##	99	69	5200	31	37	8249
##	100	97	5200	27	34	8949
##	101	97	5200	27	34	9549
##	102	152	5200	17	22	13499
##	103	152	5200	17	22	14399
	-			- 7	- <b>-</b>	

##	104	152	5200	19	25	13499
##	105	160	5200	19	25	17199
##	106	200	5200	17	23	19699
##	107	160	5200	19	25	18399
##	108	97	5000	19	24	11900
##	109	95	4150	28	33	13200
##	110	97	5000	19	24	12440
##	111	95	4150	25	25	13860
##	112	95	5000	19	24	15580
##	113	95 95	4150	28	33	16900
##	114	95	5000	19	24	16695
##	115	95	4150	25	25	17075
##	116	97	5000	19	24	16630
##	117	95	4150	28	33	17950
##	118	142	5600	18	24	18150
##	119	68	5500	37	41	5572
##	120	102	5500	24	30	7957
##	121	68	5500	31	38	6229
##	122	68	5500	31	38	6692
##	123	68	5500	31	38	7609
##	124	88	5000	24	30	8921
##	125	145	5000	19	24	12764
##	126	143	5500	19	27	22018
##	127	207	5900	17	25	32528
##				17		
	128	207	5900		25	34028
##	129	207	5900	17	25	37028
##	130	288	5750	17	28	NA
##	131	NA	NA	23	31	9295
##	132	NA	NA	23	31	9895
##	133	110	5250	21	28	11850
##	134	110	5250	21	28	12170
##	135	110	5250	21	28	15040
##	136	110	5250	21	28	15510
##	137	160	5500	19	26	18150
##	138	160	5500	19	26	18620
##	139	69	4900	31	36	5118
##	140	73	4400	26	31	7053
##	141	73	4400	26	31	7603
##	142	82	4800	32	37	7126
##	143	82	4400	28	33	7775
##	144				32	
		94	5200	26		9960
##	145	82	4800	24	25	9233
##	146	111	4800	24	29	11259
##	147	82	4800	28	32	7463
##	148	94	5200	25	31	10198
##	149	82	4800	23	29	8013
##	150	111	4800	23	23	11694
##	151	62	4800	35	39	5348
##	152	62	4800	31	38	6338
##	153	62	4800	31	38	6488
##	154	62	4800	31	37	6918
##	155	62	4800	27	32	7898
##	156	62	4800	27	32	8778
##	157	70	4800	30	37	6938

##	158	70	4800	30	37	7198
##	159	56	4500	34	36	7898
##	160	56	4500	38	47	7788
##	161	70	4800	38	47	7738
##	162	70	4800	28	34	8358
##	163	70	4800	28	34	9258
##	164	70	4800	29	34	8058
##	165	70	4800	29	34	8238
##	166	112	6600	26	29	9298
##	167	112	6600	26	29	9538
##	168	116	4800	24	30	8449
##	169	116	4800	24	30	9639
##	170	116	4800	24	30	9989
##	171	116	4800	24	30	11199
##	172	116	4800	24	30	11549
##	173	116	4800	24	30	17669
##	174	92	4200	29	34	8948
##	175	73	4500	30	33	10698
##	176	92	4200	27	32	9988
##	177	92	4200	27	32	10898
##	178	92	4200	27	32	11248
##	179	161	5200	20	24	16558
##	180	161	5200	19	24	15998
##	181	156	5200	20	24	15690
##	182	156	5200	19	24	15750
##	183	52	4800	37	46	7775
##	184	85	5250	27	34	7975
##	185	52	4800	37	46	7995
##	186	85	5250	27	34	8195
##	187	85	5250	27	34	8495
##	188	68	4500	37	42	9495
##	189	100	5500	26	32	9995
##	190	90	5500	24	29	11595
##	191	90	5500	24	29	9980
##	192	110	5500	19	24	13295
##	193	68	4500	33	38	13845
##	194	88	5500	25	31	12290
##	195	114	5400	23	28	12940
##	196	114	5400	23	28	13415
##	197	114	5400	24	28	15985
##	198	114	5400	24	28	16515
##	199	162	5100	17	22	18420
##	200	162	5100	17	22	18950
##	201	114	5400	23	28	16845
##	202	160	5300	19	25	19045
##	203	134	5500	18	23	21485
##	204	106	4800	26	27	22470
##	205	114	5400	19	25	22625
		111	0 100	10	20	

h) Combinar las tres últimas imputaciones para obtener un conjunto de datos definitivo.

```
# Convertir el objeto en un dataframe
df <- as.data.frame(carIns)</pre>
```

```
# Imputar la media en las columnas de tipo double
dataH <- df %>%
  mutate_if(is.double, ~ ifelse(is.na(.), mean(., na.rm = TRUE), .))
# Función para calcular la moda
calculate_mode <- function(x) {</pre>
  mod <- as.data.frame(table(x))</pre>
 mod <- mod[which.max(mod$Freq), 1]</pre>
 return(mod)
# Calcula la Moda de las columnas numericas de un dataframe y reemplaza los valores NA por la moda corr
dfH <- df %>%
  mutate(across(where(is.numeric), ~ ifelse(is.na(.), calculate_mode(.), .)))
# Calcula la moda de la columna "nDoors"
modaNdoors <- calculate_mode(dfH$nDoors)</pre>
\# Reemplaza los valores NA de la columna nDoors con la moda calculada
dfH <- dfH %>%
  mutate(nDoors = replace_na(nDoors, modaNdoors))
# Imprimir el nuevo dataframe imputado
print(dfH)
```

##		aımb	normLoss	malzo	fuolTypo	aspiration	nDoorg	bodyStyle
##	1	3 Symb	42	alfa-romero		std		convertible
##	2	3	42	alfa-romero	gas	std		convertible
##	3	1	42		gas			
		_		alfa-romero	gas	std	two	hatchback
##	4	2	164	audi	gas	std	four	sedan
##	5	2	164	audi	gas	std	four	sedan
##	6	2	42	audi	gas	std	two	sedan
##	7	1	158	audi	gas	std	four	sedan
##	8	1	42	audi	gas	std	four	wagon
##	9	1	158	audi	gas	turbo	four	sedan
##	10	0	42	audi	gas	turbo	two	hatchback
##	11	2	192	bmw	gas	std	two	sedan
##	12	0	192	bmw	gas	std	four	sedan
##	13	0	188	bmw	gas	std	two	sedan
##	14	0	188	bmw	gas	std	four	sedan
##	15	1	42	bmw	gas	std	four	sedan
##	16	0	42	bmw	gas	std	four	sedan
##	17	0	42	bmw	gas	std	two	sedan
##	18	0	42	bmw	gas	std	four	sedan
##	19	2	121	chevrolet	gas	std	two	hatchback
##	20	1	98	chevrolet	gas	std	two	hatchback
##	21	0	81	chevrolet	gas	std	four	sedan
##	22	1	118	dodge	gas	std	two	hatchback
##	23	1	118	dodge	gas	std	two	hatchback
##	24	1	118	dodge	gas	turbo	two	hatchback
##	25	1	148	dodge	gas	std	four	hatchback
##	26	1	148	dodge	gas	std	four	sedan
##	27	1	148	dodge	gas	std	four	sedan
##	28	1	148	dodge	gas	turbo	four	sedan

##		-1	110	dodge	gas	std	four	wagon
##	30	3	145	dodge	gas	turbo	two	hatchback
##	31	2	137	honda	gas	std	two	hatchback
##	32	2	137	honda	gas	std	two	hatchback
##	33	1	101	honda	gas	std	two	hatchback
##	34	1	101	honda	gas	std	two	hatchback
##	35	1	101	honda	gas	std	two	hatchback
##	36	0	110	honda	gas	std	four	sedan
##	37	0	78	honda	gas	std	four	wagon
##	38	0	106	honda	gas	std	two	hatchback
##	39	0	106	honda	gas	std	two	hatchback
	40	0	85	honda	gas	std	four	sedan
	41	0	85	honda	gas	std	four	sedan
	42	0	85	honda	gas	std	four	sedan
	43	1	107	honda	gas	std	two	sedan
	44	0	42	isuzu	gas	std	four	sedan
	45	1	42	isuzu	gas	std	two	sedan
	46	0	42	isuzu	gas	std	four	sedan
##	47	2	42	isuzu	gas	std	two	hatchback
	48	0	145	jaguar	gas	std	four	sedan
##	49	0	42	jaguar	gas	std	four	sedan
##	50	0	42	jaguar	gas	std	two	sedan
##	51	1	104	mazda	gas	std	two	hatchback
##	52	1	104	mazda	gas	std	two	hatchback
##	53	1	104	mazda	gas	std	two	hatchback
##	54	1	113	mazda	gas	std	four	sedan
##	55	1	113	mazda	gas	std	four	sedan
##	56	3	150	mazda	gas	std	two	hatchback
##	57	3	150	mazda	gas	std	two	hatchback
##	58	3	150	mazda	gas	std	two	hatchback
##	59	3	150	mazda	gas	std	two	hatchback
##	60	1	129	mazda	gas	std	two	hatchback
##	61	0	115	mazda	gas	std	four	sedan
##	62	1	129	mazda	gas	std	two	hatchback
##	63	0	115	mazda	gas	std	four	sedan
##	64	0	42	mazda	diesel	std	four	sedan
##	65	0	115	mazda	gas	std	four	hatchback
##		0	118	mazda	gas	std	four	sedan
##	67	0	42	mazda	diesel	std	four	sedan
##	68	-1	93	mercedes-benz	diesel	turbo	four	sedan
##	69	-1	93	mercedes-benz	diesel	turbo	four	wagon
##	70	0	93	mercedes-benz	diesel	turbo	two	hardtop
	71	-1		mercedes-benz	diesel	turbo	four	sedan
	72	-1		mercedes-benz	gas	std	four	sedan
	73	3		mercedes-benz	gas	std	two	convertible
##	74	0	42	mercedes-benz	gas	std	four	sedan
	75	1		mercedes-benz	gas	std	two	hardtop
	76	1	42	mercury	gas	turbo	two	hatchback
	77	2	161	mitsubishi	gas	std	two	hatchback
	78	2	161	mitsubishi	gas	std	two	hatchback
	79	2	161	mitsubishi	gas	std	two	hatchback
	80	1	161	mitsubishi	gas	turbo	two	hatchback
	81	3	153	mitsubishi	gas	turbo	two	hatchback
##	82	3	153	mitsubishi	gas	std	two	hatchback

		10					
## 83		42	mitsubishi	gas	turbo	two	hatchback
## 84		42	mitsubishi	gas	turbo	two	hatchback
## 85		42	mitsubishi	gas	turbo	two	hatchback
## 86		125	mitsubishi	gas	std	four	sedan
## 87		125	mitsubishi	gas	std	four	sedan
## 88		125	mitsubishi	gas	turbo	four	sedan
## 89		137	mitsubishi	gas	std	four	sedan
## 90		128	nissan	gas	std	two	sedan
## 9:		128	nissan	diesel	std	two	sedan
## 92		128	nissan	gas	std	two	sedan
## 93		122	nissan	gas	std	four	sedan
## 94		103	nissan	gas	std	four	wagon
## 95		128	nissan	gas	std	two	sedan
## 96		128	nissan	gas	std	two	hatchback
## 97		122	nissan	gas	std	four	sedan
## 98		103	nissan	gas	std	four	wagon
## 99		168	nissan	gas	std	two	hardtop
	00 0	106	nissan	gas	std	four	hatchback
	01 0	106	nissan	gas	std	four	sedan
	02 0	128	nissan	gas	std	four	sedan
## 10	03 0	108	nissan	gas	std	four	wagon
## 10	04 0	108	nissan	gas	std	four	sedan
## 10	05 3	194	nissan	gas	std	two	hatchback
## 10	06 3	194	nissan	gas	turbo	two	hatchback
## 10	07 1	231	nissan	gas	std	two	hatchback
## 10	0 80	161	peugot	gas	std	four	sedan
## 10	09 0	161	peugot	diesel	turbo	four	sedan
## 13	10 0	42	peugot	gas	std	four	wagon
## 13	11 0	42	peugot	diesel	turbo	four	wagon
## 13	12 0	161	peugot	gas	std	four	sedan
## 13	13 0	161	peugot	diesel	turbo	four	sedan
## 13	14 0	42	peugot	gas	std	four	wagon
## 13	15 0	42	peugot	diesel	turbo	four	wagon
## 13	16 0	161	peugot	gas	std	four	sedan
## 13	17 0	161	peugot	diesel	turbo	four	sedan
## 13	18 0	161	peugot	gas	turbo	four	sedan
## 13	19 1	119	plymouth	gas	std	two	hatchback
## 12	20 1	119	plymouth	gas	turbo	two	hatchback
## 12	21 1	154	plymouth	gas	std	four	hatchback
## 12	22 1	154	plymouth	gas	std	four	sedan
## 12	23 1	154	plymouth	gas	std	four	sedan
## 12	24 -1	74	plymouth	gas	std	four	wagon
## 12	25 3	42	plymouth	gas	turbo	two	hatchback
## 12	26 3	186	porsche	gas	std	two	hatchback
## 12	27 3	42	porsche	gas	std	two	hardtop
## 12	28 3	42	porsche	gas	std	two	hardtop
## 12	29 3	42	porsche	gas	std	two	convertible
## 13	30 1	42	porsche	gas	std	two	hatchback
## 13	31 0	42	renault	gas	std	four	wagon
## 13	32 2	42	renault	gas	std	two	hatchback
## 13	33 3	150	saab	gas	std	two	hatchback
## 13	34 2	104	saab	gas	std	four	sedan
## 13	35 3	150	saab	gas	std	two	hatchback
## 13	36 2	104	saab	gas	std	four	sedan

##	137	3	150	saab	ma c	turbo	two	hatchback
##	138	2	104	saab	gas gas	turbo	four	sedan
##	139	2	83	subaru	gas	std	two	hatchback
##	140	2	83	subaru	gas	std	two	hatchback
##	141	2	83	subaru	gas	std	two	hatchback
##	142	0	102	subaru	gas	std	four	sedan
##	143	0	102	subaru	gas	std	four	sedan
##	144	0	102	subaru	gas	std	four	sedan
##	145	0	102	subaru	gas	std	four	sedan
##	146	0	102	subaru	gas	turbo	four	sedan
##	147	0	89	subaru	gas	std	four	wagon
##	148	0	89	subaru	gas	std	four	wagon
##	149	0	85	subaru	gas	std	four	wagon
##	150	0	85	subaru	gas	turbo	four	wagon
##	151	1	87	toyota	gas	std	two	hatchback
##	152	1	87	toyota	gas	std	two	hatchback
##	153	1	74	toyota	gas	std	four	hatchback
##	154	0	77	toyota	gas	std	four	wagon
##	155	0	81	toyota	gas	std	four	wagon
##	156	0	91	toyota	gas	std	four	wagon
##	157	0	91	toyota	gas	std	four	sedan
##	158	0	91	toyota	gas	std	four	hatchback
##	159	0	91	toyota	diesel	std	four	sedan
##	160	0	91	toyota	diesel	std	four	hatchback
##	161	0	91	toyota	gas	std	four	sedan
##	162	0	91	toyota	gas	std	four	hatchback
##	163	0	91	toyota	gas	std	four	sedan
##	164	1	168	toyota	gas	std	two	sedan
##	165	1	168	toyota	gas	std	two	hatchback
##	166	1	168	toyota	gas	std	two	sedan
##	167	1	168	toyota	gas	std	two	hatchback
##	168	2	134	toyota	gas	std	two	hardtop
##	169	2	134	toyota	gas	std	two	hardtop
##	170	2	134	toyota	gas	std	two	hatchback
##	171 172	2	134 134	toyota	gas	std	two	hardtop hatchback
##	173	2	134	toyota	gas	std	two	convertible
	174	-1	65	toyota	gas	std std	four	sedan
##	175	-1	65	toyota toyota	gas diesel	turbo	four	sedan
##	176	-1	65	toyota	gas	std	four	hatchback
##	177	-1	65	toyota	gas	std	four	sedan
##	178	-1	65	toyota	gas	std	four	hatchback
##	179	3	197	toyota	gas	std	two	hatchback
##	180	3	197	toyota	gas	std	two	hatchback
##	181	-1	90	toyota	gas	std	four	sedan
##	182	-1	42	toyota	gas	std	four	wagon
##	183	2	122	volkswagen	diesel	std	two	sedan
##	184	2	122	volkswagen	gas	std	two	sedan
##	185	2	94	volkswagen	diesel	std	four	sedan
##	186	2	94	volkswagen	gas	std	four	sedan
##	187	2	94	volkswagen	gas	std	four	sedan
##	188	2	94	volkswagen	diesel	turbo	four	sedan
##	189	2	94	volkswagen	gas	std	four	sedan
##	190	3	42	volkswagen	gas	std	two	convertible
				-	_			

##	191	3	256	volkswagen	gas		std	two	hatchback
	192	0	42	volkswagen	gas		std	four	sedan
	193	0	42	volkswagen	diesel	tı	ırbo	four	sedan
##	194	0	42	volkswagen	gas		std	four	wagon
##	195	-2	103	volvo	gas		std	four	sedan
##	196	-1	74	volvo	gas		std	four	wagon
##	197	-2	103	volvo	gas		std	four	sedan
##	198	-1	74	volvo	gas		std	four	wagon
##	199	-2	103	volvo	gas	tı	ırbo	four	sedan
##	200	-1	74	volvo	gas	tı	ırbo	four	wagon
##	201	-1	95	volvo	gas		std	four	sedan
##	202	-1	95	volvo	gas	tı	ırbo	four	sedan
##	203	-1	95	volvo	gas		std	four	sedan
##	204	-1	95	volvo	diesel	tı	ırbo	four	sedan
##	205	-1	95	volvo	gas	tı	ırbo	four	sedan
##		drive	Wheels en	gineLocation v	wheelBase	length	${\tt width}$	height	curbWeight
##	1		rwd	front	88.6	168.8	64.1	48.8	2548
##	2		rwd	front	88.6	168.8	64.1	48.8	2548
##	3		rwd	front	94.5	171.2	65.5	52.4	2823
##	4		fwd	front	99.8	176.6	66.2	54.3	2337
##	5		4wd	front	99.4	176.6	66.4	54.3	2824
##	6		fwd	front	99.8	177.3	66.3	53.1	2507
##	7		fwd	front	105.8	192.7	71.4	55.7	2844
##	8		fwd	front	105.8	192.7	71.4	55.7	2954
##	9		fwd	front	105.8	192.7	71.4	55.9	3086
##	10		4wd	front	99.5	178.2	67.9	52.0	3053
##	11		rwd	front	101.2	176.8	64.8	54.3	2395
##	12		rwd	front	101.2	176.8	64.8	54.3	2395
##	13		rwd	front	101.2	176.8	64.8	54.3	2710
##	14		rwd	front	101.2	176.8	64.8	54.3	2765
##	15		rwd	front	103.5	189.0	66.9	55.7	3055
##	16		rwd	front	103.5	189.0	66.9	55.7	3230
##	17		rwd	front	103.5	193.8	67.9	53.7	3380
##	18		rwd	front	110.0	197.0	70.9	56.3	3505
##	19		fwd	front	88.4	141.1	60.3	53.2	1488
##	20		fwd	front	94.5	155.9	63.6	52.0	1874
##	21		fwd	front	94.5	158.8	63.6	52.0	1909
##			fwd	front	93.7		63.8	50.8	1876
##			fwd	front	93.7		63.8	50.8	1876
##			fwd	front	93.7				2128
##			fwd	front	93.7				1967
##			fwd	front	93.7				1989
##			fwd	front	93.7				1989
##			fwd	front	93.7				2191
##			fwd	front	103.3		64.6		2535
##			fwd	front	95.9		66.3		2811
##			fwd	front	86.6		63.9		1713
##			fwd	front	86.6		63.9		1819
##			fwd	front	93.7		64.0		1837
##			fwd	front	93.7		64.0		1940
##			fwd	front	93.7		64.0		1956
##			fwd	front	96.5		64.0		2010
##			fwd	front	96.5		63.9		2024
##	38		fwd	front	96.5	167.5	65.2	53.3	2236

##	39	fwd	front	96.5	167.5	65.2	53.3	2289
##	40	fwd	front	96.5	175.4	65.2	54.1	2304
##	41	fwd	front	96.5	175.4	62.5	54.1	2372
##	42	fwd	front	96.5	175.4	65.2	54.1	2465
##	43	fwd	front	96.5	169.1	66.0	51.0	2293
##	44	rwd	front	94.3	170.7	61.8	53.5	2337
##	45	fwd	front	94.5	155.9	63.6	52.0	1874
##	46	fwd	front	94.5	155.9	63.6	52.0	1909
##	47	rwd	front	96.0	172.6	65.2	51.4	2734
##	48	rwd	front	113.0	199.6	69.6	52.8	4066
##	49	rwd	front	113.0	199.6	69.6	52.8	4066
##	50	rwd	front	102.0	191.7	70.6	47.8	3950
##	51	fwd	front	93.1	159.1	64.2	54.1	1890
##	52	fwd	front	93.1	159.1	64.2	54.1	1900
	53	fwd	front	93.1	159.1	64.2	54.1	1905
	54	fwd	front	93.1	166.8	64.2	54.1	1945
	55	fwd	front	93.1	166.8	64.2	54.1	1950
	56	rwd	front	95.3	169.0	65.7	49.6	2380
##		rwd	front	95.3	169.0	65.7	49.6	2380
	58	rwd	front	95.3	169.0	65.7	49.6	2385
	59	rwd	front	95.3	169.0	65.7	49.6	2500
##		fwd	front	98.8	177.8	66.5	53.7	2385
	61	fwd	front	98.8	177.8	66.5	55.5	2410
	62	fwd	front	98.8	177.8	66.5	53.7	2385
##		fwd	front	98.8	177.8	66.5	55.5	2410
##		fwd	front	98.8	177.8	66.5	55.5	2443
##	65	fwd	front	98.8	177.8	66.5 66.1	55.5	2425
##	66 67	rwd	front	104.9	175.0 175.0	66.1	54.4	2670
##	68	rwd rwd	front front	104.9 110.0	190.9	70.3	54.4 56.5	2700 3515
##	69	rwd	front	110.0	190.9	70.3	58.7	3750
##	70	rwd	front	106.7	187.5	70.3	54.9	3495
##	71	rwd	front	115.6	202.6	71.7	56.3	3770
##	72	rwd	front	115.6	202.6	71.7	56.5	3740
	73	rwd	front	96.6	180.3	70.5	50.8	3685
##	74	rwd	front	120.9	208.1	71.7	56.7	3900
##		rwd	front	112.0	199.2	72.0	55.4	3715
##		rwd	front	102.7	178.4	68.0	54.8	2910
##		fwd	front	93.7	157.3	64.4	50.8	1918
##		fwd	front	93.7	157.3	64.4	50.8	1944
##		fwd	front	93.7	157.3	64.4	50.8	2004
##	80	fwd	front	93.0	157.3	63.8	50.8	2145
##		fwd	front	96.3	173.0	65.4	49.4	2370
##	82	fwd	front	96.3	173.0	65.4	49.4	2328
##	83	fwd	front	95.9	173.2	66.3	50.2	2833
##	84	fwd	front	95.9	173.2	66.3	50.2	2921
##	85	fwd	front	95.9	173.2	66.3	50.2	2926
##	86	fwd	front	96.3	172.4	65.4	51.6	2365
##	87	fwd	front	96.3	172.4	65.4	51.6	2405
##	88	fwd	front	96.3	172.4	65.4	51.6	2403
##	89	fwd	front	96.3	172.4	65.4	51.6	2403
##	90	fwd	front	94.5	165.3	63.8	54.5	1889
##	91	fwd	front	94.5	165.3	63.8	54.5	2017
##	92	fwd	front	94.5	165.3	63.8	54.5	1918

##	93	fwd	front	94.5	165.3	63.8	54.5	1938
##	94	fwd	front	94.5	170.2	63.8	53.5	2024
##	95	fwd	front	94.5	165.3	63.8	54.5	1951
##	96	fwd	front	94.5	165.6	63.8	53.3	2028
##	97	fwd	front	94.5	165.3	63.8	54.5	1971
	98	fwd	front	94.5	170.2	63.8	53.5	2037
	99	fwd	front	95.1	162.4	63.8	53.3	2008
	100							2324
		fwd	front	97.2	173.4	65.2	54.7	
##	101	fwd	front	97.2	173.4	65.2	54.7	2302
##	102	fwd	front	100.4	181.7	66.5	55.1	3095
##	103	fwd	front	100.4	184.6	66.5	56.1	3296
##	104	fwd	front	100.4	184.6	66.5	55.1	3060
##	105	rwd	front	91.3	170.7	67.9	49.7	3071
##	106	rwd	front	91.3	170.7	67.9	49.7	3139
##	107	rwd	front	99.2	178.5	67.9	49.7	3139
##	108	rwd	front	107.9	186.7	68.4	56.7	3020
##	109	rwd	front	107.9	186.7	68.4	56.7	3197
##	110	rwd	front	114.2	198.9	68.4	58.7	3230
##	111	rwd	front	114.2	198.9	68.4	58.7	3430
	112	rwd	front	107.9	186.7	68.4	56.7	3075
	113	rwd	front	107.9	186.7	68.4	56.7	3252
	114	rwd	front	114.2	198.9	68.4	56.7	3285
	115	rwd	front	114.2	198.9	68.4	58.7	3485
	116							
		rwd	front	107.9	186.7	68.4	56.7	3075
	117	rwd	front	107.9	186.7	68.4	56.7	3252
	118	rwd	front	108.0	186.7	68.3	56.0	3130
##	119	fwd	front	93.7	157.3	63.8	50.8	1918
##	120	fwd	front	93.7	157.3	63.8	50.8	2128
##	121	fwd	front	93.7	157.3	63.8	50.6	1967
##	122	fwd	front	93.7	167.3	63.8	50.8	1989
##	123	fwd	front	93.7	167.3	63.8	50.8	2191
##	124	fwd	front	103.3	174.6	64.6	59.8	2535
##	125	rwd	front	95.9	173.2	66.3	50.2	2818
##	126	rwd	front	94.5	168.9	68.3	50.2	2778
##	127	rwd	rear	89.5	168.9	65.0	51.6	2756
##	128	rwd	rear	89.5	168.9	65.0	51.6	2756
	129	rwd	rear	89.5	168.9	65.0	51.6	2800
	130	rwd	front	98.4	175.7	72.3	50.5	3366
	131	fwd		96.1	181.5	66.5	55.2	2579
	132		front	96.1	176.8	66.6	50.5	2460
		fwd	front					
	133	fwd	front	99.1	186.6	66.5	56.1	2658
	134	fwd	front	99.1	186.6	66.5	56.1	2695
	135	fwd	front	99.1	186.6	66.5	56.1	2707
	136	fwd	front	99.1	186.6	66.5	56.1	2758
	137	fwd	front	99.1	186.6	66.5	56.1	2808
##	138	fwd	front	99.1	186.6	66.5	56.1	2847
##	139	fwd	front	93.7	156.9	63.4	53.7	2050
##	140	fwd	front	93.7	157.9	63.6	53.7	2120
##	141	4wd	front	93.3	157.3	63.8	55.7	2240
##	142	fwd	front	97.2	172.0	65.4	52.5	2145
	143	fwd	front	97.2	172.0	65.4	52.5	2190
	144	fwd	front	97.2	172.0	65.4	52.5	2340
	145	4wd	front	97.0	172.0	65.4	54.3	2385
	146	4wd	front	97.0	172.0	65.4	54.3	2510
пπ	110	1 W CL	110110	51.0	112.0	00.4	04.0	2010

##	147	fwd	front	97.0	173.5	65.4	53.0	2290
##	148	fwd	front	97.0	173.5	65.4	53.0	2455
##	149	4wd	front	96.9	173.6	65.4	54.9	2420
##	150	4wd	front	96.9	173.6	65.4	54.9	2650
##	151	fwd	front	95.7	158.7	63.6	54.5	1985
##	152	fwd	front	95.7	158.7	63.6	54.5	2040
##	153	fwd	front	95.7	158.7	63.6	54.5	2015
##	154	fwd	front	95.7	169.7	63.6	59.1	2280
	155	4wd	front	95.7	169.7	63.6	59.1	2290
	156	4wd	front	95.7	169.7	63.6	59.1	3110
	157	fwd	front	95.7	166.3	64.4	53.0	2081
	158	fwd	front	95.7	166.3	64.4	52.8	2109
	159	fwd	front	95.7	166.3	64.4	53.0	2275
	160	fwd	front	95.7	166.3	64.4	52.8	2275
	161	fwd	front	95.7	166.3	64.4	53.0	2094
	162	fwd	front	95.7	166.3	64.4	52.8	2122
	163	fwd	front	95.7	166.3	64.4	52.8	2140
	164	rwd	front	94.5	168.7	64.0	52.6	2169
	165	rwd	front	94.5	168.7	64.0	52.6	2204
	166	rwd	front	94.5	168.7	64.0	52.6	2265
	167	rwd	front	94.5	168.7	64.0	52.6	2300
	168	rwd	front	98.4	176.2	65.6	52.0	2540
	169	rwd	front	98.4	176.2	65.6	52.0	2536
	170	rwd	front	98.4	176.2	65.6	52.0	2551
	171	rwd	front	98.4	176.2	65.6	52.0	2679
	172	rwd	front	98.4	176.2	65.6	52.0	2714
	173	rwd	front	98.4	176.2	65.6	53.0	2975
	174	fwd	front	102.4	175.6	66.5	54.9	2326
	175	fwd	front	102.4	175.6	66.5	54.9	2480
	176	fwd	front	102.4	175.6	66.5	53.9	2414
	177	fwd	front	102.4	175.6	66.5	54.9	2414
	178	fwd	front	102.4	175.6	66.5	53.9	2458
	179	rwd	front	102.9	183.5	67.7	52.0	2976
	180	rwd	front	102.9	183.5	67.7	52.0	3016
	181	rwd	front	104.5	187.8	66.5	54.1	3131
	182	rwd	front	104.5	187.8	66.5	54.1	3151
	183	fwd	front	97.3	171.7	65.5	55.7	2261
	184	fwd	front	97.3	171.7	65.5	55.7	2209
	185	fwd	front	97.3	171.7	65.5	55.7	2264
	186	fwd	front	97.3	171.7	65.5	55.7	2212
	187	fwd	front	97.3	171.7	65.5	55.7	2275
	188	fwd	front	97.3	171.7	65.5	55.7	2319
	189	fwd	front	97.3	171.7	65.5	55.7	2300
	190	fwd	front	94.5	159.3	64.2	55.6	2254
	191	fwd	front	94.5 100.4	165.7	64.0	51.4	2221
	192 193	fwd	front		180.2	66.9	55.1	2661
	193	fwd fwd	front front	100.4 100.4	180.2 183.1	66.9 66.9	55.1 55.1	<ul><li>2579</li><li>2563</li></ul>
	195				188.8	67.2	56.2	2912
	196	rwd rwd	front front	104.3 104.3	188.8	67.2	57.5	3034
	196	rwd	front	104.3	188.8	67.2	56.2	2935
	197	rwd	front	104.3	188.8	67.2	57.5	3042
	199	rwd	front	104.3	188.8	67.2	56.2	3045
	200	rwd	front	104.3	188.8	67.2	57.5	3157
##	200	ı wu	110116	107.0	100.0	01.2	01.0	0101

##	201	rwo	i		109.1 188	.8 68.9	9 55.5	2952
	202	rwo	l		109.1 188			
	203	rwo	i		109.1 188			
	204	rwo			109.1 188			
	205	rwo			109.1 188			
##		engineType	nrCylinds	engineSize	fuelSyste		stroke	compressionRatio
##		dohc	four	130	mpf		2.68	9.00
##	2	dohc	four	130	mpf		2.68	9.00
##		ohcv	six	152	-		3.47	9.00
##		ohc	four	109	mpf		3.40	10.00
##		ohc	five	136	-		3.40	8.00
##		ohc	five	136	-		3.40	8.50
##		ohc	five	136	-		3.40	8.50
##		ohc	five	136	-		3.40	8.50
##		ohc	five	131	mpf		3.40	8.30
##		ohc	five	131	mpf		3.40	7.00
	11	ohc	four	108	mpf		2.80	8.80
	12	ohc	four	108	mpf		2.80	8.80
##		ohc	six	164	-		3.19	9.00
	14	ohc	six	164	mpf		3.19	9.00
	15	ohc	six	164	mpf		3.19	9.00
	16	ohc	six	209	mpf		3.39	8.00
	17	ohc	six	209	mpf		3.39	8.00
	18	ohc	six	209	mpf		3.39	8.00
	19	1	three	61	2bb		3.03	9.50
##		ohc	four	90	2bb		3.11	9.60
	21 22	ohc	four	90	2bb		3.11 3.23	9.60
##		ohc ohc	four four	90 90	2bb 2bb		3.23	9.41 9.40
	23 24	ohc	four	98	mpf		3.39	7.60
	25	ohc	four	90	mpi 2bb		3.23	9.40
	26	ohc	four	90	2bb		3.23	9.40
	27	ohc	four	90	2bb		3.23	9.40
	28	ohc	four	98	mpf		3.39	7.60
	29	ohc	four	122	_		3.46	8.50
	30	ohc	four	156	mf		3.90	7.00
##		ohc	four	92	1bb		3.41	9.60
##	32	ohc	four	92	1bb		3.41	9.20
##	33	ohc	four	79	1bb		3.07	10.10
##	34	ohc	four	92	1bb	1 2.91	3.41	9.20
##	35	ohc	four	92	1bb	1 2.91	3.41	9.20
##	36	ohc	four	92	1bb	1 2.91	3.41	9.20
##	37	ohc	four	92	1bb	1 2.92	3.41	9.20
##	38	ohc	four	110	1bb	1 3.15	3.58	9.00
##	39	ohc	four	110	1bb	1 3.15	3.58	9.00
##	40	ohc	four	110	1bb	1 3.15	3.58	9.00
##		ohc	four	110	1bb		3.58	9.00
##		ohc	four	110	mpf		3.58	9.00
##		ohc	four	110	2bb		3.58	9.10
##		ohc	four	111	2bb		3.23	8.50
##		ohc	four	90	2bb		3.11	9.60
##		ohc	four	90	2bb		3.11	9.60
##		ohc	four	119	spf		3.23	9.20
##	48	dohc	six	258	mpf	i 3.63	4.17	8.10

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##		dohc	six	258	mpfi fi	3.63	4.17	8.10
##		ohcv	twelve	326	mpfi	3.54	2.76	11.50
##		ohc	four	91	2bb1	3.03	3.15	9.00
##		ohc	four	91	2bb1	3.03	3.15	9.00
##		ohc	four	91	2bbl	3.03	3.15	9.00
##		ohc	four	91	2bbl	3.03	3.15	9.00
##		ohc	four	91	2bbl	3.08	3.15	9.00
##		rotor	two	70		31.00	25.00	9.40
##		rotor	two	70		31.00	25.00	9.40
	58	rotor	two	70		31.00	25.00	9.40
##		rotor	two	80	_	31.00	25.00	9.40
##		ohc	four	122	2bbl	3.39	3.39	8.60
##		ohc	four	122	2bbl	3.39	3.39	8.60
##		ohc	four	122	2bbl	3.39	3.39	8.60
##		ohc	four	122	2bbl	3.39	3.39	8.60
	64	ohc	four	122	idi	3.39	3.39	22.70
##		ohc	four	122	2bbl	3.39	3.39	8.60
##		ohc	four	140	mpfi	3.76	3.16	8.00
##		ohc	four	134	idi	3.43	3.64	22.00
##		ohc	five	183	idi	3.58	3.64	21.50
##		ohc	five	183	idi	3.58	3.64	21.50
##		ohc	five	183	idi	3.58	3.64	21.50
##		ohc	five	183	idi	3.58	3.64	21.50
##		ohcv	eight	234	mpfi	3.46	3.10	8.30
##		ohcv	eight	234	mpfi	3.46	3.10	8.30
##		ohcv	eight	308	mpfi	3.80	3.35	8.00
##		ohcv	eight	304	mpfi	3.80	3.35	8.00
##		ohc	four	140	mpfi	3.78	3.12	8.00
##		ohc	four	92	2bbl	2.97	3.23	9.40
##		ohc	four	92	2bbl	2.97	3.23	9.40
##		ohc	four	92	2bbl	2.97	3.23	9.40
##		ohc	four	98	spdi	3.03	3.39	7.60
##		ohc	four	110	spdi	3.17	3.46	7.50
##	82	ohc	four	122	2bbl	3.35	3.46	8.50
##		ohc	four	156	spdi	3.58	3.86	7.00
##		ohc	four	156	spdi	3.59	3.86	7.00
##		ohc	four	156	spdi	3.59	3.86	7.00
##		ohc	four	122	2bbl	3.35	3.46	8.50
	87	ohc	four	122	2bbl	3.35	3.46	8.50
	88	ohc	four	110	spdi	3.17	3.46	7.50
##	89	ohc	four	110	spdi	3.17	3.46	7.50
##	90	ohc	four	97	2bbl	3.15	3.29	9.40
##		ohc	four	103	idi	2.99	3.47	21.90
##	92	ohc	four	97	2bbl	3.15	3.29	9.40
	93	ohc	four	97	2bbl	3.15	3.29	9.40
##	94	ohc	four	97	2bbl	3.15	3.29	9.40
##	95	ohc	four	97	2bbl	3.15	3.29	9.40
##	96	ohc	four	97	2bbl	3.15	3.29	9.40
##	97	ohc	four	97	2bbl	3.15	3.29	9.40
##	98	ohc	four	97	2bbl	3.15	3.29	9.40
##	99	ohc	four	97	2bbl	3.15	3.29	9.40
##	100	ohc	four	120	2bbl	3.33	3.47	8.50
##	101	ohc	four	120	2bbl	3.33	3.47	8.50
##	102	ohcv	six	181	mpfi	3.43	3.27	9.00

##	103	ohcv	six	181	mpfi	3.43	3.27	9.00
##	104	ohcv	six	181	mpfi	3.43	3.27	9.00
##	105	ohcv	six	181	mpfi	3.43	3.27	9.00
##	106	ohcv	six	181	mpfi	3.43	3.27	7.80
##	107	ohcv	six	181	mpfi	3.43	3.27	9.00
##	108	1	four	120	mpfi	3.46	3.19	8.40
	109	1	four	152	idi	3.70	3.52	21.00
	110	1	four	120	mpfi	3.46	3.19	8.40
##	111	1	four	152	idi	3.70	3.52	21.00
##	112	1	four	120	mpfi	3.46	2.19	8.40
##	113	1	four	152	idi	3.70	3.52	21.00
##	114	1	four	120	mpfi	3.46	2.19	8.40
##	115	1	four	152	idi	3.70	3.52	21.00
##	116	1	four	120	mpfi	3.46	3.19	8.40
##	117	1	four	152	idi	3.70	3.52	21.00
##	118	1	four	134	mpfi	3.61	3.21	7.00
##	119	ohc	four	90	2bbl	2.97	3.23	9.40
##	120	ohc	four	98	spdi	3.03	3.39	7.60
##	121	ohc	four	90	2bbl	2.97	3.23	9.40
##	122	ohc	four	90	2bbl	2.97	3.23	9.40
##	123	ohc	four	98	2bbl	2.97	3.23	9.40
##	124	ohc	four	122	2bbl	3.35	3.46	8.50
##	125	ohc	four	156	spdi	3.59	3.86	7.00
##	126	ohc	four	151	mpfi	3.94	3.11	9.50
##	127	ohcf	six	194	mpfi	3.74	2.90	9.50
##	128	ohcf	six	194	mpfi	3.74	2.90	9.50
##	129	ohcf	six	194	mpfi	3.74	2.90	9.50
##	130	dohcv	eight	203	mpfi	3.94	3.11	10.00
##	131	ohc	four	132	mpfi	3.46	3.90	8.70
##	132	ohc	four	132	mpfi	3.46	3.90	8.70
##	133	ohc	four	121	mpfi	3.54	3.07	9.31
##	134	ohc	four	121	mpfi	3.54	3.07	9.30
##	135	ohc	four	121	mpfi	2.54	2.07	9.30
##	136	ohc	four	121	mpfi	3.54	3.07	9.30
##	137	dohc	four	121	mpfi	3.54	3.07	9.00
##	138	dohc	four	121	mpfi	3.54	3.07	9.00
##	139	ohcf	four	97	2bbl	3.62	2.36	9.00
##	140	ohcf	four	108	2bbl	3.62	2.64	8.70
##	141	ohcf	four	108	2bbl	3.62	2.64	8.70
##	142	ohcf	four	108	2bbl	3.62	2.64	9.50
##	143	ohcf	four	108	2bbl	3.62	2.64	9.50
##	144	ohcf	four	108	mpfi	3.62	2.64	9.00
##	145	ohcf	four	108	2bbl	3.62	2.64	9.00
##	146	ohcf	four	108	mpfi	3.62	2.64	7.70
##	147	ohcf	four	108	2bbl	3.62	2.64	9.00
##	148	ohcf	four	108	mpfi	3.62	2.64	9.00
##	149	ohcf	four	108	2bbl	3.62	2.64	9.00
##	150	ohcf	four	108	mpfi	3.62	2.64	7.70
##	151	ohc	four	92	2bbl	3.05	3.03	9.00
##	152	ohc	four	92	2bbl	3.05	3.03	9.00
##	153	ohc	four	92	2bbl	3.05	3.03	9.00
##	154	ohc	four	92	2bbl	3.05	3.03	9.00
##	155	ohc	four	92	2bbl	3.05	3.03	9.00
##	156	ohc	four	92	2bbl	3.05	3.03	9.00

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	157	ohc	four		98		2bbl	3.19	3.03	9.00
	158	ohc	four		98		2bbl	3.19	3.03	9.00
	159	ohc	four		110		idi	3.27	3.35	22.50
	160	ohc	four		110		idi	3.27	3.35	22.50
	161	ohc	four		98		2bbl	3.19	3.03	9.00
	162	ohc	four		98		2bbl	3.19	3.03	9.00
	163	ohc	four		98		2bbl	3.19	3.03	9.00
	164	ohc	four		98		2bbl	3.19	3.03	9.00
	165	ohc	four		98		2bbl	3.19	3.03	9.00
##	166	dohc	four		98		mpfi	3.24	3.08	9.40
##	167	dohc	four		98		mpfi	3.24	3.08	9.40
##	168	ohc	four		146		mpfi	3.62	3.50	9.30
##	169	ohc	four		146		mpfi	3.62	3.50	9.30
	170	ohc	four		146		mpfi	3.62	3.50	9.30
	171	ohc	four		146		mpfi	3.62	3.50	9.30
	172	ohc	four		146		mpfi	3.62	3.50	9.30
	173	ohc	four		146		mpfi	3.62	3.50	9.30
	174	ohc	four		122		mpfi	3.31	3.54	8.70
	175	ohc	four		110		idi	3.27	3.35	22.50
	176	ohc	four		122		mpfi	3.31	3.54	8.70
	177	ohc	four		122		mpfi	3.31	3.54	8.70
	178	ohc	four		122		mpfi	3.31	3.54	8.70
	179	dohc	six		171		mpfi	3.27	3.35	9.30
	180	dohc	six		171		mpfi	3.27	3.35	9.30
	181	dohc	six		171		mpfi	3.27	3.35	9.20
	182	dohc	six		161		mpfi	3.27	3.35	9.20
	183	ohc	four		97		idi	3.01	3.40	23.00
	184	ohc	four		109		mpfi	3.19	3.40	9.00
	185	ohc	four		97		idi	3.01	3.40	23.00
##	186	ohc	four		109		mpfi	3.19	3.40	9.00
##	187	ohc	four		109		mpfi	3.19	3.40	9.00
##	188	ohc	four		97		idi	3.01	3.40	23.00
##	189	ohc	four		109		mpfi	3.19	3.40	10.00
##	190	ohc	four		109		mpfi	3.19	3.40	8.50
##	191	ohc	four		109		mpfi	3.19	3.40	8.50
##	192	ohc	five		136		mpfi	3.19	3.40	8.50
	193	ohc	four		97		idi	3.01	3.40	23.00
	194	ohc	four		109		mpfi	3.19	3.40	9.00
	195	ohc	four		141		mpfi	3.78	3.15	9.50
	196	ohc	four		141		mpfi	3.78	3.15	9.50
	197	ohc	four		141		mpfi	3.78	3.15	9.50
	198	ohc	four		141		mpfi	3.78	3.15	9.50
	199	ohc	four		130		mpfi	3.62	3.15	7.50
##	200	ohc	four		130		mpfi	3.62	3.15	7.50
	201	ohc	four		141		mpfi	3.78	3.15	9.50
	202	ohc	four		141		mpfi	3.78	3.15	8.70
##	203	ohcv	six		173		mpfi	3.58	2.87	8.80
##	204	ohc	six		145		idi	3.01	3.40	23.00
##	205	ohc	four		141		mpfi	3.78	3.15	9.50
##		${\tt horsePower}$	peakRpm ci	tyMpg	highway	Mpg	${\tt price}$			
##	1	111	5000	21			13495			
##	2	111	5000	21		27	16500			
##		154	5000	19		26	16500			
##	4	102	5500	24		30	13950			

##	5	115	5500	18	22	17450
##	6	110	5500	19	25	15250
##	7	110	5500	19	25	17710
##	8	110	5500	19	25	18920
##	9	140	5500	17	20	23875
##	10	160	5500	16	22	8
##	11	101	5800	23	29	16430
##	12	101	5800	23	29	16925
##	13	121	4250	21	28	20970
##	14	121	4250	21	28	21105
##	15	121	4250	20	25	24565
##	16	182	5400	16	22	30760
##	17	182	5400	16	22	41315
##	18	182	5400	15	20	36880
##	19	48	5100	47	53	5151
##	20	70	5400	38	43	6295
##	21	70	5400	38	43	6575
##	22	68	5500	37	41	5572
##	23	68	5500	31	38	6377
##	24	102	5500	24	30	7957
##	25	68	5500	31	38	6229
##	26	68	5500	31	38	6692
##	27	68	5500	31	38	7609
##	28	102	5500	24	30	8558
##	29	88	5000	24	30	8921
##	30	145	5000	19	24	12964
##	31	58	4800	49	54	6479
##	32	76	6000	31	38	6855
##	33	60	5500	38	42	5399
##	34	76	6000	30	34	6529
##	35	76	6000	30	34	7129
##	36	76	6000	30	34	7295
##	37	76	6000	30	34	7295
##	38	86	5800	27	33	7895
##	39	86	5800	27	33	9095
##	40	86	5800	27	33	8845
##	41	86	5800	27	33	10295
##	42	101	5800	24	28	12945
##	43	100	5500	25	31	10345
##	44	78	4800	24	29	6785
##	45	70	5400	38	43	8
##	46	70	5400	38	43	8
##	47	90	5000	24	29	11048
##	48	176	4750	15	19	32250
##	49	176	4750	15	19	35550
##	50	262	5000	13	17	36000
##	51	68	5000	30	31	5195
##	52	68	5000	31	38	6095
##	53	68	5000	31	38	6795
##	54	68	5000	31	38	6695
##	55	68	5000	31	38	7395
##	56	101	6000	17	23	10945
##	57	101	6000	17	23	11845
##	58	101	6000	17	23	13645

##	59	135	6000	16	23	15645
##	60	84	4800	26	32	8845
##	61	84	4800	26	32	8495
##	62	84	4800	26	32	10595
##	63	84	4800	26	32	10245
##	64	64	4650	36	42	10795
##	65	84	4800	26	32	11245
##	66	120	5000	19	27	18280
##	67	72	4200	31	39	18344
##	68	123	4350	22	25	25552
##	69	123	4350	22	25	28248
##	70	123	4350	22	25	28176
##	71	123	4350	22	25	31600
##	72	155	4750	16	18	34184
##	73	155	4750	16	18	35056
##	74	184	4500	14	16	40960
##	75	184	4500	14	16	45400
##	76	175	5000	19	24	16503
##	77	68	5500	37	41	5389
##	78	68	5500	31	38	6189
##	79	68	5500	31	38	6669
##	80	102	5500	24	30	7689
##	81	116	5500	23	30	9959
##	82	88	5000	25	32	8499
##	83	145	5000	19	24	12629
##	84	145	5000	19	24	14869
##	85	145	5000	19	24	14489
##	86	88	5000	25	32	6989
##	87	88	5000	25	32	8189
##						
	88	116	5500	23	30	9279
##	89	116	5500	23	30	9279
##	90	69	5200	31	37	5499
##	91	55	4800	45	50	7099
##	92	69	5200	31	37	6649
##	93	69	5200	31	37	6849
##	94	69	5200	31	37	7349
##			3200			
	95	69	5200	31	37	7299
##	95 96			31 31	37 37	
## ##		69	5200			7299
	96	69 69	5200 5200	31	37	7299 7799
##	96 97	69 69 69	5200 5200 5200 5200	31 31	37 37	7299 7799 7499
## ##	96 97 98 99	69 69 69 69	5200 5200 5200 5200 5200	31 31 31 31	37 37 37 37	7299 7799 7499 7999 8249
## ## ## ##	96 97 98 99 100	69 69 69 69 97	5200 5200 5200 5200 5200 5200	31 31 31 31 27	37 37 37 37 34	7299 7799 7499 7999 8249 8949
## ## ## ##	96 97 98 99 100 101	69 69 69 69 97 97	5200 5200 5200 5200 5200 5200 5200	31 31 31 31 27 27	37 37 37 37 34 34	7299 7799 7499 7999 8249 8949 9549
## ## ## ## ##	96 97 98 99 100 101 102	69 69 69 69 97 97	5200 5200 5200 5200 5200 5200 5200 5200	31 31 31 31 27 27 17	37 37 37 37 34 34 22	7299 7799 7499 7999 8249 8949 9549 13499
## ## ## ## ##	96 97 98 99 100 101 102 103	69 69 69 69 97 97 152	5200 5200 5200 5200 5200 5200 5200 5200	31 31 31 31 27 27 17	37 37 37 37 34 34 22 22	7299 7799 7499 7999 8249 8949 9549 13499 14399
## ## ## ## ## ##	96 97 98 99 100 101 102 103 104	69 69 69 69 97 97 152 152	5200 5200 5200 5200 5200 5200 5200 5200	31 31 31 31 27 27 17 17	37 37 37 37 34 34 22 22 25	7299 7799 7499 7999 8249 8949 9549 13499 14399
## ## ## ## ## ##	96 97 98 99 100 101 102 103 104 105	69 69 69 69 97 97 152 152 152	5200 5200 5200 5200 5200 5200 5200 5200	31 31 31 27 27 17 17 19	37 37 37 34 34 22 22 25 25	7299 7799 7499 7999 8249 8949 9549 13499 14399 13199
## ## ## ## ## ##	96 97 98 99 100 101 102 103 104 105 106	69 69 69 69 97 97 152 152 160 200	5200 5200 5200 5200 5200 5200 5200 5200	31 31 31 27 27 17 17 19 19	37 37 37 34 34 22 22 25 25 23	7299 7799 7499 7999 8249 8949 9549 13499 14399 17199 19699
## ## ## ## ## ## ##	96 97 98 99 100 101 102 103 104 105 106 107	69 69 69 69 97 97 152 152 160 200 160	5200 5200 5200 5200 5200 5200 5200 5200	31 31 31 27 27 17 19 19	37 37 37 34 34 22 22 25 25 23 25	7299 7799 7499 7999 8249 8949 9549 13499 14399 17199 19699 18399
## ## ## ## ## ## ##	96 97 98 99 100 101 102 103 104 105 106 107	69 69 69 69 97 97 152 152 160 200 160 97	5200 5200 5200 5200 5200 5200 5200 5200	31 31 31 27 27 17 17 19 19 19	37 37 37 34 34 22 22 25 25 25 23 25 24	7299 7799 7499 7999 8249 8949 9549 13499 14399 17199 19699 18399 11900
## ## ## ## ## ## ## ##	96 97 98 99 100 101 102 103 104 105 106 107 108 109	69 69 69 69 97 97 152 152 152 160 200 160 97	5200 5200 5200 5200 5200 5200 5200 5200	31 31 31 27 27 17 17 19 19 19 19 28	37 37 37 34 34 22 22 25 25 25 23 25 24 33	7299 7799 7499 7999 8249 8949 9549 13499 13499 17199 19699 18399 11900 13200
## ## ## ## ## ## ## ##	96 97 98 99 100 101 102 103 104 105 106 107 108 109 110	69 69 69 69 97 97 152 152 160 200 160 97 95 97	5200 5200 5200 5200 5200 5200 5200 5200	31 31 31 27 27 17 17 19 19 19 19 28	37 37 37 34 34 22 22 25 25 25 23 25 24 33	7299 7799 7499 7999 8249 8949 9549 13499 13499 17199 19699 18399 11900 13200 12440
## ## ## ## ## ## ## ##	96 97 98 99 100 101 102 103 104 105 106 107 108 109	69 69 69 69 97 97 152 152 152 160 200 160 97	5200 5200 5200 5200 5200 5200 5200 5200	31 31 31 27 27 17 17 19 19 19 19 28	37 37 37 34 34 22 22 25 25 25 23 25 24 33	7299 7799 7499 7999 8249 8949 9549 13499 13499 17199 19699 18399 11900 13200

##	113	95	4150	28	33	16900
##	114	95	5000	19	24	16695
##	115	95	4150	25	25	17075
##	116	97	5000	19	24	16630
##	117	95	4150	28	33	17950
##	118	142	5600	18	24	18150
##	119	68	5500	37	41	5572
##	120	102	5500	24	30	7957
##	121	68	5500	31	38	6229
##	122	68	5500	31	38	6692
##	123	68	5500	31	38	7609
##	124	88	5000	24	30	8921
##	125	145	5000	19	24	12764
##	126	143	5500	19	27	22018
##	127	207	5900	17	25	32528
##	128	207	5900	17	25	34028
##	129	207	5900	17	25	37028
##	130	288	5750	17	28	8
##	131	9	17	23	31	9295
##	132	9	17	23	31	9895
##	133	110	5250	21	28	11850
##	134	110	5250	21	28	12170
##	135	110	5250	21	28	15040
##	136	110	5250	21	28	15510
##	137	160	5500	19	26	18150
##	138	160	5500	19	26	18620
##	139	69	4900	31	36	5118
##	140	73	4400	26	31	7053
##	141	73	4400	26	31	7603
##	142	82	4800	32	37	7126
##	143	82	4400	28	33	7775
##	144	94	5200	26	32	9960
##	145	82	4800	24	25	9233
##	146	111	4800	24	29	11259
##	147	82	4800	28	32	7463
##	148	94	5200	25	31	10198
##	149	82	4800	23	29	8013
##	150	111		23	23	
##	151	62	4800 4800	35	39	11694 5348
##		62		31		
	152		4800		38	6338
##	153	62	4800	31	38	6488
##	154	62	4800	31	37	6918
##	155	62	4800	27	32	7898
##	156	62	4800	27	32	8778
##	157	70	4800	30	37	6938
##	158	70	4800	30	37	7198
##	159	56	4500	34	36	7898
##	160	56	4500	38	47	7788
##	161	70	4800	38	47	7738
##	162	70	4800	28	34	8358
##	163	70	4800	28	34	9258
##	164	70	4800	29	34	8058
##	165	70	4800	29	34	8238
##	166	112	6600	26	29	9298

```
9538
## 167
               112
                       6600
                                  26
                                               29
## 168
               116
                       4800
                                  24
                                               30
                                                   8449
## 169
               116
                       4800
                                  24
                                               30
                                                   9639
                                                   9989
## 170
                       4800
                                  24
                                               30
               116
## 171
               116
                       4800
                                  24
                                               30 11199
## 172
                                               30 11549
               116
                       4800
                                  24
## 173
                       4800
                                               30 17669
               116
                                  24
## 174
                92
                       4200
                                  29
                                               34
                                                   8948
## 175
                73
                       4500
                                  30
                                               33 10698
## 176
                92
                       4200
                                  27
                                               32
                                                   9988
## 177
                92
                       4200
                                  27
                                               32 10898
                92
## 178
                       4200
                                  27
                                               32 11248
## 179
               161
                       5200
                                  20
                                               24 16558
## 180
               161
                       5200
                                  19
                                               24 15998
## 181
               156
                       5200
                                  20
                                               24 15690
## 182
               156
                       5200
                                  19
                                               24 15750
## 183
                       4800
                                  37
                52
                                               46
                                                   7775
## 184
                85
                       5250
                                  27
                                               34
                                                   7975
## 185
                52
                       4800
                                  37
                                                   7995
                                               46
## 186
                85
                       5250
                                  27
                                               34
                                                   8195
                85
## 187
                       5250
                                  27
                                               34
                                                   8495
## 188
                68
                       4500
                                  37
                                               42
                                                   9495
## 189
               100
                                               32
                                                   9995
                       5500
                                  26
## 190
                       5500
                                  24
                                               29 11595
                90
## 191
                                               29
                90
                       5500
                                  24
                                                   9980
## 192
               110
                       5500
                                  19
                                               24 13295
## 193
                68
                       4500
                                  33
                                               38 13845
## 194
                88
                                  25
                                               31 12290
                       5500
## 195
                       5400
                                  23
                                               28 12940
               114
## 196
               114
                       5400
                                  23
                                               28 13415
## 197
               114
                       5400
                                  24
                                               28 15985
## 198
               114
                       5400
                                  24
                                               28 16515
## 199
               162
                       5100
                                  17
                                               22 18420
## 200
               162
                       5100
                                  17
                                               22 18950
## 201
               114
                       5400
                                  23
                                               28 16845
## 202
               160
                       5300
                                  19
                                               25 19045
## 203
               134
                       5500
                                  18
                                               23 21485
## 204
               106
                       4800
                                  26
                                               27 22470
## 205
               114
                       5400
                                  19
                                               25 22625
```

¿Hay casos duplicados? Consejo: utilice las funciones distinct() y count()

```
# Identifica los casos duplicados en el dataframe
duplicados <- dfH[duplicated(dfH),]
# En caso de haber duplicados se las puede eliminar con la funcion distintct()

# Cuenta los casos duplicados para todas las columnas
contDuplicados <- count(duplicados, across(everything()))
# Cuenta la frecuencia de aparicion de cada combinacion de valores en todas las columnas
# Imprime los cados duplicados y su contador
print(duplicados)</pre>
```

## [1] symb normLoss make fuelType

```
[5] aspiration
                         nDoors
                                           bodyStyle
                                                             driveWheels
  [9] engineLocation
                         wheelBase
                                                             width
                                           length
                         curbWeight
## [13] height
                                           engineType
                                                             nrCylinds
## [17] engineSize
                         fuelSystem
                                                             stroke
                                           bore
## [21] compressionRatio horsePower
                                           peakRpm
                                                             cityMpg
## [25] highwayMpg
                         price
## <0 rows> (or 0-length row.names)
print(contDuplicados)
    [1] symb
                         normLoss
                                           make
                                                             fuelType
##
    [5] aspiration
                         nDoors
                                           bodyStyle
                                                             driveWheels
  [9] engineLocation
                         wheelBase
                                           length
                                                             width
## [13] height
                         curbWeight
                                                             nrCylinds
                                           engineType
## [17] engineSize
                         fuelSystem
                                           bore
                                                             stroke
## [21] compressionRatio horsePower
                                           peakRpm
                                                             cityMpg
## [25] highwayMpg
                         price
## <0 rows> (or 0-length row.names)
```

## 2. Data Pre-Processing

- 2. Cargue el paquete dlookr. Utilice el mismo conjunto de datos de seguro de automóvil anterior y aplique lo siguiente transformaciones al atributo price. Sé crítico con los resultados obtenidos.
- (a) Aplicar normalización basada en rangos y normalización de Z-score.

```
##
       symb normLoss
                                make fuelType aspiration nDoors
                                                                      bodyStyle
## 1
          3
                                                               two convertible
                   NA
                         alfa-romero
                                           gas
                                                        std
## 2
          3
                   NA
                         alfa-romero
                                            gas
                                                        std
                                                               two convertible
## 3
          1
                   NA
                         alfa-romero
                                            gas
                                                        std
                                                               two
                                                                      hatchback
## 4
          2
                  164
                                                                          sedan
                                audi
                                            gas
                                                        std
                                                              four
## 5
          2
                  164
                                audi
                                                        std
                                                              four
                                                                          sedan
                                           gas
## 6
           2
                   NA
                                audi
                                            gas
                                                        std
                                                               two
                                                                          sedan
## 7
           1
                  158
                                audi
                                                        std
                                                              four
                                                                          sedan
                                           gas
## 8
           1
                   NA
                                audi
                                                        std
                                                              four
                                                                          wagon
                                            gas
## 9
                  158
                                           gas
                                                              four
                                                                          sedan
           1
                                audi
                                                     turbo
## 10
           0
                   NA
                                audi
                                                      turbo
                                                               two
                                                                      hatchback
                                            gas
## 11
           2
                  192
                                  bmw
                                                        std
                                                               two
                                                                          sedan
                                            gas
## 12
           0
                  192
                                                        std
                                                              four
                                                                          sedan
                                  bmw
                                            gas
## 13
           0
                  188
                                  bmw
                                            gas
                                                        std
                                                               two
                                                                          sedan
```

	14	0	188	bmw	gas	std	four	sedan
##	15	1	NA	bmw	gas	std	four	sedan
##	16	0	NA	bmw	gas	std	four	sedan
##	17	0	NA	bmw	gas	std	two	sedan
##	18	0	NA	bmw	gas	std	four	sedan
##	19	2	121	chevrolet	gas	std	two	hatchback
##	20	1	98	chevrolet	gas	std	two	hatchback
##	21	0	81	chevrolet	gas	std	four	sedan
##	22	1	118	dodge	gas	std	two	hatchback
##	23	1	118	dodge	gas	std	two	hatchback
##	24	1	118	dodge	gas	turbo	two	hatchback
##	25	1	148	dodge	gas	std	four	hatchback
##	26	1	148	dodge	gas	std	four	sedan
##	27	1	148	dodge	gas	std	four	sedan
##	28	1	148	dodge	gas	turbo	<na></na>	sedan
##	29	-1	110	dodge	gas	std	four	wagon
##	30	3	145	dodge	gas	turbo	two	hatchback
##	31	2	137	honda	gas	std	two	hatchback
##	32	2	137	honda	gas	std	two	hatchback
##	33	1	101	honda	gas	std	two	hatchback
##	34	1	101	honda	gas	std	two	hatchback
##	35	1	101	honda	gas	std	two	hatchback
##	36	0	110	honda	gas	std	four	sedan
##	37	0	78	honda	gas	std	four	wagon
##	38	0	106	honda	gas	std	two	hatchback
##	39	0	106	honda	gas	std	two	hatchback
##	40	0	85	honda	gas	std	four	sedan
##	41	0	85	honda	gas	std	four	sedan
##	42	0	85	honda	gas	std	four	sedan
##	43	1	107	honda	gas	std	two	sedan
##	44	0	NA	isuzu	gas	std	four	sedan
##	45	1	NA	isuzu	gas	std	two	sedan
##	46	0	NA	isuzu	gas	std	four	sedan
##	47	2	NA	isuzu	gas	std	two	hatchback
##	48	0	145	jaguar	gas	std	four	sedan
##	49	0	NA	jaguar	gas	std	four	sedan
##	50	0	NA	jaguar	gas	std	two	sedan
##	51	1	104	mazda	gas	std	two	hatchback
##	52	1	104	mazda	gas	std	two	hatchback
##	53	1	104	mazda	gas	std	two	hatchback
##	54	1	113	mazda	gas	std	four	sedan
##	55	1	113	mazda	gas	std	four	sedan
##	56	3	150	mazda	gas	std	two	hatchback
##	57	3	150	mazda	gas	std	two	hatchback
##	58	3	150	mazda	gas	std	two	hatchback
##	59	3	150	mazda	gas	std	two	hatchback
##	60	1	129	mazda	gas	std	two	hatchback
	61	0	115	mazda	gas	std	four	sedan
	62	1	129	mazda	gas	std	two	hatchback
	63	0	115	mazda	gas	std	four	sedan
	64	0	NA	mazda	diesel	std	<na></na>	sedan
##		0	115	mazda	gas	std	four	hatchback
##		0	118	mazda	gas	std	four	sedan
##		0	NA	mazda	diesel	std	four	sedan
	<b>U</b> 1	•	1411	mazaa	410001	Doa	1041	boddii

	20	4	00	, ,		. 1	c	,
	68	-1		mercedes-benz	diesel	turbo	four	sedan
##	69	-1		mercedes-benz	diesel	turbo	four	wagon
##	70	0		mercedes-benz	diesel	turbo	two	hardtop
##	71	-1		mercedes-benz	diesel	turbo	four	sedan
##	72	-1		mercedes-benz	gas	std	four	sedan
##	73	3		mercedes-benz	gas	std		convertible
##	74	0		mercedes-benz	gas	std	four	sedan
##	75	1		mercedes-benz	gas	std	two	hardtop
##	76	1	NA	mercury	gas	turbo	two	hatchback
##	77	2	161	mitsubishi	gas	std	two	hatchback
##	78	2	161	mitsubishi	gas	std	two	hatchback
##	79	2	161	mitsubishi	gas	std	two	hatchback
##	80	1	161	mitsubishi	gas	turbo	two	hatchback
##	81	3	153	mitsubishi	gas	turbo	two	hatchback
##	82	3	153	mitsubishi	gas	std	two	hatchback
##	83	3	NA	mitsubishi	gas	turbo	two	hatchback
##	84	3	NA	mitsubishi	gas	turbo	two	hatchback
##	85	3	NA	mitsubishi	gas	turbo	two	hatchback
##	86	1	125	mitsubishi	gas	std	four	sedan
##	87	1	125	mitsubishi	gas	std	four	sedan
##	88	1	125	mitsubishi	gas	turbo	four	sedan
##	89	-1	137	mitsubishi	gas	std	four	sedan
##	90	1	128	nissan	gas	std	two	sedan
##	91	1	128	nissan	diesel	std	two	sedan
##	92	1	128	nissan	gas	std	two	sedan
##	93	1	122	nissan	gas	std	four	sedan
##	94	1	103	nissan	gas	std	four	wagon
##	95	1	128	nissan	gas	std	two	sedan
##	96	1	128	nissan	gas	std	two	hatchback
##	97	1	122	nissan	gas	std	four	sedan
##	98	1	103	nissan	gas	std	four	wagon
##	99	2	168	nissan	gas	std	two	hardtop
##	100	0	106	nissan	gas	std	four	hatchback
##	101	0	106	nissan	gas	std	four	sedan
##	102	0	128	nissan	gas	std	four	sedan
##	103	0	108	nissan	gas	std	four	wagon
##	104	0	108	nissan	gas	std	four	sedan
##	105	3	194	nissan	gas	std	two	hatchback
##	106	3	194	nissan	gas	turbo	two	hatchback
##	107	1	231	nissan	gas	std	two	hatchback
##	108	0	161	peugot	gas	std	four	sedan
##	109	0	161	peugot	diesel	turbo	four	sedan
##	110	0	NA	peugot	gas	std	four	wagon
##	111	0	NA	peugot	diesel	turbo	four	wagon
##	112	0	161	peugot	gas	std	four	sedan
##	113	0	161	peugot	diesel	turbo	four	sedan
##	114	0	NA	peugot	gas	std	four	wagon
##	115	0	NA	peugot	diesel	turbo	four	wagon
##	116	0	161	peugot	gas	std	four	sedan
##	117	0	161	peugot	diesel	turbo	four	sedan
##	118	0	161	peugot	gas	turbo	four	sedan
##	119	1	119	plymouth	gas	std	two	hatchback
##	120	1	119	plymouth	gas	turbo	two	hatchback
##	121	1	154	plymouth	gas	std	four	hatchback
					_			

##	122	1	154	plymouth	gas	std	four	sedan
##	123	1	154	plymouth	gas	std	four	sedan
##	124	-1	74	plymouth	gas	std	four	wagon
##	125	3	NA	plymouth	gas	turbo	two	hatchback
##	126	3	186	porsche	gas	std	two	hatchback
##	127	3	NA	porsche	gas	std	two	hardtop
##	128	3	NA	porsche	gas	std	two	hardtop
##	129	3	NA	porsche	gas	std		convertible
##	130	1	NA	porsche	gas	std	two	hatchback
##	131	0	NA	renault	gas	std	four	wagon
##	132	2	NA	renault	gas	std	two	hatchback
##	133	3	150	saab	gas	std	two	hatchback
##	134	2	104	saab	gas	std	four	sedan
##	135	3	150	saab	gas	std	two	hatchback
##	136	2	104	saab	gas	std	four	sedan
##	137	3	150	saab	gas	turbo	two	hatchback
##	138	2	104	saab	gas	turbo	four	sedan
##	139	2	83	subaru	gas	std	two	hatchback
##	140	2	83	subaru	gas	std	two	hatchback
##	141	2	83	subaru	gas	std	two	hatchback
##	142	0	102	subaru	gas	std	four	sedan
##	143	0	102	subaru	gas	std	four	sedan
##	144	0	102	subaru	gas	std	four	sedan
##	145	0	102	subaru	gas	std	four	sedan
##	146	0	102	subaru	gas	turbo	four	sedan
##	147	0	89	subaru	gas	std	four	wagon
##	148	0	89	subaru	gas	std	four	wagon
##	149	0	85	subaru	gas	std	four	wagon
##	150	0	85	subaru	gas	turbo	four	wagon
##	151	1	87	toyota	gas	std	two	hatchback
##	152	1	87	toyota	gas	std	two	hatchback
##	153	1	74	toyota	gas	std	four	hatchback
##	154	0	77	toyota	gas	std	four	wagon
##	155	0	81	toyota	gas	std	four	wagon
##	156	0	91	toyota	gas	std	four	wagon
##	157	0	91	toyota	gas	std	four	sedan
	158	0	91	toyota	gas	std	four	hatchback
	159	0	91	toyota	diesel	std	four	sedan
	160	0	91	toyota	diesel	std	four	hatchback
##	161	0	91	toyota	gas	std	four	sedan
##	162	0	91	toyota	gas	std	four	hatchback
##	163	0	91	toyota	gas	std	four	sedan
##	164	1	168	toyota	gas	std	two	sedan
##	165	1	168	toyota	gas	std	two	hatchback
##	166	1	168	toyota	gas	std	two	sedan
##	167	1	168	toyota	gas	std	two	hatchback
##	168	2	134	toyota	gas	std	two	hardtop
##	169	2	134	toyota	gas	std	two	hardtop
## ##	170 171	2	134 134	toyota	gas	std std	two	hatchback
##	172	2	134	toyota	gas	std	two	hardtop hatchback
	173	2	134	toyota toyota	gas gas	std	two	convertible
	174	-1	65	toyota	gas	std	four	sedan
	175	-1	65	toyota	diesel	turbo	four	sedan
π#	110	1	03	toyota	GTESET	cur bo	TOUL	seddii

##	176	-1	65	toyota	gas		std	four	hatchback
##	177	-1	65	toyota	gas		std	four	sedan
##	178	-1	65	toyota	gas		std	four	hatchback
##	179	3	197	toyota	gas		std	two	hatchback
##	180	3	197	toyota	gas		std	two	hatchback
##	181	-1	90	toyota	gas		std	four	sedan
##	182	-1	NA	toyota	gas		std	four	wagon
##	183	2	122	volkswagen	diesel		std	two	sedan
##	184	2	122	volkswagen	gas		std	two	sedan
##	185	2	94	volkswagen	diesel		std	four	sedan
##	186	2	94	volkswagen	gas		std	four	sedan
##	187	2	94	volkswagen	gas		std	four	sedan
##	188	2	94	volkswagen	diesel	tı	ırbo	four	sedan
##	189	2	94	volkswagen	gas		std	four	sedan
##	190	3	NA	volkswagen	gas		std	two c	onvertible
##	191	3	256	volkswagen	gas		std	two	hatchback
##	192	0	NA	volkswagen	gas		std	four	sedan
##	193	0	NA	volkswagen	diesel	tı	ırbo	four	sedan
##	194	0	NA	volkswagen	gas		std	four	wagon
##	195	-2	103	volvo	gas		std	four	sedan
##	196	-1	74	volvo	gas		std	four	wagon
##	197	-2	103	volvo	gas		std	four	sedan
##	198	-1	74	volvo	gas		std	four	wagon
##	199	-2	103	volvo	gas		ırbo	four	sedan
##	200	-1	74	volvo	gas	tı	ırbo	four	wagon
##	201	-1	95	volvo	gas		std	four	sedan
##	202	-1	95	volvo	gas	tı	ırbo	four	sedan
##	203	-1	95	volvo	gas		std	four	sedan
##	204	-1	95	volvo	diesel		ırbo	four	sedan
##	205	-1	95	volvo	gas		ırbo	four	sedan
##	1	arive		ngineLocation v	Nneelbase 88.6	168.8	64.1	48.8	
##	2		rwd rwd	front front	88.6	168.8	64.1	48.8	
##	3		rwd	front	94.5	171.2	65.5	52.4	
##	4		fwd	front	99.8	176.6	66.2	54.3	
##	5		1 wd 4wd	front	99.4	176.6	66.4	54.3	
##			fwd	front	99.8	177.3	66.3	53.1	2507
##			fwd	front	105.8	192.7	71.4	55.7	
##			fwd	front	105.8	192.7	71.4	55.7	
##			fwd	front	105.8		71.4	55.9	
	10		4wd	front	99.5	178.2	67.9	52.0	
	11		rwd	front	101.2		64.8	54.3	
	12		rwd	front	101.2		64.8	54.3	
	13		rwd	front	101.2		64.8	54.3	
##	14		rwd	front	101.2	176.8	64.8	54.3	
##	15		rwd	front	103.5	189.0	66.9	55.7	3055
##	16		rwd	front	103.5	189.0	66.9	55.7	3230
##	17		rwd	front	103.5	193.8	67.9	53.7	3380
					103.5 110.0	193.8 197.0	67.9 70.9	53.7 56.3	
##	17		rwd	front					3505
## ##	17 18		rwd rwd	front front	110.0	197.0	70.9	56.3	3505 1488
## ## ##	17 18 19		rwd rwd fwd	front front front	110.0 88.4	197.0 141.1	70.9 60.3	56.3 53.2	3505 1488 1874
## ## ## ##	17 18 19 20		rwd rwd fwd fwd	front front front front	110.0 88.4 94.5	197.0 141.1 155.9	70.9 60.3 63.6	56.3 53.2 52.0	3505 1488 1874 1909
## ## ## ##	17 18 19 20 21		rwd rwd fwd fwd fwd	front front front front front	110.0 88.4 94.5 94.5	197.0 141.1 155.9 158.8	70.9 60.3 63.6 63.6	56.3 53.2 52.0 52.0	3505 1488 1874 1909 1876

##	24	fwd	front	93.7	157.3	63.8	50.8	2128
##	25	fwd	front	93.7	157.3	63.8	50.6	1967
##	26	fwd	front	93.7	157.3	63.8	50.6	1989
##	27	fwd	front	93.7	157.3	63.8	50.6	1989
##	28	fwd	front	93.7	157.3	63.8	50.6	2191
##	29	fwd	front	103.3	174.6	64.6	59.8	2535
##	30	fwd	front	95.9	173.2	66.3	50.2	2811
##	31	fwd	front	86.6	144.6	63.9	50.8	1713
##	32	fwd	front	86.6	144.6	63.9	50.8	1819
##	33	fwd	front	93.7	150.0	64.0	52.6	1837
##	34	fwd	front	93.7	150.0	64.0	52.6	1940
##	35	fwd	front	93.7	150.0	64.0	52.6	1956
##	36	fwd	front	96.5	163.4	64.0	54.5	2010
##	37	fwd	front	96.5	157.1	63.9	58.3	2024
##	38	fwd	front	96.5	167.5	65.2	53.3	2236
##	39	fwd	front	96.5	167.5	65.2	53.3	2289
##	40	fwd	front	96.5	175.4	65.2	54.1	2304
##	41	fwd	front	96.5	175.4	62.5	54.1	2372
##	42	fwd	front	96.5	175.4	65.2	54.1	2465
##	43	fwd	front	96.5	169.1	66.0	51.0	2293
##	44	rwd	front	94.3	170.7	61.8	53.5	2337
##	45	fwd	front	94.5	155.9	63.6	52.0	1874
##	46	fwd	front	94.5	155.9	63.6	52.0	1909
##	47	rwd	front	96.0	172.6	65.2	51.4	2734
##	48	rwd	front	113.0	199.6	69.6	52.8	4066
##	49	rwd	front	113.0	199.6	69.6	52.8	4066
##	50	rwd	front	102.0	191.7	70.6	47.8	3950
##	51	fwd	front	93.1	159.1	64.2	54.1	1890
##	52	fwd	front	93.1	159.1	64.2	54.1	1900
##	53	fwd	front	93.1	159.1	64.2	54.1	1905
	54	fwd	front	93.1	166.8	64.2	54.1	1945
	55	fwd	front	93.1	166.8	64.2	54.1	1950
	56	rwd	front	95.3	169.0	65.7	49.6	2380
	57	rwd	front	95.3	169.0	65.7	49.6	2380
	58	rwd	front	95.3	169.0	65.7	49.6	2385
	59	rwd	front	95.3	169.0	65.7	49.6	2500
##		fwd	front	98.8	177.8	66.5	53.7	2385
##		fwd	front	98.8	177.8	66.5	55.5	2410
	62	fwd	front	98.8	177.8	66.5	53.7	2385
	63	fwd	front	98.8	177.8	66.5	55.5	2410
	64	fwd	front	98.8	177.8	66.5	55.5	2443
	65	fwd	front	98.8	177.8	66.5	55.5	2425
	66	rwd	front	104.9	175.0	66.1	54.4	2670
	67	rwd	front	104.9	175.0	66.1	54.4	2700
	68	rwd	front	110.0	190.9	70.3	56.5	3515
	69	rwd	front	110.0	190.9	70.3	58.7	3750
	70	rwd	front	106.7	187.5	70.3	54.9	3495
	71	rwd	front	115.6	202.6	71.7	56.3	3770
##	72	rwd	front	115.6	202.6	71.7	56.5	3740
	73	rwd	front	96.6	180.3	70.5	50.8	3685
	74	rwd	front	120.9	208.1	71.7	56.7	3900
	75 76	rwd	front	112.0	199.2	72.0	55.4	3715
	76 77	rwd	front	102.7	178.4	68.0	54.8	2910
##	77	fwd	front	93.7	157.3	64.4	50.8	1918

##	78	fwd	front	93.7	157.3	64.4	50.8	1944
##	79	fwd	front	93.7	157.3	64.4	50.8	2004
##	80	fwd	front	93.0	157.3	63.8	50.8	2145
##	81	fwd	front	96.3	173.0	65.4	49.4	2370
##	82	fwd	front	96.3	173.0	65.4	49.4	2328
##	83	fwd	front	95.9	173.2	66.3	50.2	2833
##	84	fwd	front	95.9	173.2	66.3	50.2	2921
##	85	fwd	front	95.9	173.2	66.3	50.2	2926
##		fwd	front	96.3	172.4	65.4	51.6	2365
##		fwd	front	96.3	172.4	65.4	51.6	2405
	88	fwd	front	96.3	172.4	65.4	51.6	2403
	89	fwd	front	96.3	172.4	65.4	51.6	2403
##	90	fwd	front	94.5	165.3	63.8	54.5	1889
	91	fwd	front	94.5	165.3	63.8	54.5	2017
##	92	fwd	front	94.5	165.3	63.8	54.5	1918
	93			94.5	165.3	63.8	54.5	1938
##	94	fwd	front			63.8		2024
		fwd	front	94.5	170.2		53.5	
	95 96	fwd	front	94.5	165.3	63.8	54.5	1951
##		fwd	front	94.5	165.6	63.8	53.3	2028
		fwd	front	94.5	165.3	63.8	54.5	1971
	98	fwd	front	94.5	170.2	63.8	53.5	2037
##		fwd	front	95.1	162.4	63.8	53.3	2008
	100	fwd	front	97.2	173.4	65.2	54.7	2324
	101	fwd	front	97.2	173.4	65.2	54.7	2302
	102	fwd	front	100.4	181.7	66.5	55.1	3095
##	103	fwd	front	100.4	184.6	66.5	56.1	3296
##	104	fwd	front	100.4	184.6	66.5	55.1	3060
##	105	rwd	front	91.3	170.7	67.9	49.7	3071
##	106	rwd	front	91.3	170.7	67.9	49.7	3139
##	107	rwd	front	99.2	178.5	67.9	49.7	3139
##	108	rwd	front	107.9	186.7	68.4	56.7	3020
##	109	rwd	front	107.9	186.7	68.4	56.7	3197
##	110	rwd	front	114.2	198.9	68.4	58.7	3230
##	111	rwd	front	114.2	198.9	68.4	58.7	3430
##	112	rwd	front	107.9	186.7	68.4	56.7	3075
##	113	rwd	front	107.9	186.7	68.4	56.7	3252
##	114	rwd	front	114.2	198.9	68.4	56.7	3285
##	115	rwd	front	114.2	198.9	68.4	58.7	3485
	116	rwd	front	107.9	186.7	68.4	56.7	3075
##	117	rwd	front	107.9	186.7	68.4	56.7	3252
##	118	rwd	front	108.0	186.7	68.3	56.0	3130
##	119	fwd	front	93.7	157.3	63.8	50.8	1918
##	120	fwd	front	93.7	157.3	63.8	50.8	2128
##	121	fwd	front	93.7	157.3	63.8	50.6	1967
##	122	fwd	front	93.7	167.3	63.8	50.8	1989
##	123	fwd	front	93.7	167.3	63.8	50.8	2191
##	124	fwd	front	103.3	174.6	64.6	59.8	2535
##	125	rwd	front	95.9	173.2	66.3	50.2	2818
##	126	rwd	front	94.5	168.9	68.3	50.2	2778
	127	rwd	rear	89.5	168.9	65.0	51.6	2756
	128	rwd	rear	89.5	168.9	65.0	51.6	2756
	129	rwd	rear	89.5	168.9	65.0	51.6	2800
	130	rwd	front	98.4	175.7	72.3	50.5	3366
	131	fwd	front	96.1	181.5	66.5	55.2	2579
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##	132	fwd	front	96.1	176.8	66.6	50.5	2460
##	133	fwd	front	99.1	186.6	66.5	56.1	2658
##	134	fwd	front	99.1	186.6	66.5	56.1	2695
##	135	fwd	front	99.1	186.6	66.5	56.1	2707
##	136	fwd	front	99.1	186.6	66.5	56.1	2758
##	137	fwd	front	99.1	186.6	66.5	56.1	2808
##	138	fwd	front	99.1	186.6	66.5	56.1	2847
##	139	fwd	front	93.7	156.9	63.4	53.7	2050
##	140	fwd	front	93.7	157.9	63.6	53.7	2120
##	141	4wd	front	93.3	157.3	63.8	55.7	2240
##	142	fwd	front	97.2	172.0	65.4	52.5	2145
##	143	fwd	front	97.2	172.0	65.4	52.5	2190
##	144	fwd	front	97.2	172.0	65.4	52.5	2340
##	145	4wd	front	97.0	172.0	65.4	54.3	2385
##	146	4wd	front	97.0	172.0	65.4	54.3	2510
##	147	fwd	front	97.0	173.5	65.4	53.0	2290
##	148	fwd	front	97.0	173.5	65.4	53.0	2455
##	149	4wd	front	96.9	173.6	65.4	54.9	2420
##	150	4wd	front	96.9	173.6	65.4	54.9	2650
##	151	fwd	front	95.7	158.7	63.6	54.5	1985
##	152	fwd	front	95.7	158.7	63.6	54.5	2040
##	153	fwd	front	95.7	158.7	63.6	54.5	2015
##	154	fwd	front	95.7	169.7	63.6	59.1	2280
##	155	4wd	front	95.7	169.7	63.6	59.1	2290
##	156	4wd	front	95.7	169.7	63.6	59.1	3110
##	157	fwd	front	95.7	166.3	64.4	53.0	2081
##	158	fwd	front	95.7	166.3	64.4	52.8	2109
##	159	fwd	front	95.7	166.3	64.4	53.0	2275
##	160	fwd	front	95.7	166.3	64.4	52.8	2275
##	161	fwd	front	95.7	166.3	64.4	53.0	2094
##	162	fwd	front	95.7	166.3	64.4	52.8	2122
##	163	fwd	front	95.7	166.3	64.4	52.8	2140
##	164	rwd	front	94.5	168.7	64.0	52.6	2169
##	165	rwd	front	94.5	168.7	64.0	52.6	2204
##	166	rwd	front	94.5	168.7	64.0	52.6	2265
##	167	rwd	front	94.5	168.7	64.0	52.6	2300
	168	rwd	front	98.4	176.2	65.6	52.0	2540
	169	rwd	front	98.4	176.2	65.6	52.0	2536
	170	rwd	front	98.4	176.2	65.6	52.0	2551
	171	rwd	front	98.4	176.2	65.6	52.0	2679
	172	rwd	front	98.4	176.2	65.6	52.0	2714
	173	rwd	front	98.4	176.2	65.6	53.0	2975
	174	fwd	front	102.4	175.6	66.5	54.9	2326
	175	fwd	front	102.4	175.6	66.5	54.9	2480
	176	fwd	front	102.4	175.6	66.5	53.9	2414
	177	fwd	front	102.4	175.6	66.5	54.9	2414
	178	fwd	front	102.4	175.6	66.5	53.9	2458
	179	rwd	front	102.9	183.5	67.7	52.0	2976
	180	rwd	front	102.9	183.5	67.7	52.0	3016
	181	rwd	front	104.5	187.8	66.5	54.1	3131
	182	rwd	front	104.5	187.8	66.5	54.1	3151
	183	fwd	front	97.3	171.7	65.5	55.7	2261
	184	fwd	front	97.3	171.7	65.5	55.7	2209
##	185	fwd	front	97.3	171.7	65.5	55.7	2264

##	186	fwd		front	97.3	171.7	65.5	55.	7 2212
##	187	fwd		front	97.3	171.7	65.5	55.	7 2275
##	188	fwd		front	97.3	171.7	65.5	5 55.	7 2319
##	189	fwd		front	97.3	171.7	65.5	5 55.	7 2300
##	190	fwd		front	94.5	159.3	3 64.2	2 55.	6 2254
##	191	fwd		front	94.5	165.7	7 64.0	51.	4 2221
##	192	fwd		front	100.4	180.2	2 66.9	55.	1 2661
##	193	fwd		front	100.4	180.2	2 66.9	55.	1 2579
##	194	fwd		front	100.4	183.1	L 66.9	55.	1 2563
##	195	rwd		front	104.3	188.8	67.2	2 56.	2 2912
##	196	rwd		front	104.3	188.8	67.2	2 57.	5 3034
##	197	rwd		front	104.3	188.8	67.2	2 56.	2 2935
##	198	rwd		front	104.3	188.8	67.2	2 57.	5 3042
##	199	rwd		front	104.3	188.8	67.2	2 56.	2 3045
##	200	rwd		front	104.3	188.8	67.2	2 57.	5 3157
##	201	rwd		front	109.1	188.8	68.9	55.	5 2952
##	202	rwd		front	109.1	188.8	68.8	3 55.	5 3049
##	203	rwd		front	109.1	188.8	68.9	55.	5 3012
##	204	rwd		front	109.1	188.8	68.9	55.	5 3217
##	205	rwd		front	109.1	188.8	68.9	55.	5 3062
##		engineType i	nrCylinds	engine	Size fuels	System	bore s	stroke	compressionRatio
##	1	dohc	four		130	mpfi	3.47	2.68	9.00
##	2	dohc	four		130	mpfi	3.47	2.68	9.00
##	3	ohcv	six		152	mpfi	2.68	3.47	9.00
##	4	ohc	four		109	mpfi	3.19	3.40	10.00
##	5	ohc	five		136	mpfi	3.19	3.40	8.00
##	6	ohc	five		136	mpfi	3.19	3.40	8.50
##	7	ohc	five		136	mpfi	3.19	3.40	8.50
##	8	ohc	five		136	mpfi	3.19	3.40	8.50
##	9	ohc	five		131	mpfi	3.13	3.40	8.30
##	10	ohc	five		131	mpfi	3.13	3.40	7.00
##	11	ohc	four		108	mpfi	3.50	2.80	8.80
##	12	ohc	four		108	mpfi	3.50	2.80	8.80
##	13	ohc	six		164	mpfi	3.31	3.19	9.00
##	14	ohc	six		164	mpfi	3.31	3.19	9.00
##	15	ohc	six		164	mpfi	3.31	3.19	9.00
##	16	ohc	six		209	mpfi	3.62	3.39	8.00
##	17	ohc	six		209	mpfi	3.62	3.39	8.00
##	18	ohc	six		209	mpfi	3.62	3.39	8.00
##	19	1	three		61	2bbl	2.91	3.03	9.50
##	20	ohc	four		90	2bbl	3.03	3.11	9.60
##	21	ohc	four		90	2bbl	3.03	3.11	9.60
	22	ohc	four		90	2bbl	2.97	3.23	9.41
##	23	ohc	four		90	2bbl	2.97	3.23	9.40
##	24	ohc	four		98	mpfi	3.03	3.39	7.60
##	25	ohc	four		90	2bbl	2.97	3.23	9.40
##	26	ohc	four		90	2bbl		3.23	9.40
##	27	ohc	four		90	2bbl	2.97	3.23	9.40
##	28	ohc	four		98	mpfi	3.03	3.39	7.60
##		ohc	four		122		3.34	3.46	8.50
	30	ohc	four		156		3.60	3.90	7.00
##		ohc	four		92		2.91	3.41	9.60
	32	ohc	four		92		2.91	3.41	9.20
##	33	ohc	four		79	1bbl	2.91	3.07	10.10

##		ohc	four	92	1bbl	2.91	3.41	9.20
##		ohc	four	92	1bbl		3.41	9.20
##		ohc	four	92	1bbl		3.41	9.20
##		ohc	four	92	1bbl		3.41	9.20
	38	ohc	four	110	1bbl	3.15	3.58	9.00
##	39	ohc	four	110	1bbl	3.15	3.58	9.00
##	40	ohc	four	110	1bbl	3.15	3.58	9.00
##	41	ohc	four	110	1bbl		3.58	9.00
##		ohc	four	110	mpfi		3.58	9.00
##		ohc	four	110	2bbl		3.58	9.10
##		ohc	four	111	2bbl		3.23	8.50
##		ohc	four	90	2bb1		3.11	9.60
##		ohc	four	90	2bbl		3.11	9.60
##		ohc	four	119	spfi		3.23	9.20
##		dohc	six	258	mpfi		4.17	8.10
##		dohc	six	258	mpfi		4.17	8.10
##		ohcv	twelve	326	mpfi		2.76	11.50
##		ohc	four	91	2bbl		3.15	9.00
##		ohc	four	91	2bbl		3.15	9.00
##		ohc	four	91	2bbl		3.15	9.00
##		ohc	four	91	2bbl		3.15	9.00
##		ohc	four	91	2bb1		3.15	9.00
##		rotor	two	70	4bbl	NA	NA	9.40
##		rotor	two	70	4bbl	NA	NA	9.40
##		rotor	two	70	4bbl	NA	NA	9.40
##		rotor	two	80	mpfi	NA	NA	9.40
##		ohc	four	122	2bbl		3.39	8.60
##		ohc	four	122	2bbl		3.39	8.60
##		ohc	four	122	2bbl		3.39	8.60
##		ohc	four	122	2bbl		3.39	8.60
##		ohc	four	122		3.39	3.39	22.70
##		ohc	four	122	2bbl		3.39	8.60
##		ohc	four	140	mpfi		3.16	8.00
##		ohc	four	134		3.43	3.64	22.00
	68	ohc	five	183		3.58	3.64	21.50
## ##	69 70	ohc	five	183 183		3.58 3.58	3.64 3.64	21.50 21.50
		ohc	five					
## ##	72	ohc	five	183 234	mpfi	3.58	3.64 3.10	21.50 8.30
	73	ohcv ohcv	eight eight	234	mpri		3.10	8.30
	74	ohcv	eight	308	mpri		3.10	8.00
	7 <del>5</del>	ohcv	eight	304	mpfi		3.35	8.00
	76	ohc	four	140	mpri		3.12	8.00
	77	ohc	four	92	2bbl		3.12	9.40
	78	ohc	four	92	2bb1		3.23	9.40
	79	ohc	four	92	2bb1		3.23	9.40
	80	ohc	four	98	spdi		3.39	7.60
##		ohc	four	110	spdi		3.46	7.50
	82	ohc	four	122	2bbl		3.46	8.50
	83	ohc	four	156	spdi		3.86	7.00
##		ohc	four	156	spdi		3.86	7.00
##		ohc	four	156	spdi		3.86	7.00
##		ohc	four	122	2bbl		3.46	8.50
##		ohc	four	122	2bbl		3.46	8.50

##		ohc	four	110	spdi		3.46	7.50
##		ohc	four	110	_	3.17	3.46	7.50
##		ohc	four	97	2bbl		3.29	9.40
##		ohc	four	103		2.99	3.47	21.90
##		ohc	four	97	2bbl		3.29	9.40
##		ohc	four	97	2bbl		3.29	9.40
##		ohc	four	97	2bbl		3.29	9.40
##		ohc	four	97	2bbl		3.29	9.40
	96	ohc	four	97	2bbl		3.29	9.40
	97	ohc	four	97	2bbl		3.29	9.40
	98	ohc	four	97	2bbl		3.29	9.40
	99	ohc	four	97	2bbl		3.29	9.40
	100	ohc	four	120	2bbl		3.47	8.50
	101	ohc	four	120	2bbl		3.47	8.50
	102	ohcv	six	181	mpfi		3.27	9.00
	103	ohcv	six	181	mpfi		3.27	9.00
	104	ohcv	six	181	mpfi		3.27	9.00
	105	ohcv	six	181	mpfi		3.27	9.00
	106	ohcv	six	181	mpfi		3.27	7.80
	107	ohcv	six	181	mpfi		3.27	9.00
	108	1	four	120	mpfi		3.19	8.40
##	109	1	four	152		3.70	3.52	21.00
	110	1	four	120	mpfi	3.46	3.19	8.40
##	111	1	four	152	idi	3.70	3.52	21.00
##	112	1	four	120	mpfi	3.46	2.19	8.40
##	113	1	four	152		3.70	3.52	21.00
	114	1	four	120	mpfi	3.46	2.19	8.40
##	115	1	four	152	idi	3.70	3.52	21.00
##	116	1	four	120	mpfi	3.46	3.19	8.40
##	117	1	four	152	idi	3.70	3.52	21.00
##	118	1	four	134	mpfi	3.61	3.21	7.00
	119	ohc	four	90	2bbl		3.23	9.40
##	120	ohc	four	98	spdi	3.03	3.39	7.60
##	121	ohc	four	90	2bbl	2.97	3.23	9.40
	122	ohc	four	90	2bbl		3.23	9.40
	123	ohc	four	98	2bbl	2.97	3.23	9.40
	124	ohc	four	122	2bbl		3.46	8.50
	125	ohc	four	156	spdi		3.86	7.00
	126	ohc	four	151	mpfi		3.11	9.50
	127	ohcf	six	194	-	3.74	2.90	9.50
	128	ohcf	six	194	mpfi	3.74	2.90	9.50
	129	ohcf	six	194	-	3.74	2.90	9.50
	130	dohcv	eight	203	mpfi	3.94	3.11	10.00
	131	ohc	four	132	mpfi	3.46	3.90	8.70
	132	ohc	four	132	mpfi	3.46	3.90	8.70
	133	ohc	four	121	mpfi	3.54	3.07	9.31
	134	ohc	four	121	-	3.54	3.07	9.30
	135	ohc	four	121	mpfi	2.54	2.07	9.30
	136	ohc	four	121	mpfi	3.54	3.07	9.30
	137	dohc	four	121	mpfi	3.54	3.07	9.00
	138	dohc	four	121	mpfi	3.54	3.07	9.00
##	139	ohcf	four	97	2bbl		2.36	9.00
##	140	ohcf	four	108	2bbl		2.64	8.70
##	141	ohcf	four	108	2bbl	3.62	2.64	8.70

##	142	ohcf	four	108	2bbl	3 62	2.64	9.50
	143	ohcf	four	108	2bb1		2.64	9.50
	144	ohcf	four	108	mpfi		2.64	9.00
	145	ohcf	four	108	2bbl		2.64	9.00
##	146	ohcf	four	108	mpfi		2.64	7.70
##	147	ohcf	four	108	2bbl		2.64	9.00
##	148	ohcf	four	108	mpfi	3.62	2.64	9.00
##	149	ohcf	four	108	2bbl	3.62	2.64	9.00
##	150	ohcf	four	108	mpfi	3.62	2.64	7.70
##	151	ohc	four	92	2bbl	3.05	3.03	9.00
##	152	ohc	four	92	2bbl	3.05	3.03	9.00
##	153	ohc	four	92	2bbl	3.05	3.03	9.00
##	154	ohc	four	92	2bbl	3.05	3.03	9.00
##	155	ohc	four	92	2bbl	3.05	3.03	9.00
##	156	ohc	four	92	2bbl	3.05	3.03	9.00
##	157	ohc	four	98	2bbl		3.03	9.00
	158	ohc	four	98	2bbl		3.03	9.00
	159	ohc	four	110		3.27	3.35	22.50
	160	ohc	four	110		3.27	3.35	22.50
	161	ohc	four	98	2bbl		3.03	9.00
	162	ohc	four	98	2bbl		3.03	9.00
	163	ohc	four	98	2bbl		3.03	9.00
	164	ohc	four	98	2bb1		3.03	9.00
	165	ohc	four	98	2bbl		3.03	9.00
	166	dohc	four	98	mpfi		3.08	9.40
	167	dohc	four	98 146	mpfi		3.08	9.40 9.30
	168 169	ohc ohc	four four	146 146	mpfi		3.50 3.50	9.30
	170	ohc	four	146	mpfi mpfi		3.50	9.30
	171	ohc	four	146	mpri		3.50	9.30
	172	ohc	four	146	mpfi		3.50	9.30
	173	ohc	four	146	mpfi		3.50	9.30
	174	ohc	four	122	mpfi		3.54	8.70
	175	ohc	four	110	=	3.27	3.35	22.50
	176	ohc	four	122	mpfi		3.54	8.70
	177	ohc	four	122	mpfi		3.54	8.70
	178	ohc	four	122	mpfi		3.54	8.70
	179	dohc	six	171	mpfi		3.35	9.30
	180	dohc	six	171	mpfi		3.35	9.30
##	181	dohc	six	171	mpfi		3.35	9.20
##	182	dohc	six	161	mpfi	3.27	3.35	9.20
##	183	ohc	four	97	idi	3.01	3.40	23.00
##	184	ohc	four	109	mpfi	3.19	3.40	9.00
##	185	ohc	four	97	idi	3.01	3.40	23.00
##	186	ohc	four	109	mpfi	3.19	3.40	9.00
	187	ohc	four	109	mpfi		3.40	9.00
	188	ohc	four	97		3.01	3.40	23.00
	189	ohc	four	109	mpfi		3.40	10.00
	190	ohc	four	109	mpfi		3.40	8.50
	191	ohc	four	109	mpfi		3.40	8.50
	192	ohc	five	136	mpfi		3.40	8.50
	193	ohc	four	97		3.01	3.40	23.00
	194	ohc	four	109	mpfi		3.40	9.00
##	195	ohc	four	141	mpfi	3.78	3.15	9.50

	196	ohc	four		141		mpfi		3.15	9.50
	197	ohc	four		141		mpfi		3.15	9.50
	198	ohc	four		141		mpfi		3.15	9.50
	199	ohc	four		130		mpfi		3.15	7.50
	200	ohc	four		130		mpfi		3.15	7.50
	201	ohc	four		141		mpfi		3.15	9.50
	202	ohc	four		141		mpfi		3.15	8.70
	203	ohcv	six		173		mpfi		2.87	8.80
	204	ohc	six		145		idi		3.40	23.00
##	205	ohc	four		141		mpfi		3.15	9.50
##		${\tt horsePower}$	peakRpm ci	tyMpg	highw		-	-	_	
##	1	111	5000	21			13495		2079588898	
##	2	111	5000	21			16500		2825579663	
##	3	154	5000	19			16500		2825579663	
##	4	102	5500	24		30	13950	0.	2192542575	
##	5	115	5500	18		22	17450	0.	3061417010	
##	6	110	5500	19		25	15250	0.	2515267365	
##	7	110	5500	19		25	17710	0.	3125961968	
##	8	110	5500	19		25	18920	0.	3426344273	
##	9	140	5500	17		20	23875	0.	4656422223	
##	10	160	5500	16		22	NA		NA	
##	11	101	5800	23		29	16430	0.	2808202175	
##	12	101	5800	23		29	16925	0.	2931085845	
##	13	121	4250	21		28	20970	0.	3935256442	
##	14	121	4250	21		28	21105	0.	3968770170	
##	15	121	4250	20		25	24565	0.	4827714612	
##	16	182	5400	16		22	30760	0.	6365622362	
##	17	182	5400	16		22	41315	0.	8985899409	
##	18	182	5400	15		20	36880	0.	7884911375	
##	19	48	5100	47		53	5151	0.	0008192245	
##	20	70	5400	38		43	6295	0.	0292190060	
##	21	70	5400	38		43	6575	0.	0361700015	
##	22	68	5500	37		41	5572	0.	0112705427	
##	23	68	5500	31		38	6377	0.	0312546547	
##	24	102	5500	24		30	7957	0.	0704781292	
##	25	68	5500	31		38	6229	0.	0275805571	
##	26	68	5500	31		38	6692	0.	0390745246	
##	27	68	5500	31		38	7609	0.	0618390348	
##	28	102	5500	24		30	8558	0.	0853979445	
##	29	88	5000	24		30	8921	0.	0944094136	
##	30	145	5000	19		24	12964	0.	1947768234	
##	31	58	4800	49		54	6479	0.	0337868030	
##	32	76	6000	31		38	6855	0.	0431209970	
##	33	60	5500	38		42	5399	0.	0069758205	
##	34	76	6000	30		34	6529	0.	0350280522	
##	35	76	6000	30		34	7129	0.	0499230426	
##	36	76	6000	30		34	7295	0.	0540439899	
##	37	76	6000	30		34	7295	0.	0540439899	
##	38	86	5800	27		33	7895		0689389802	
##	39	86	5800	27		33	9095	0.	0987289608	
##	40	86	5800	27		33	8845	0.	0925227149	
##	41	86	5800	27		33	10295	0.	1285189415	
##	42	101	5800	24		28	12945	0.	1943051487	
##	43	100	5500	25		31	10345	0.	1297601907	

##	44	78	4800	24	29	6785	0.0413832481
##	45	70	5400	38	43	NA	NA
	46	70	5400	38	43	NA	NA
##	47	90	5000	24	29	11048	0.1472121543
##	48	176	4750	15		32250	0.6735514622
##	49	176	4750	15		35550	0.7554739089
##	50	262	5000	13	17	36000	0.7666451517
##	51	68	5000	30	31	5195	0.0019115238
##	52	68	5000	31	38	6095	0.0242540092
##	53	68	5000	31	38	6795	0.0416314979
##	54	68	5000	31	38	6695	0.0391489996
##	55	68	5000	31	38	7395	0.0565264883
##	56	101	6000	17	23	10945	0.1446551810
##	57	101	6000	17	23	11845	0.1669976665
##	58	101	6000	17	23	13645	0.2116826374
##	59	135	6000	16	23	15645	0.2613326051
##	60	84	4800	26	32	8845	0.0925227149
##	61	84	4800	26	32	8495	0.0838339705
##	62	84	4800	26		10595	0.1359664366
##	63	84	4800	26		10245	0.1272776923
##	64 65	64	4650	36		10795	0.1409314334
##	66	84	4800 5000	26		11245	0.1521026761 0.3267464376
## ##	67	120 72	4200	19 31	27 39	18280 18344	0.3283352366
##	68	123	4350	22		25552	0.5263552366
##	69	123	4350	22		28248	0.5742018768
##	70	123	4350	22		28176	0.5742016708
	71	123	4350	22		31600	0.6574152227
	72	155	4750	16		34184	0.7215629810
	73	155	4750	16		35056	0.7432103669
	74	184	4500	14		40960	0.8897770716
##	75	184	4500	14		45400	1.0000000000
##	76	175	5000	19		16503	0.2826324413
##	77	68	5500	37	41	5389	0.0067275706
##	78	68	5500	31	38	6189	0.0265875577
##	79	68	5500	31	38	6669	0.0385035500
##	80	102	5500	24	30	7689	0.0638250335
##	81	116	5500	23	30	9959	0.1201777469
##	82	88	5000	25	32	8499	0.0839332704
##	83	145	5000	19	24	12629	0.1864604538
##	84	145	5000	19		14869	0.2420684177
##		145	5000	19		14489	0.2326349238
	86	88	5000	25	32	6989	0.0464475448
	87	88	5000	25	32	8189	0.0762375254
	88	116	5500	23	30	9279	0.1032967579
	89	116	5500	23	30	9279	0.1032967579
	90	69	5200	31	37	5499	0.0094583189
	91	55	4800	45	50	7099	0.0491782930
	92	69	5200	31	37	6649	0.0380070503
	93	69	5200	31	37	6849	0.0429720471
##		69	5200	31	37	7349	0.0553845390
## ##		69	5200	31 31	37 37	7299	0.0541432898 0.0665557817
##		69 69	5200 5200	31	37 37	7799 7499	0.0591082866
##	91	09	5200	31	31	1433	0.0031002000

##	98	69	5200	31	37	7999	0.0715207785
##	99	69	5200	31	37	8249	0.0777270245
##	100	97	5200	27	34	8949	0.0951045132
##	101	97	5200	27	34	9549	0.1099995035
##	102	152	5200	17	22	13499	0.2080581898
##	103	152	5200	17	22	14399	0.2304006752
##	104	152	5200	19	25	13499	0.2080581898
##	105	160	5200	19	25	17199	0.2999106301
##	106	200	5200	17	23	19699	0.3619730897
##	107	160	5200	19	25	18399	0.3297006107
##	108	97	5000	19	24	11900	0.1683630406
##	109	95	4150	28	33	13200	0.2006355196
##	110	97	5000	19	24	12440	0.1817685319
##	111	95	4150	25	25	13860	0.2170200089
##	112	95	5000	19	24	15580	0.2597189812
##	113	95	4150	28	33	16900	0.2924879599
##	114	95	5000	19		16695	0.2873988382
##	115	95	4150	25		17075	0.2968323321
##	116	97	5000	19		16630	0.2857852142
##	117	95	4150	28		17950	0.3185541929
##	118	142	5600	18		18150	0.3235191897
##	119	68	5500	37	41	5572	0.0112705427
##	120	102	5500	24	30	7957	0.0704781292
##	121	68	5500	31	38	6229	0.0275805571
##	122	68	5500	31	38	6692	0.0390745246
##	123	68	5500	31	38	7609	0.0618390348
##	124	88	5000	24	30	8921	0.0944094136
##	125	145	5000	19		12764	0.1898118266
##	126	143	5500	19		22018	0.4195422273
##	127	207	5900	17		32528	0.6804528077
## ##	128 129	207 207	5900 5900	17 17		34028 37028	0.7176902835
##	130	288	5750	17	28	NA	0.7921652351 NA
##	131	NA	NA	23	31	9295	0.1036939576
##	132	NA	NA	23	31	9895	0.1185889479
##	133	110	5250	21	28	11850	0.1671217914
	134	110	5250	21		12170	0.1750657862
	135	110	5250	21		15040	0.2463134899
	136	110	5250	21		15510	0.2579812323
##	137	160	5500	19		18150	0.3235191897
##	138	160	5500	19		18620	0.3351869321
##	139	69	4900	31	36	5118	0.000000000
##	140	73	4400	26	31	7053	0.0480363438
##	141	73	4400	26	31	7603	0.0616900849
##	142	82	4800	32	37	7126	0.0498485676
##	143	82	4400	28	33	7775	0.0659599821
##	144	94	5200	26	32	9960	0.1202025719
##	145	82	4800	24	25	9233	0.1021548086
##	146	111	4800	24	29	11259	0.1524502259
##	147	82	4800	28	32	7463	0.0582145872
##	148	94	5200	25	31	10198	0.1261109180
##	149	82	4800	23	29	8013	0.0718683283
##	150	111	4800	23	23	11694	0.1632490939
##	151	62	4800	35	39	5348	0.0057097463

##	152	62	4800	31	38	6338	0.0302864803
##	153	62	4800	31	38	6488	0.0340102279
##	154	62	4800	31	37	6918	0.0446849710
##	155	62	4800	27	32	7898	0.0690134551
##	156	62	4800	27	32	8778	0.0908594409
##	157	70	4800	30	37	6938	0.0451814706
##	158	70	4800	30	37	7198	0.0516359664
##	159	56	4500	34	36	7898	0.0690134551
##	160	56	4500	38	47	7788	0.0662827069
##	161	70	4800	38	47	7738	0.0650414577
##	162	70	4800	28	34	8358	0.0804329477
##	163	70	4800	28	34	9258	0.1027754332
##	164	70	4800	29	34	8058	0.0729854526
##	165	70	4800	29	34	8238	0.0774539497
##	166	112	6600	26	29	9298	0.1037684326
##	167	112	6600	26	29	9538	0.1097264287
##	168	116	4800	24	30	8449	0.0826920213
##	169	116	4800	24	30	9639	0.1122337520
##	170	116	4800	24	30	9989	0.1209224964
##	171	116	4800	24	30	11199	0.1509607269
##	172	116	4800	24	30	11549	0.1596494712
##	173	116	4800	24	30	17669	0.3115783725
##	174	92	4200	29	34	8948	0.0950796882
##	175	73	4500	30	33	10698	0.1385234100
##	176	92	4200	27	32	9988	0.1208976714
##	177	92	4200	27		10898	0.1434884067
##	178	92	4200	27		11248	0.1521771511
##	179	161	5200	20		16558	0.2839978154
##	180	161	5200	19		15998	0.2700958244
##	181	156	5200	20		15690	0.2624497294
##	182	156	5200	19		15750	0.2639392284
##	183	52	4800	37	46	7775	0.0659599821
##	184	85	5250	27	34	7975	0.0709249789
##	185	52	4800	37	46	7995	0.0714214786
##	186	85	5250	27	34	8195	0.0763864753
##	187	85	5250	27	34	8495	0.0838339705
##	188	68	4500	37	42	9495	0.1086589544
##	189	100	5500	26	32	9995	0.1210714463
##	190	90	5500	24		11595	0.1607914205
##	191	90	5500	24	29	9980	0.1206990715
##	192	110	5500	19		13295	0.2029938931
##	193	68	4500	33		13845	0.2166476342
##	194	88	5500	25		12290	0.1780447843
##	195	114	5400	23		12940	0.1941810238
##	196	114	5400	23		13415	0.2059728911
##	197	114	5400	24		15985	0.2697730996
##	198	114	5400	24		16515	0.2829303411
##	199	162	5100	17		18420	0.3302219354
##	200	162	5100	17		18950	0.3433791768
##	201	114	5400	23		16845	0.2911225858
##	202	160	5300	19		19045	0.3457375503
##	203	134	5500	18		21485	0.4063105109
##	204	106	4800	26		22470	0.4307631200
##	205	114	5400	19	25	22625	0.4346109925

```
##
       precioNormZscore
## 1
            0.036223511
## 2
            0.414350467
## 3
             0.414350467
## 4
             0.093477343
## 5
             0.533891434
## 6
             0.257059720
## 7
             0.566607910
## 8
             0.718865352
## 9
             1.342365873
## 10
                      NA
## 11
             0.405542185
## 12
             0.467829321
## 13
             0.976822177
## 14
             0.993809578
## 15
             1.429190365
## 16
             2.208723306
## 17
             3.536886373
## 18
            2.978818803
## 19
           -1.013723682
           -0.869771191
## 20
## 21
           -0.834538063
## 22
           -0.960748158
## 23
           -0.859452918
## 24
           -0.660637414
## 25
           -0.878076142
## 26
           -0.819815649
## 27
           -0.704427157
## 28
           -0.585012022
## 29
           -0.539334790
## 30
           -0.030593598
## 31
           -0.846617993
## 32
           -0.799304936
## 33
           -0.982517198
## 34
           -0.840326363
## 35
           -0.764826804
## 36
           -0.743938593
## 37
           -0.743938593
## 38
           -0.668439035
## 39
           -0.517439918
## 40
           -0.548898067
## 41
           -0.366440801
## 42
           -0.032984417
## 43
           -0.360149171
## 44
           -0.808113218
## 45
                      NA
## 46
                      NA
## 47
           -0.271688855
## 48
            2.396213877
## 49
             2.811461448
## 50
             2.868086117
## 51
           -1.008187048
## 52
           -0.894937710
## 53
           -0.806854892
```

```
## 54
           -0.819438152
## 55
           -0.731355333
           -0.284649612
## 56
## 57
           -0.171400275
## 58
            0.055098401
## 59
            0.306763596
## 60
           -0.548898067
## 61
           -0.592939476
## 62
           -0.328691021
## 63
           -0.372732431
## 64
           -0.303524502
## 65
           -0.246899833
## 66
            0.638332490
## 67
            0.646385776
## 68
            1.553387139
## 69
            1.892631822
## 70
            1.883571875
## 71
            2.314422688
## 72
            2.639574120
## 73
            2.749300145
## 74
            3.492215800
## 75
            4.050912533
## 76
            0.414727964
## 77
           -0.983775524
## 78
           -0.883109446
## 79
           -0.822709799
## 80
           -0.694360550
## 81
           -0.408720553
## 82
           -0.592436146
## 83
           -0.072747518
## 84
            0.209117500
## 85
            0.161301113
## 86
           -0.782443368
## 87
           -0.631444251
## 88
           -0.494286720
## 89
           -0.494286720
## 90
           -0.969933938
## 91
           -0.768601782
## 92
           -0.825226451
## 93
           -0.800059932
## 94
           -0.737143633
## 95
           -0.743435263
## 96
           -0.680518964
## 97
           -0.718268743
## 98
           -0.655352444
## 99
           -0.623894295
## 100
           -0.535811477
## 101
           -0.460311918
## 102
            0.036726842
## 103
            0.149976179
## 104
            0.036726842
## 105
            0.502307452
## 106
            0.816888946
## 107
            0.653306569
```

```
## 108
           -0.164479482
## 109
           -0.000897105
           -0.096529879
## 110
## 111
            0.082152409
## 112
            0.298584477
## 113
            0.464683506
## 114
            0.438887823
## 115
            0.486704210
## 116
            0.430708704
## 117
            0.596807733
## 118
            0.621974252
           -0.960748158
## 119
## 120
           -0.660637414
## 121
           -0.878076142
## 122
           -0.819815649
## 123
           -0.704427157
## 124
           -0.539334790
## 125
           -0.055760118
## 126
            1.108694739
## 127
            2.431195339
## 128
            2.619944235
## 129
            2.997442027
## 130
                      NA
## 131
           -0.492273398
## 132
           -0.416773840
## 133
           -0.170771112
## 134
           -0.130504680
## 135
            0.230634874
## 136
            0.289776195
## 137
            0.621974252
## 138
            0.681115573
## 139
           -1.017876158
## 140
           -0.774390082
## 141
           -0.705182153
## 142
           -0.765204302
## 143
           -0.683538946
## 144
           -0.408594721
## 145
           -0.500075019
## 146
           -0.245138177
## 147
           -0.722798717
## 148
           -0.378646563
## 149
           -0.653590788
## 150
           -0.190400997
## 151
           -0.988934660
## 152
           -0.864360389
## 153
           -0.845485499
## 154
           -0.791377482
## 155
           -0.668061537
## 156
           -0.557328851
## 157
           -0.788860830
## 158
           -0.756144355
## 159
           -0.668061537
## 160
           -0.681903122
## 161
           -0.688194752
```

```
## 162
           -0.610178542
## 163
           -0.496929204
           -0.647928321
## 164
## 165
           -0.625278454
## 166
           -0.491895900
           -0.461696077
## 167
## 168
           -0.598727776
## 169
           -0.448986985
## 170
           -0.404945575
## 171
           -0.252688133
## 172
           -0.208646723
## 173
            0.561448773
## 174
           -0.535937309
## 175
           -0.315730264
## 176
           -0.405071408
## 177
           -0.290563744
## 178
           -0.246522335
## 179
            0.421648757
## 180
            0.351182503
## 181
            0.312426063
## 182
            0.319976018
## 183
           -0.683538946
           -0.658372427
## 184
## 185
           -0.655855775
## 186
           -0.630689255
## 187
           -0.592939476
## 188
           -0.467106879
## 189
           -0.404190580
## 190
           -0.202858424
## 191
           -0.406078069
## 192
            0.011056992
## 193
            0.080264920
## 194
           -0.115404769
           -0.033613580
## 195
## 196
            0.026156903
## 197
            0.349546679
## 198
            0.416237956
## 199
            0.655949054
## 200
            0.722640330
## 201
            0.457762713
## 202
            0.734594427
## 203
            1.041625965
## 204
            1.165571073
## 205
            1.185075126
```

(b) Discretizar en 4 rangos de igual frecuencia y en 4 rangos de igual ancho. Sugerencia: utilice la función binning().

```
carIns2<-carIns %>%na.omit()

# Discretize price into 4 equal-frequency ranges
carIns2$price_freq <- cut(carIns2$price, breaks = quantile(carIns2$price, probs = seq(0, 1, by = 0.25),

# Discretize price into 4 equal-width ranges</pre>
```

```
carIns2$price_width <- cut(carIns2$price, breaks = 4, labels = FALSE, include.lowest = TRUE)</pre>
# Print the transformed data set
print(carIns2)
## # A tibble: 159 x 28
##
       symb normLoss make
                               fuelType aspiration nDoors bodyStyle driveWheels
      <int>
                                                    <fct> <fct>
##
               <int> <fct>
                               <fct>
                                         <fct>
                                                                      <fct>
##
          2
                 164 audi
                                                    four
                                                           sedan
                                                                     fwd
   1
                               gas
                                         std
          2
## 2
                 164 audi
                               gas
                                         std
                                                    four
                                                           sedan
                                                                     4wd
## 3
          1
                 158 audi
                               gas
                                        std
                                                    four
                                                           sedan
                                                                     fwd
## 4
         1
                 158 audi
                                        turbo
                                                    four
                                                           sedan
                                                                     fwd
                               gas
## 5
          2
                 192 bmw
                                        std
                                                    two
                                                           sedan
                                                                     rwd
                               gas
## 6
          0
                 192 bmw
                                        std
                                                    four
                                                           sedan
                                                                     rwd
                               gas
##
  7
          0
                 188 bmw
                                                           sedan
                               gas
                                        \operatorname{\mathsf{std}}
                                                    two
                                                                     rwd
##
  8
          0
                 188 bmw
                               gas
                                         std
                                                    four
                                                           sedan
                                                                     rwd
## 9
          2
                 121 chevrolet gas
                                         std
                                                    two
                                                           hatchback fwd
                                                           hatchback fwd
## 10
          1
                  98 chevrolet gas
                                         std
                                                    two
## # i 149 more rows
## # i 20 more variables: engineLocation <fct>, wheelBase <dbl>, length <dbl>,
       width <dbl>, height <dbl>, curbWeight <int>, engineType <fct>,
## #
       nrCylinds <fct>, engineSize <int>, fuelSystem <fct>, bore <dbl>,
## #
       stroke <dbl>, compressionRatio <dbl>, horsePower <int>, peakRpm <int>,
       cityMpg <int>, highwayMpg <int>, price <int>, price_freq <int>,
       price_width <int>
## #
```

- 3. Con la semilla 111019, obtenga las siguientes muestras en el conjunto de datos de seguro de automóvil. Sugerencia: utilice la función sample\_frac().
- (a) Una muestra aleatoria del 60% de los casos, con reemplazo.

```
# Establece el valor de semilla para reproducibilidad
set.seed(111019)

# Convierte el objeto en dataframe
dfAuto <- as.data.frame(carIns)

# Obtiene una muestra aleatoria del %60 de los casos con reemplazo
dfAuto <- sample_frac(dfAuto, 0.6, replace = TRUE)

# Imprime el nuevo dataframe
print(dfAuto)</pre>
```

##		symb	${\tt normLoss}$	make	fuelType	aspiration	${\tt nDoors}$	bodyStyle
##	1	1	128	nissan	diesel	std	two	sedan
##	2	1	101	honda	gas	std	two	hatchback
##	3	0	161	peugot	gas	std	four	sedan
##	4	2	NA	audi	gas	std	two	sedan
##	5	0	102	subaru	gas	std	four	sedan
##	6	3	NA	volkswagen	gas	std	two	convertible
##	7	-2	103	volvo	gas	std	four	sedan
##	8	2	137	honda	gas	std	two	hatchback
##	9	1	148	dodge	gas	std	four	sedan
##	10	0	NA	renault	gas	std	four	wagon

шш	4.4	0	DT A	7.1			4	
##	12	3	NA 100	volkswagen	gas	std		convertible
##		0	108	nissan	gas	std	four	sedan
##	13	-1	95	volvo	gas	std	four	sedan
##	14	1	98	chevrolet	gas	std	two	hatchback
##	15	1	NA	porsche	gas	std	two	hatchback
##	16	0	NA	volkswagen	gas	std	four	sedan
##	17	-1	65	toyota	gas	std	four	hatchback
##	18	3	150	saab	gas	std	two	hatchback
##	19	0	NA	isuzu	gas	std	four	sedan
##	20	1	119	plymouth	gas	std	two	hatchback
##	21	1	NA	alfa-romero	gas	std	two	hatchback
##	22	3	NA	alfa-romero	gas	std	two	convertible
##	23	1	128	nissan	gas	std	two	sedan
##	24	1	168	toyota	gas	std	two	hatchback
##	25	-1	93	mercedes-benz	diesel	turbo	four	sedan
##	26	3	NA	alfa-romero	gas	std	two	convertible
##	27	2	192	bmw	gas	std	two	sedan
##	28	1	NA	porsche	gas	std	two	hatchback
##	29	2	134	toyota	gas	std	two	hardtop
##	30	-1	74	volvo	gas	turbo	four	wagon
##	31	1	101	honda	gas	std	two	hatchback
##	32	3	NA	volkswagen	gas	std	two	convertible
##	33	2	NA	isuzu	gas	std	two	hatchback
##	34	3	NA	plymouth	gas	turbo	two	hatchback
##	35	0	115	mazda	gas	std	four	sedan
##	36	0	192	bmw	gas	std	four	sedan
##	37	-1	95	volvo	gas	std	four	sedan
##	38	1	118	dodge	gas	turbo	two	hatchback
##	39	1	113	mazda	gas	std	four	sedan
##	40	2	134	toyota	gas	std	two	hatchback
##	41	0	108	nissan	gas	std	four	wagon
##	42	2	134	toyota	gas	std	two	convertible
##	43	0	NA	peugot	gas	std	four	wagon
##	44	1	125	mitsubishi	gas	std	four	sedan
##	45	1	158	audi	gas	turbo	four	sedan
##	46	0	NA	peugot	gas	std	four	wagon
##	47	0	115	mazda	gas	std	four	sedan
##	48	0	85	honda	gas	std	four	sedan
	49	1	231	nissan	gas	std	two	hatchback
	50	1	113	mazda	gas	std	four	sedan
	51	0	145	jaguar	gas	std	four	sedan
	52	1	148	dodge	gas	turbo	<na></na>	sedan
	53	2	164	audi	gas	std	four	sedan
##	54	3	150	saab	gas	std	two	hatchback
##	55	3	145	dodge	gas	turbo	two	hatchback
##	56	3	197	toyota	gas	std	two	hatchback
##	57	3	153	mitsubishi	gas	std	two	hatchback
##	58	1	128	nissan	gas	std	two	sedan
##	59	0	91	toyota	gas	std	four	wagon
##	60	-1	74	plymouth	gas	std	four	wagon
##	61	1	168	toyota	gas	std	two	sedan
##	62	3	256	volkswagen	gas	std	two	hatchback
##	63	0	161	peugot	gas	turbo	four	sedan
	64	0	NA	bmw		std	four	sedan
##	04	U	IVA	DIIIM	gas	sia	Tour	aeuall

## 65	0	78	honda	gas	std	four	wagon
## 66	-1	95	volvo	gas	turbo	four	sedan
## 67	2	134	toyota	gas	std	two	hardtop
## 68	0	NA	bmw	gas	std	two	sedan
## 69	0	NA	peugot	gas	std	four	wagon
## 70	0	91	toyota	diesel	std	four	sedan
## 71	1	148	dodge	gas	turbo	<na></na>	sedan
## 72	0	161	peugot	gas	std	four	sedan
## 73	-1	95	volvo	gas	turbo	four	sedan
## 74	1	128	nissan	gas	std	two	sedan
## 75	1	104	mazda	gas	std	two	hatchback
## 76	0	NA	peugot	diesel	turbo	four	wagon
## 77	3	150	mazda	gas	std	two	hatchback
## 78	-1	65	toyota	gas	std	four	sedan
## 79	2	134	toyota	gas	std	two	hardtop
## 80	3	150	saab	gas	std	two	hatchback
## 81	1	168	toyota	gas	std	two	sedan
## 82	0	91	toyota	gas	std	four	hatchback
## 83	2	104	saab	gas	std	four	sedan
## 84	2	164	audi	gas	std	four	sedan
## 85	0	85	subaru	gas	turbo	four	wagon
## 86	0	108	nissan	gas	std	four	sedan
## 87	3	150	mazda	gas	std	two	hatchback
## 88	-1	74	volvo	gas	turbo	four	wagon
## 89	1	122	nissan	gas	std	four	sedan
## 90	2	161	mitsubishi	gas	std	two	hatchback
## 91	3	150	mazda	gas	std	two	hatchback
## 92	0	85	subaru	gas	std	four	wagon
## 93	0	102	subaru	gas	turbo	four	sedan
## 94	1	104	mazda	gas	std	two	hatchback
## 95	0	91	toyota	gas	std	four	wagon
## 96	2	83	subaru	gas	std	two	hatchback
## 97	-1	90	toyota	gas	std	four	sedan
## 98	-1	74	volvo	gas	std	four	wagon
## 99	0	91	toyota	gas	std	four	wagon
## 100	3	NA	mitsubishi	gas	turbo	two	hatchback
## 101	3	150	saab	gas	std	two	hatchback
## 102	0	106	nissan	gas	std	four	hatchback
## 103	2	94	volkswagen	diesel	std	four	sedan
## 104	0	110	honda	gas	std	four	sedan
## 105	3	NA	mitsubishi	gas	turbo	two	hatchback
## 106	3	150	mazda	gas	std	two	hatchback
## 107	0		mercedes-benz	gas	std	four	sedan
## 108	0	NA	peugot	gas	std	four	wagon
## 109	1	128	nissan	diesel	std	two	sedan
## 110	0	161	peugot	gas	std	four	sedan
## 111	0	91	toyota	gas	std	four	hatchback
## 112	3	153	mitsubishi	gas	std	two	hatchback
## 113	0	161	peugot	gas	std	four	sedan
## 114	0	91	toyota	diesel	std	four	hatchback
## 115	1	74	toyota	gas	std	four	hatchback
## 116	0	115	mazda	gas	std	four	sedan
## 117	2	122	volkswagen	diesel	std	two	sedan
## 118	0	102	subaru	gas	std	four	sedan

##	119	2	13	R4	toyota	gas		std	two	hardtop
	120	0		91	toyota	J		std	four	hatchback
	121	0		39	subaru	•		std	four	wagon
	122	0		JA	peugot	0		std	four	wagon
	123	1	14		dodge	_		std	four	sedan
##					_	_	length			curbWeight
	1		fwd	0	front	94.5	165.3	63.8	54.5	2017
##	2		fwd		front	93.7	150.0	64.0	52.6	1940
##	3		rwd		front	107.9	186.7	68.4	56.7	3075
##	4		fwd		front	99.8	177.3	66.3	53.1	2507
##	5		4wd		front	97.0	172.0	65.4	54.3	2385
##	6		fwd		front	94.5	159.3	64.2	55.6	2254
##	7		rwd		front	104.3	188.8	67.2	56.2	2935
##	8		fwd		front	86.6	144.6	63.9	50.8	1713
##	9		fwd		front	93.7	157.3	63.8	50.6	1989
##	10		fwd		front	96.1	181.5	66.5	55.2	2579
##	11		fwd		front	94.5	159.3	64.2	55.6	2254
##	12		fwd		front	100.4	184.6	66.5	55.1	3060
##	13		rwd		front	109.1	188.8	68.9	55.5	3012
##	14		fwd		front	94.5	155.9	63.6	52.0	1874
##	15		rwd		front	98.4	175.7	72.3	50.5	3366
##	16		fwd		front	100.4	180.2	66.9	55.1	2661
##	17		fwd		front	102.4	175.6	66.5	53.9	2458
##	18		fwd		front	99.1	186.6	66.5	56.1	2658
##	19		rwd		front	94.3	170.7	61.8	53.5	2337
##	20		fwd		front	93.7	157.3	63.8	50.8	1918
##	21		rwd		front	94.5	171.2	65.5	52.4	2823
##	22		rwd		front	88.6	168.8	64.1	48.8	2548
##	23		fwd		front	94.5	165.3	63.8	54.5	1889
##	24		rwd		front	94.5	168.7	64.0	52.6	2204
##	25		rwd		front	110.0	190.9	70.3	56.5	3515
##	26		rwd		front	88.6	168.8	64.1	48.8	2548
##	27		rwd		front	101.2	176.8	64.8	54.3	2395
##	28		rwd		front	98.4	175.7	72.3	50.5	3366
##	29		rwd		front	98.4	176.2	65.6	52.0	2679
##	30		rwd		front	104.3	188.8	67.2	57.5	3157
	31		fwd		front	93.7	150.0	64.0	52.6	1837
##			fwd		front	94.5		64.2	55.6	2254
##			rwd		front	96.0		65.2	51.4	2734
##			rwd		front	95.9			50.2	2818
## ##			fwd		front	98.8 101.2			55.5 54.3	2410 2395
##			rwd rwd		front front	101.2			55.5	2952
	38		fwd		front	93.7			50.8	2128
##			fwd		front	93.1		64.2	54.1	1945
##			rwd		front	98.4		65.6	52.0	2714
##			fwd		front	100.4			56.1	3296
##			rwd		front	98.4			53.0	2975
##			rwd		front	114.2		68.4	56.7	3285
##			fwd		front	96.3		65.4	51.6	2365
##			fwd		front	105.8		71.4	55.9	3086
##			rwd		front	114.2		68.4	58.7	3230
##			fwd		front	98.8		66.5	55.5	2410
##			fwd		front	96.5	175.4	65.2	54.1	2304
	-								<b>-</b>	<b>-</b>

##	49	rwd	front	99.2	178.5	67.9	49.7	3139
##	50	fwd	front	93.1	166.8	64.2	54.1	1950
##	51	rwd	front	113.0	199.6	69.6	52.8	4066
##	52	fwd	front	93.7	157.3	63.8	50.6	2191
##	53	4wd	front	99.4	176.6	66.4	54.3	2824
##	54	fwd	front	99.1	186.6	66.5	56.1	2658
##	55	fwd	front	95.9	173.2	66.3	50.2	2811
##	56	rwd	front	102.9	183.5	67.7	52.0	2976
##	57	fwd	front	96.3	173.0	65.4	49.4	2328
##	58	fwd	front	94.5	165.3	63.8	54.5	1951
##	59	4wd	front	95.7	169.7	63.6	59.1	3110
##	60	fwd	front	103.3	174.6	64.6	59.8	2535
##	61	rwd	front	94.5	168.7	64.0	52.6	2265
##	62	fwd	front	94.5	165.7	64.0	51.4	2221
##	63	rwd	front	108.0	186.7	68.3	56.0	3130
##	64	rwd	front	110.0	197.0	70.9	56.3	3505
##	65	fwd	front	96.5	157.1	63.9	58.3	2024
##	66	rwd	front	109.1	188.8	68.8	55.5	3049
##	67	rwd	front	98.4	176.2	65.6	52.0	2540
##	68	rwd	front	103.5	193.8	67.9	53.7	3380
##	69	rwd	front	114.2	198.9	68.4	58.7	3230
##	70	fwd	front	95.7	166.3	64.4	53.0	2275
##	71	fwd	front	93.7	157.3	63.8	50.6	2191
##	72	rwd	front	107.9	186.7	68.4	56.7	3075
##	73	rwd	front	109.1	188.8	68.9	55.5	3062
	74	fwd	front	94.5	165.3	63.8	54.5	1889
	75	fwd	front	93.1	159.1	64.2	54.1	1890
	76	rwd	front	114.2	198.9	68.4	58.7	3430
	77	rwd	front	95.3	169.0	65.7	49.6	2380
	78	fwd	front	102.4	175.6	66.5	54.9	2326
	79	rwd	front	98.4	176.2	65.6	52.0	2536
##		fwd	front	99.1	186.6	66.5	56.1	2658
##		rwd	front	94.5	168.7	64.0	52.6	2265
##		fwd	front	95.7	166.3	64.4	52.8	2122
##		fwd	front	99.1	186.6	66.5	56.1	2695
##		fwd	front	99.8	176.6	66.2	54.3	2337
##		4wd	front	96.9	173.6	65.4	54.9	2650
##		fwd	front	100.4	184.6	66.5	55.1	3060
##		rwd	front	95.3	169.0	65.7	49.6	2380
##		rwd	front	104.3	188.8	67.2	57.5	3157
##		fwd	front	94.5	165.3	63.8	54.5	1938
##		fwd	front	93.7	157.3	64.4	50.8	2004
##		rwd	front	95.3	169.0	65.7	49.6	2500
##		4wd	front	96.9	173.6	65.4	54.9	2420
##		4wd	front	97.0	172.0	65.4	54.3	2510
##		fwd	front	93.1	159.1	64.2	54.1	1905
##		4wd	front	95.7	169.7	63.6	59.1	3110
##		fwd	front	93.7	156.9	63.4	53.7	2050
##		rwd	front	104.5	187.8	66.5	54.1	3131
##		rwd	front	104.3	188.8	67.2	57.5	3034
##		4wd	front	95.7	169.7	63.6	59.1	3110
	100	fwd	front	95.9 99.1	173.2	66.3	50.2	2926
	101	fwd	front	99.1	186.6	66.5	56.1	2658
##	102	fwd	front	97.2	173.4	65.2	54.7	2324

##	103	fwd		front	97.3	3 171.	7 65.5	55.	7 2264
	104	fwd		front	96.5				
	105	fwd		front	95.9				
	106	rwd		front	95.3				
	107	rwd		front	120.9				
	108	rwd		front	114.2				
	109	fwd		front	94.5				
	110	rwd		front	107.9				
	111	fwd		front	95.7				
	112	fwd		front	96.3				
	113	rwd		front	107.9				
##	114	fwd		front	95.7		64.4	52.	8 2275
##	115	fwd		front	95.7	158.	7 63.6	54.	5 2015
##	116	fwd		front	98.8	3 177.8	66.5	55.	5 2410
##	117	fwd		front	97.3	3 171.	7 65.5	55.	7 2261
##	118	fwd		front	97.2	2 172.0	65.4	52.	5 2145
##	119	rwd		front	98.4	176.2	2 65.6	52.	0 2536
##	120	fwd		front	95.7	166.3	64.4	52.	8 2109
##	121	fwd		front	97.0	173.	65.4	53.	0 2290
##	122	rwd		front	114.2				
##	123	fwd		front	93.7				
##			-	engine					compressionRatio
##		ohc	four		103		2.99	3.47	21.90
##		ohc	four		92		2.91	3.41	9.20
##		1	four		120	-	3.46	3.19	8.40
##		ohc	five		136	-	3.19	3.40	8.50
##		ohcf	four		108		3.62	2.64	9.00
##		ohc	four		109	-	3.19	3.40	8.50
##		ohc	four		141	-	3.78	3.15	9.50
##		ohc	four		92		2.91	3.41	9.60
##		ohc	four		90		2.97	3.23	9.40
##		ohc	four		132	-	3.46	3.90	8.70
## ##		ohc	four six		109 181	-	3.19	3.40 3.27	8.50 9.00
##		ohcv ohcv	six		173	-	3.43 3.58	2.87	8.80
	13 14	oncv	four		90	-	3.03	3.11	9.60
##		dohcv	eight		203		3.94	3.11	10.00
	16	ohc	five		136	-	3.19	3.40	8.50
	17	ohc	four		122	_	3.31	3.54	8.70
	18	ohc	four		121	_	3.54	3.07	9.31
	19	ohc	four		111	-	3.31	3.23	8.50
	20	ohc	four		90		2.97	3.23	9.40
##	21	ohcv	six		152		2.68	3.47	9.00
##	22	dohc	four		130	-	3.47	2.68	9.00
##	23	ohc	four		97	_	3.15	3.29	9.40
##	24	ohc	four		98		3.19	3.03	9.00
##	25	ohc	five		183		3.58	3.64	21.50
##	26	dohc	four		130	mpfi	3.47	2.68	9.00
##	27	ohc	four		108	-	3.50	2.80	8.80
##	28	dohcv	eight		203	mpfi	3.94	3.11	10.00
##	29	ohc	four		146	mpfi	3.62	3.50	9.30
##	30	ohc	four		130	mpfi	3.62	3.15	7.50
##	31	ohc	four		79		2.91	3.07	10.10
##	32	ohc	four		109	mpfi	3.19	3.40	8.50

##		ohc	four	119	spfi		3.23	9.20
	34	ohc	four	156	spdi		3.86	7.00
	35	ohc	four	122	2bbl		3.39	8.60
	36	ohc	four	108	mpfi		2.80	8.80
##		ohc	four	141	mpfi		3.15	9.50
	38	ohc	four	98	mpfi		3.39	7.60
	39	ohc	four	91	2bbl		3.15	9.00
##		ohc	four	146	mpfi		3.50	9.30
##		ohcv	six	181	mpfi		3.27	9.00
##		ohc	four	146	mpfi		3.50	9.30
##		. 1	four	120	mpfi		2.19	8.40
##		ohc	four	122	2bb1		3.46	8.50
	45	ohc	five	131	mpfi		3.40	8.30
	46	. 1	four	120	mpfi		3.19	8.40
##		ohc	four	122	2bbl		3.39	8.60
	48	ohc	four	110	1bbl		3.58	9.00
	49	ohcv	six	181	mpfi		3.27	9.00
	50	ohc	four	91	2bbl		3.15	9.00
##		dohc	six	258	mpfi		4.17	8.10
##		ohc	four	98	mpfi		3.39	7.60
##		ohc	five	136	mpfi		3.40	8.00
	54	ohc	four	121	mpfi		3.07	9.31
	55	ohc	four	156		3.60	3.90	7.00
	56	dohc	six	171	mpfi		3.35	9.30
	57	ohc	four	122	2bb1		3.46	8.50
	58	ohc	four	97	2bb1		3.29	9.40
	59	ohc	four	92	2bbl		3.03	9.00
##		ohc	four	122	2bb1		3.46	8.50
## ##		dohc ohc	four	98 109	mpfi		3.08	9.40
##		1	four four	134	mpfi mpfi		3.40 3.21	8.50 7.00
##		ohc	six	209	mpri		3.39	8.00
	65	ohc	four	92	mpri 1bbl		3.41	9.20
	66	ohc	four	141	mpfi		3.15	8.70
	67	ohc	four	146	mpri		3.50	9.30
	68	ohc	six	209	mpri		3.39	8.00
##		1	four	120	mpfi		3.19	8.40
##		ohc	four	110	-	3.27	3.35	22.50
##		ohc	four	98	mpfi		3.39	7.60
	72	1	four	120	mpfi		2.19	8.40
##		ohc	four	141	mpfi		3.15	9.50
##		ohc	four	97	2bbl		3.29	9.40
	75	ohc	four	91	2bb1		3.15	9.00
##		1	four	152		3.70	3.52	21.00
	77	rotor	two	70	4bbl	NA	NA	9.40
	78	ohc	four	122	mpfi		3.54	8.70
	79	ohc	four	146	mpfi		3.50	9.30
##		ohc	four	121	mpfi		3.07	9.31
##		dohc	four	98	mpfi		3.08	9.40
##		ohc	four	98	2bb1		3.03	9.00
##		ohc	four	121	mpfi		3.07	9.30
##		ohc	four	109	mpfi		3.40	10.00
##		ohcf	four	108	mpfi		2.64	7.70
##	86	ohcv	six	181	mpfi		3.27	9.00

##	87	rotor	two		70		4bbl	NA	NA	9.40
##		ohc	four		130		mpfi		3.15	7.50
	89	ohc	four		97		2bbl		3.29	9.40
	90	ohc	four		92		2bb1		3.23	9.40
	91	rotor	two		80		mpfi	NA	NA	9.40
	92	ohcf	four		108		2bbl		2.64	9.00
	93	ohcf	four		108		mpfi		2.64	7.70
	93 94	ohc	four		91		2bbl		3.15	9.00
	9 <del>4</del> 95	ohc	four		92		2bb1		3.13	9.00
##	96	ohcf	four		92 97		2bbl		2.36	9.00
	90 97									
		dohc	six		171		mpfi		3.35	9.20
##	98	ohc	four		141		mpfi		3.15	9.50
	99	ohc	four		92		2bbl		3.03	9.00
	100	ohc	four		156		spdi		3.86	7.00
	101	ohc	four		121		mpfi		3.07	9.31
	102	ohc	four		120		2bbl		3.47	8.50
	103	ohc	four		97			3.01	3.40	23.00
	104	ohc	four		92		1bbl		3.41	9.20
	105	ohc	four		156		spdi		3.86	7.00
	106	rotor	two		70		4bbl	NA	NA	9.40
	107	ohcv	eight		308		mpfi		3.35	8.00
	108	. 1	four		120		mpfi		2.19	8.40
	109	ohc	four		103			2.99	3.47	21.90
	110	. 1	four		120		mpfi		3.19	8.40
	111	ohc	four		98		2bbl		3.03	9.00
	112	ohc	four		122		2bbl		3.46	8.50
	113	1	four		120		mpfi		3.19	8.40
	114	ohc	four		110			3.27	3.35	22.50
	115	ohc	four		92		2bbl		3.03	9.00
	116	ohc	four		122		2bbl		3.39	8.60
	117	ohc	four		97			3.01	3.40	23.00
	118	ohcf	four		108		2bbl		2.64	9.50
	119	ohc	four		146		mpfi		3.50	9.30
	120	ohc	four		98		2bbl		3.03	9.00
	121	ohcf	four		108		2bbl		2.64	9.00
	122	1	four		120		mpfi		2.19	8.40
##	123	ohc	four		90		2bbl	2.97	3.23	9.40
##		horsePower			highway					
##		55	4800	45		50	7099			
##		76	6000	30		34	6529			
##		97	5000	19			16630			
##		110	5500	19			15250			
##		82	4800	24		25	9233			
##		90	5500	24			11595			
##		114	5400	24			15985			
##		58	4800	49		54	6479			
##		68	5500	31		38	6692			
##		NA	NA	23		31	9295			
##		90	5500	24			11595			
	12	152	5200	19			13499			
##		134	5500	18			21485			
##		70	5400	38		43	6295			
##		288	5750	17		28	NA			
##	16	110	5500	19		24	13295	5		

шш	17	00	4000	07	20	11248
##		92	4200	27	32	
##	18	110	5250	21	28	11850
##	19	78	4800	24	29	6785
##	20	68	5500	37	41	5572
##	21	154	5000	19	26	16500
##	22	111	5000	21	27	13495
##	23	69	5200	31	37	5499
##	24	70	4800	29	34	8238
##	25	123	4350	22	25	25552
##	26	111	5000	21	27	13495
##	27	101	5800	23	29	16430
##	28	288	5750	17	28	NA
##	29	116	4800	24	30	11199
##	30	162	5100	17	22	18950
##	31	60	5500	38	42	5399
##		90				
	32		5500	24	29	11595
##	33	90	5000	24	29	11048
##	34	145	5000	19	24	12764
##	35	84	4800	26	32	10245
##	36	101	5800	23	29	16925
##	37	114	5400	23	28	16845
##	38	102	5500	24	30	7957
##	39	68	5000	31	38	6695
##	40	116	4800	24	30	11549
##	41	152	5200	17	22	14399
##	42	116	4800	24	30	17669
##	43	95	5000	19	24	16695
##	44	88	5000	25	32	6989
##	45	140	5500	17	20	23875
##	46	97	5000	19	24	12440
##	47	84	4800	26	32	10245
##	48	86	5800	27	33	8845
##	49	160	5200	19	25	18399
##	50	68	5000	31	38	7395
##	51	176	4750	15	19	32250
##	52	102	5500	24	30	8558
##	53	115	5500	18	22	17450
##	54	110	5250	21	28	11850
##	55	145	5000	19	24	12964
##	56	161	5200	20	24	16558
##	57	88	5000	25	32	8499
##	58	69	5200	31	37	7299
##	59	62	4800	27	32	8778
##	60	88	5000	24	30	8921
##	61	112	6600	26	29	9298
##	62	90	5500	24	29	9980
##	62 63					
		142	5600	18	24	18150
##	64	182	5400	15	20	36880
##	65	76	6000	30	34	7295
##	66	160	5300	19	25	19045
##	67	116	4800	24	30	8449
##	68	182	5400	16	22	41315
##	69	97	5000	19	24	12440
##	70	56	4500	34	36	7898

	71	102	5500	24	30	8558
##	72	95	5000	19	24	15580
##	73	114	5400	19	25	22625
##	74	69	5200	31	37	5499
##	75	68	5000	30	31	5195
##	76	95	4150	25	25	13860
##	77	101	6000	17	23	11845
##	78	92	4200	29	34	8948
##	79	116	4800	24	30	9639
##	80	110	5250	21	28	11850
##	81	112	6600	26	29	9298
##	82	70	4800	28	34	8358
##	83	110	5250	21	28	12170
##	84	102	5500	24	30	13950
##	85	111	4800	23	23	11694
##	86	152	5200	19	25	13499
##	87	101	6000	17	23	10945
##	88	162	5100	17	22	18950
##	89	69	5200	31	37	6849
##	90	68	5500	31	38	6669
##	91	135	6000	16	23	15645
##	92	82	4800	23	29	8013
##	93	111	4800	24	29	11259
##	94	68	5000	31	38	6795
##	95	62	4800	27	32	8778
##	96	69	4900	31	36	5118
##	97	156	5200	20	24	15690
##	98	114	5400	23	28	13415
##	99	62	4800	27	32	8778
##	100	145	5000	19	24	14489
##	101	110	5250	21	28	11850
##	102	97	5200	27	34	8949
##	103	52	4800	37	46	7995
##	104	76	6000	30	34	7295
##	105	145	5000	19	24	12629
##	106	101	6000	17	23	11845
##	107	184	4500	14	16	40960
##	108	95	5000	19	24	16695
##	109	55	4800	45	50	7099
##	110	97	5000	19	24	11900
##	111	70	4800	30	37	7198
##	112	88	5000	25	32	8499
##	113	97	5000	19	24	16630
##	114	56	4500	38	47	7788
##	115	62	4800	31	38	6488
##	116	84	4800	26	32	8495
##	117	52	4800	37	46	7775
##	118	82	4800	32	37	7126
##	119	116	4800	24	30	9639
##	120	70	4800	30	37	7198
##	121	82	4800	28	32	7463
##	122	95	5000	19	24	16695
##	123	68	5500	31	38	6692
	-				30	

(b) Una muestra estratificada del 60% de los casos de automóviles, según el atributo de tipo de combustible (fuelType).

```
# Establece el valor de semilla para reproducibilidad
set.seed(111019)
# Convierte el objeto en un dataframe
dfComb <- as.data.frame(carIns)</pre>
# Crea una muestra estratificada del %60 basada en el atributo fuelType
dfComb <- dfComb %>%
 group_by(fuelType) %>%
 group_split() %>%
                   # Divide en grupos segun los valores unicos de fuelType
 lapply(function(group) sample_frac(group, 0.6, replace = FALSE)) %>%
 bind rows()
# Imprime el dataframe resultante
print(dfComb)
## # A tibble: 123 x 26
      symb normLoss make
                                 fuelType aspiration nDoors bodyStyle driveWheels
##
##
     <int>
             <int> <fct>
                                 <fct>
                                         <fct>
                                                    <fct> <fct>
                                                                    <fct>
##
  1
         0
                NA mazda
                                 diesel
                                         std
                                                    four
                                                           sedan
                                                                    rwd
## 2
        -1
                93 mercedes-benz diesel turbo
                                                    four sedan
                                                                    rwd
## 3
         2
                94 volkswagen diesel std
                                                    four
                                                          sedan
                                                                    fwd
## 4
         0
                93 mercedes-benz diesel turbo
                                                          hardtop
                                                    two
                                                                    rwd
## 5
        -1
                95 volvo
                             diesel turbo
                                                    four sedan
## 6
                                                    four hatchback fwd
        0
                91 toyota
                                 diesel std
## 7
         0
               161 peugot
                                 diesel
                                        turbo
                                                    four sedan
## 8
        -1
                93 mercedes-benz diesel turbo
                                                    four sedan
                                                                   rwd
## 9
                161 peugot
                                 diesel turbo
                                                    four sedan
                                                                   rwd
                                                    four sedan
         0
                161 peugot
## 10
                                 diesel
                                        turbo
                                                                    rwd
## # i 113 more rows
## # i 18 more variables: engineLocation <fct>, wheelBase <dbl>, length <dbl>,
      width <dbl>, height <dbl>, curbWeight <int>, engineType <fct>,
## #
      nrCylinds <fct>, engineSize <int>, fuelSystem <fct>, bore <dbl>,
      stroke <dbl>, compressionRatio <dbl>, horsePower <int>, peakRpm <int>,
## #
      cityMpg <int>, highwayMpg <int>, price <int>
```

(c) Utilice la función table() para inspeccionar la distribución de valores en cada una de las dos muestras anteriores.

```
# Establece la semilla para reproducibilidad
set.seed(111019)

# Convierte el objeto en un dataframe
dfTable <- as.data.frame(carIns)

# Muestra aleatoria del %60 de los casos con reemplazo
mAleatoria <- sample_frac(dfTable, 0.6, replace = TRUE)

# Muestra estratificada del 60% de los casos de automóviles según fuelType
set.seed(111019)</pre>
```

```
mEstratificada <- dfTable %>%
  group_by(fuelType) %>%
  sample_frac(0.6, replace = FALSE) %>%
  ungroup()
# Inspecciona la distribucion de valores en cada muestra
distAleatoria <- table(mAleatoria$fuelType)</pre>
disEstratificada <- table(mEstratificada$fuelType)</pre>
# Imprime la distribucion de valores en cada muestra
print(distAleatoria)
##
## diesel
             gas
             115
print(disEstratificada)
## diesel
             gas
##
       12
             111
```

4. Cargue el paquete corrplot y seleccione los atributos numéricos del conjunto de datos de seguro de automóvil.

```
library(corrplot)

## corrplot 0.92 loaded

# Convierte el objeto en un dataframe
dfCar <- as.data.frame(carIns)

# Selecciona los atributos numericos
dfCar <- select_if(dfCar, is.numeric)</pre>
```

(a) Usando la función cor (), obtenga el coeficiente de correlación de Pearson entre cada par de variables.

```
# Calcula el coeficiente de Pearson entre cada par de variables
dfCorrelacionMatriz <- cor(dfCar)

# Imprime la matriz de correlacion
print(dfCorrelacionMatriz)</pre>
```

```
##
                          symb normLoss wheelBase
                                                     length
                                                                 width
## symb
                    1.00000000
                                    NA -0.5319537 -0.3576115 -0.2329191
## normLoss
                           NA
                                    1
                                                         NA
                                               NA
## wheelBase
                   -0.53195368
                                    NA 1.0000000 0.8745875 0.7951436
## length
                   -0.35761152
                                    NA 0.8745875 1.0000000 0.8411183
## width
                                    NA 0.7951436 0.8411183 1.0000000
                   -0.23291906
## height
                   -0.54103820
                                    NA 0.5894348 0.4910295 0.2792103
## curbWeight
                   -0.22769059
                                    NA 0.7763863 0.8777285 0.8670325
## engineSize
                   -0.10578971
                                    NA 0.5693287 0.6833599 0.7354334
## bore
                                    NA
                                               NA
                                                         NA
                                                                    NA
## stroke
                           NA
                                    NA
                                               NA
                                                         NA
                                                                    NA
```

```
0.2497858 0.1584137
## compressionRatio -0.17851508
                                                                    0.1811286
## horsePower
                                        NΑ
                                                    NΑ
                                                                NΑ
                                                                           NΑ
                               NΑ
## peakRpm
                               NA
                                        NA
                                                    NA
                                                                NA
                                                                           NA
## cityMpg
                     -0.03582263
                                        NA -0.4704136 -0.6709087 -0.6427043
## highwayMpg
                      0.03460600
                                        NA -0.5440819 -0.7046616 -0.6772179
## price
                                        NA
                                                    NA
                                                                NA
                              NA
##
                          height curbWeight engineSize bore stroke
                     -0.54103820 -0.2276906 -0.10578971
                                                            NA
## symb
                                                                    NA
## normLoss
                               NA
                                          NA
                                                            NA
                                                                    NA
## wheelBase
                      0.58943476
                                   0.7763863
                                              0.56932868
                                                            NA
                                                                    NA
## length
                      0.49102946
                                   0.8777285
                                              0.68335987
                                                                    NA
                                   0.8670325
                                                                    NA
## width
                      0.27921032
                                              0.73543340
                                                            NA
## height
                      1.00000000
                                   0.2955717
                                              0.06714874
                                                            NA
                                                                    NA
## curbWeight
                      0.29557173
                                   1.0000000
                                              0.85059407
                                                            NA
                                                                    NA
## engineSize
                      0.06714874
                                   0.8505941
                                               1.00000000
                                                            NA
                                                                    NA
## bore
                               NA
                                          NA
                                                       NA
                                                              1
                                                                    NA
## stroke
                                          NA
                               NA
                                                       NA
                                                            NA
                                                                     1
## compressionRatio
                      0.26121423
                                   0.1513617
                                               0.02897136
                                                            NA
                                                                    NA
## horsePower
                                          NA
                                                       NA
                                                            NA
                                                                    NA
                              NΑ
## peakRpm
                               NA
                                          NA
                                                       NA
                                                            NA
                                                                    NA
## cityMpg
                     -0.04863963 -0.7574138 -0.65365792
                                                            NΔ
                                                                    NΑ
## highwayMpg
                     -0.10735763 -0.7974648 -0.67746991
                                                                    NA
                              NA
                                          NA
                                                            NA
                                                                    NA
## price
##
                     compressionRatio horsePower peakRpm
                                                                cityMpg highwayMpg
                          -0.17851508
                                                NA
                                                            -0.03582263 0.0346060
## symb
                                                        NA
## normLoss
                                    NA
                                                NA
                                                                     NA
## wheelBase
                           0.24978585
                                                NA
                                                        NA -0.47041361 -0.5440819
                           0.15841371
                                                        NA -0.67090866 -0.7046616
## length
                                                NA
## width
                           0.18112863
                                                NA
                                                        NA -0.64270434 -0.6772179
## height
                           0.26121423
                                                NA
                                                        NA -0.04863963 -0.1073576
## curbWeight
                           0.15136174
                                                NA
                                                        NA -0.75741378 -0.7974648
## engineSize
                           0.02897136
                                                NA
                                                           -0.65365792 -0.6774699
## bore
                                    NA
                                                NA
                                                        NA
                                                                     NA
                                                                                 NA
## stroke
                                    NA
                                                NA
                                                        NA
                                                                     NA
                                                                                 NA
## compressionRatio
                           1.0000000
                                                NA
                                                        NA
                                                            0.32470142
                                                                         0.2652014
## horsePower
                                    NA
                                                 1
                                                        NA
                                                                     NA
                                                                                 NA
## peakRpm
                                    NA
                                                NA
                                                         1
                                                                     NA
                                                                                 NA
## cityMpg
                           0.32470142
                                                NA
                                                        NA
                                                            1.00000000
                                                                         0.9713370
## highwayMpg
                           0.26520139
                                                NA
                                                        NA
                                                            0.97133704
                                                                         1.0000000
## price
                                                NA
                                                        NA
                                                                     NA
                                                                                 NA
                                    NΑ
##
                     price
## symb
                        NA
## normLoss
                        NA
## wheelBase
                        NA
## length
                        NA
## width
                        NA
## height
                        NA
## curbWeight
                        NA
## engineSize
                        NA
## bore
                        NA
## stroke
                        NA
## compressionRatio
                        NA
## horsePower
                        NΑ
## peakRpm
                        NA
```

```
## cityMpg NA
## highwayMpg NA
## price 1
```

###(b) Aplicar la función cor.test() al resultado anterior para calcular los valores p y los intervalos de confianza del coeficiente de correlación para cada par de variables.

```
# Aplicar cor.test() a cada par de variables en la matriz de correlación
cor_test_results <- apply(dfCorrelacionMatriz, 2, function(x) {</pre>
  apply(dfCorrelacionMatriz, 2, function(y) {
    # Verifica si hay al menos 3 observaciones válidas en los pares de variables antes de realizar la p
   if (sum(!is.na(x) & !is.na(y)) >= 3) {
      cor.test(x, y)
   } else {
     list(p.value = NA, conf.int = NA)
 })
})
# Imprimir los resultados
# Recorre la matriz
for (i in 1:ncol(dfCorrelacionMatriz)) {
 for (j in 1:ncol(dfCorrelacionMatriz)) {
   result <- cor_test_results[[i]][[j]]</pre>
   p_value <- result$p.value</pre>
    conf_interval <- result$conf.int</pre>
    # Imprime
   print(paste("Variables:", names(dfCorrelacionMatriz)[i], "-", names(dfCorrelacionMatriz)[j]))
    if (!is.na(p_value)) {
     print(paste("p-value:", p_value))
     print("Confidence Interval:")
     print(conf_interval)
      print("No hay suficientes observaciones para calcular la correlación.")
   print("----")
}
## [1] "Variables: - "
## [1] "p-value: 0"
## [1] "Confidence Interval:"
## [1] 1 1
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.0164295167731428"
## [1] "Confidence Interval:"
## [1] -0.9316194 -0.1867033
## attr(,"conf.level")
```

```
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.069179645959289"
## [1] "Confidence Interval:"
## [1] -0.89110428 0.05427735
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.133244647924951"
## [1] "Confidence Interval:"
## [1] -0.8621703 0.1779393
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.000446577902110616"
## [1] "Confidence Interval:"
## [1] -0.9754342 -0.6119296
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.160155972738644"
## [1] "Confidence Interval:"
## [1] -0.8521587 0.2142386
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.300831221263437"
## [1] "Confidence Interval:"
## [1] -0.8084455 0.3443932
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.244420998296568"
## [1] "Confidence Interval:"
## [1] -0.8247689 0.3004754
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
```

```
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.460637061265941"
## [1] "Confidence Interval:"
## [1] -0.4382918 0.7663731
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.372860578843676"
## [1] "Confidence Interval:"
## [1] -0.3910069 0.7889352
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables:
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
```

```
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.0164295167731428"
## [1] "Confidence Interval:"
## [1] -0.9316194 -0.1867033
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0"
## [1] "Confidence Interval:"
## [1] 1 1
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 6.39780078525117e-07"
## [1] "Confidence Interval:"
## [1] 0.9162475 0.9954949
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 2.46840537771126e-05"
## [1] "Confidence Interval:"
## [1] 0.799210 0.988537
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.0116601434365249"
## [1] "Confidence Interval:"
## [1] 0.2380333 0.9383765
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 5.40198640560794e-05"
## [1] "Confidence Interval:"
```

```
## [1] 0.7590846 0.9859508
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.00118125868968013"
## [1] "Confidence Interval:"
## [1] 0.5210756 0.9679931
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.921992921869083"
## [1] "Confidence Interval:"
## [1] -0.6075796 0.6507035
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.00237358374479886"
## [1] "Confidence Interval:"
## [1] -0.9611429 -0.4455247
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.00109511736824098"
## [1] "Confidence Interval:"
## [1] -0.9686525 -0.5287374
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.069179645959289"
## [1] "Confidence Interval:"
## [1] -0.89110428 0.05427735
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
```

```
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 6.39780078525117e-07"
## [1] "Confidence Interval:"
## [1] 0.9162475 0.9954949
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 6.64689742203201e-64"
## [1] "Confidence Interval:"
## [1] 1 1
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 2.05223051171341e-07"
## [1] "Confidence Interval:"
## [1] 0.9365528 0.9966210
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.042783542054936"
## [1] "Confidence Interval:"
## [1] 0.03088854 0.90738027
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 2.7668371528845e-07"
## [1] "Confidence Interval:"
## [1] 0.9317388 0.9963561
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 7.73784273154189e-05"
## [1] "Confidence Interval:"
## [1] 0.7383068 0.9845675
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.818576768241576"
## [1] "Confidence Interval:"
```

```
## [1] -0.6775161 0.5764204
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.000123181347360786"
## [1] "Confidence Interval:"
## [1] -0.9825629 -0.7090050
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 3.74109507767761e-05"
## [1] "Confidence Interval:"
## [1] -0.9872321 -0.7787506
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.133244647924951"
## [1] "Confidence Interval:"
## [1] -0.8621703 0.1779393
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 2.46840537771126e-05"
## [1] "Confidence Interval:"
## [1] 0.799210 0.988537
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 2.05223051171341e-07"
## [1] "Confidence Interval:"
## [1] 0.9365528 0.9966210
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0"
## [1] "Confidence Interval:"
```

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## [1] 1 1
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.110591673679066"
## [1] "Confidence Interval:"
## [1] -0.1418930 0.8713685
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 9.10800049889507e-09"
## [1] "Confidence Interval:"
## [1] 0.9705576 0.9984576
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 6.80134076677211e-06"
## [1] "Confidence Interval:"
## [1] 0.8519359 0.9917744
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.757372473404885"
## [1] "Confidence Interval:"
## [1] -0.6929427 0.5566728
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 2.97280903966168e-05"
## [1] "Confidence Interval:"
## [1] -0.9879715 -0.7902889
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 7.81403263648889e-06"
## [1] "Confidence Interval:"
```

```
## [1] -0.9914764 -0.8469611
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.000446577902110616"
## [1] "Confidence Interval:"
## [1] -0.9754342 -0.6119296
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.0116601434365249"
## [1] "Confidence Interval:"
## [1] 0.2380333 0.9383765
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.042783542054936"
## [1] "Confidence Interval:"
## [1] 0.03088854 0.90738027
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.110591673679066"
## [1] "Confidence Interval:"
## [1] -0.1418930 0.8713685
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0"
## [1] "Confidence Interval:"
## [1] 1 1
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.122807175015777"
## [1] "Confidence Interval:"
## [1] -0.1620715 0.8663057
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.290821815158789"
```

```
## [1] "Confidence Interval:"
## [1] -0.3371611 0.8112613
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.40960229798012"
## [1] "Confidence Interval:"
## [1] -0.4118462 0.7793689
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.302355771638233"
## [1] "Confidence Interval:"
## [1] -0.8080192 0.3454761
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.240859946361403"
## [1] "Confidence Interval:"
## [1] -0.8258415 0.2974122
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.160155972738644"
## [1] "Confidence Interval:"
## [1] -0.8521587 0.2142386
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 5.40198640560794e-05"
## [1] "Confidence Interval:"
```

```
## [1] 0.7590846 0.9859508
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 2.7668371528845e-07"
## [1] "Confidence Interval:"
## [1] 0.9317388 0.9963561
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 9.10800049889507e-09"
## [1] "Confidence Interval:"
## [1] 0.9705576 0.9984576
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.122807175015777"
## [1] "Confidence Interval:"
## [1] -0.1620715 0.8663057
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 6.64689742203201e-64"
## [1] "Confidence Interval:"
## [1] 1 1
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 8.44132054284532e-07"
## [1] "Confidence Interval:"
## [1] 0.9104088 0.9951669
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.699363446087758"
## [1] "Confidence Interval:"
## [1] -0.7073599 0.5368456
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
```

```
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 7.52257326448373e-06"
## [1] "Confidence Interval:"
## [1] -0.9915591 -0.8483391
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 1.29154740563633e-06"
## [1] "Confidence Interval:"
## [1] -0.9946159 -0.9006751
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.300831221263437"
## [1] "Confidence Interval:"
## [1] -0.8084455 0.3443932
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.00118125868968013"
## [1] "Confidence Interval:"
## [1] 0.5210756 0.9679931
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 7.73784273154189e-05"
## [1] "Confidence Interval:"
## [1] 0.7383068 0.9845675
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 6.80134076677211e-06"
## [1] "Confidence Interval:"
## [1] 0.8519359 0.9917744
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.290821815158789"
```

```
## [1] "Confidence Interval:"
## [1] -0.3371611 0.8112613
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 8.44132054284532e-07"
## [1] "Confidence Interval:"
## [1] 0.9104088 0.9951669
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 6.64689742203201e-64"
## [1] "Confidence Interval:"
## [1] 1 1
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables:
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.506971761655448"
## [1] "Confidence Interval:"
## [1] -0.7547803 0.4602444
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 4.46857261601948e-06"
## [1] "Confidence Interval:"
## [1] -0.9926129 -0.8660701
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 2.07611655851527e-06"
## [1] "Confidence Interval:"
## [1] -0.9939250 -0.8886029
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
```

```
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
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## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
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## [1] "----"
## [1] "Variables: - "
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## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
```

```
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
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## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.244420998296568"
## [1] "Confidence Interval:"
## [1] -0.8247689 0.3004754
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
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## [1] "p-value: 0.921992921869083"
## [1] "Confidence Interval:"
## [1] -0.6075796 0.6507035
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.818576768241576"
## [1] "Confidence Interval:"
## [1] -0.6775161 0.5764204
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.757372473404885"
## [1] "Confidence Interval:"
## [1] -0.6929427 0.5566728
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.40960229798012"
## [1] "Confidence Interval:"
## [1] -0.4118462 0.7793689
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.699363446087758"
## [1] "Confidence Interval:"
## [1] -0.7073599 0.5368456
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.506971761655448"
## [1] "Confidence Interval:"
## [1] -0.7547803 0.4602444
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0"
## [1] "Confidence Interval:"
## [1] 1 1
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
```

```
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.298702745074292"
## [1] "Confidence Interval:"
## [1] -0.3428731 0.8090417
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.361725862390858"
## [1] "Confidence Interval:"
## [1] -0.3843425 0.7918784
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
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## [1] "----"
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## [1] "----"
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## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
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## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
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## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
```

```
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
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## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
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## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
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## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
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## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
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## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
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## [1] "No hay suficientes observaciones para calcular la correlación."
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## [1] "Variables: - "
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## [1] "Variables: - "
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## [1] "Variables: - "
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## [1] "Variables: - "
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## [1] "Variables: - "
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## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
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## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
```

```
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.460637061265941"
## [1] "Confidence Interval:"
## [1] -0.4382918 0.7663731
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.00237358374479886"
## [1] "Confidence Interval:"
## [1] -0.9611429 -0.4455247
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.000123181347360786"
## [1] "Confidence Interval:"
## [1] -0.9825629 -0.7090050
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 2.97280903966168e-05"
## [1] "Confidence Interval:"
## [1] -0.9879715 -0.7902889
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.302355771638233"
## [1] "Confidence Interval:"
## [1] -0.8080192 0.3454761
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 7.52257326448373e-06"
## [1] "Confidence Interval:"
## [1] -0.9915591 -0.8483391
## attr(,"conf.level")
```

```
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 4.46857261601948e-06"
## [1] "Confidence Interval:"
## [1] -0.9926129 -0.8660701
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.298702745074292"
## [1] "Confidence Interval:"
## [1] -0.3428731 0.8090417
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 6.64689742203201e-64"
## [1] "Confidence Interval:"
## [1] 1 1
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 4.96067744775155e-11"
## [1] "Confidence Interval:"
## [1] 0.9919467 0.9995824
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.372860578843676"
## [1] "Confidence Interval:"
## [1] -0.3910069 0.7889352
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
```

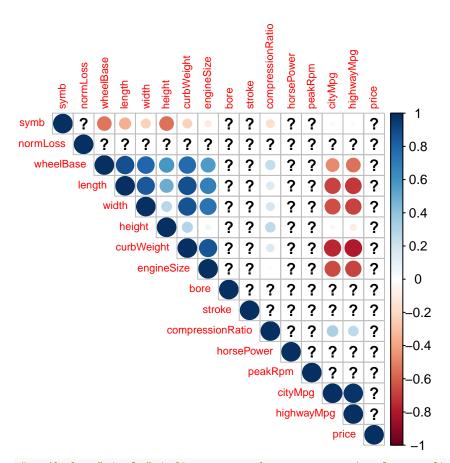
```
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.00109511736824098"
## [1] "Confidence Interval:"
## [1] -0.9686525 -0.5287374
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 3.74109507767761e-05"
## [1] "Confidence Interval:"
## [1] -0.9872321 -0.7787506
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 7.81403263648889e-06"
## [1] "Confidence Interval:"
## [1] -0.9914764 -0.8469611
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.240859946361403"
## [1] "Confidence Interval:"
## [1] -0.8258415 0.2974122
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 1.29154740563633e-06"
## [1] "Confidence Interval:"
## [1] -0.9946159 -0.9006751
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 2.07611655851527e-06"
## [1] "Confidence Interval:"
## [1] -0.9939250 -0.8886029
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 0.361725862390858"
## [1] "Confidence Interval:"
## [1] -0.3843425 0.7918784
## attr(,"conf.level")
```

```
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 4.96067744775155e-11"
## [1] "Confidence Interval:"
## [1] 0.9919467 0.9995824
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "p-value: 6.64689742203201e-64"
## [1] "Confidence Interval:"
## [1] 1 1
## attr(,"conf.level")
## [1] 0.95
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables:
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
```

```
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
## [1] "Variables: - "
## [1] "No hay suficientes observaciones para calcular la correlación."
## [1] "----"
```

(c) Trazar toda la información de correlación usando la función corrplot. Explora algunos de sus parámetros

```
library(corrplot)
# Trazar la matriz de correlacion
corrplot(dfCorrelacionMatriz, method = "circle", type = "upper", tl.cex = 0.7)
```



# method = "circle" indica que se desea representar los coeficientes de correlación utilizando un gráfi
# type = "upper" muestra solo la mitad superior de la matriz de correlación, ya que la mitad inferior e
# tl.cex = 0.7: Controla el tamaño de las etiquetas que se muestran en la matriz de correlación

5. Cargue el conjunto de datos USJudgeRatings, del paquete de conjuntos de datos, que contiene las calificaciones de los abogados de los jueces estatales en el Tribunal Superior de EE.UU. con respecto a un conjunto de atributos.

```
# Cargar el archivo csv USJudgeRatings
ruta <- file.path("R:/Politecnica.Nacional/2023-A/Data Mining/Deberes.Data/USJudgeRatings.csv")
dfJudge <- read.csv(ruta)</pre>
print(dfJudge)
##
                      X CONT INTG DMNR DILG CFMG DECI PREP FAMI ORAL WRIT PHYS RTEN
## 1
        AARONSON, L.H.
                         5.7
                                          7.3
                                                     7.4
                                                           7.1
                                                                7.1
                                                                      7.1
                                                                           7.0
                                                                                 8.3
                               7.9
                                    7.7
                                               7.1
                                                                                       7.8
## 2
       ALEXANDER, J.M.
                         6.8
                               8.9
                                    8.8
                                          8.5
                                               7.8
                                                     8.1
                                                           8.0
                                                                8.0
                                                                      7.8
                                                                           7.9
                                                                                 8.5
                                                                                       8.7
                                    7.8
                                               7.5
                                                     7.6
                                                           7.5
                                                                7.5
                                                                           7.4
## 3
       ARMENTANO, A.J.
                         7.2
                               8.1
                                          7.8
                                                                      7.3
                                                                                 7.9
                                                                                       7.8
## 4
           BERDON, R.I.
                         6.8
                               8.8
                                    8.5
                                          8.8
                                               8.3
                                                     8.5
                                                           8.7
                                                                8.7
                                                                      8.4
                                                                           8.5
                                                                                 8.8
                                                                                       8.7
## 5
                         7.3
                               6.4
                                          6.5
                                                     6.2
                                                           5.7
                                                                5.7
                                                                           5.3
                                                                                 5.5
          BRACKEN, J.J.
                                    4.3
                                               6.0
                                                                      5.1
                                                                                       8.6
## 6
            BURNS, E.B.
                         6.2
                               8.8
                                    8.7
                                          8.5
                                               7.9
                                                     8.0
                                                           8.1
                                                                8.0
                                                                      8.0
                                                                           8.0
                                                                                 8.6
## 7
        CALLAHAN, R.J. 10.6
                               9.0
                                    8.9
                                          8.7
                                               8.5
                                                     8.5
                                                           8.5
                                                                8.5
                                                                      8.6
                                                                           8.4
                                                                                 9.1
## 8
                         7.0
                               5.9
                                               5.4
                                                     5.9
                                                                5.1
                                                                                 6.8
            COHEN, S.S.
                                    4.9
                                          5.1
                                                           4.8
                                                                      4.7
                                                                                       5.0
## 9
             DALY, J.J.
                         7.3
                               8.9
                                    8.9
                                          8.7
                                               8.6
                                                     8.5
                                                           8.4
                                                                8.4
                                               7.9
## 10
          DANNEHY, J.F.
                         8.2
                               7.9
                                    6.7
                                                     8.0
                                                           7.9
                                                                8.1
                                                                      7.7
                                                                           7.8
                                                                                 8.5
                                                                                      7.9
                                          8.1
```

7.3

7.5

7.1 7.2

7.1

7.2

7.7

## 11

DEAN, H.H.

7.0

8.0

7.6

7.4

```
## 12
                                      7.6
                                           7.2
                                                 7.0
                                                       7.1
                                                             6.9
                                                                  7.0
                                                                        7.0
                                                                              7.1
           DEVITA, H.J.
                          6.5
                                8.0
## 13
                                           6.8
                                                       6.6
                                                                        7.2
        DRISCOLL, P.J.
                          6.7
                                8.6
                                      8.2
                                                 6.9
                                                             7.1
                                                                  7.3
                                                                              7.2
                                                                                    8.1
                                                                                          7.7
## 14
           GRILLO, A.E.
                          7.0
                                7.5
                                      6.4
                                           6.8
                                                 6.5
                                                       7.0
                                                             6.6
                                                                   6.8
                                                                         6.3
                                                                                    6.2
       HADDEN, W.L.JR.
                                8.1
                                      8.0
                                                 7.9
                                                             7.9
                                                                  7.8
                                                                        7.8
                                                                              7.8
                                                                                          8.0
## 15
                          6.5
                                           8.0
                                                       8.0
                                                                                    8.4
##
  16
           HAMILL, E.C.
                          7.3
                                8.0
                                      7.4
                                           7.7
                                                 7.3
                                                       7.3
                                                             7.3
                                                                   7.2
                                                                        7.1
                                                                              7.2
                                                                                    8.0
                                                                                          7.6
           HEALEY.A.H.
                          8.0
## 17
                                7.6
                                      6.6
                                           7.2
                                                 6.5
                                                       6.5
                                                             6.8
                                                                   6.7
                                                                         6.4
                                                                              6.5
                                                                                    6.9
## 18
             HULL.T.C.
                          7.7
                                7.7
                                      6.7
                                           7.5
                                                 7.4
                                                       7.5
                                                             7.1
                                                                   7.3
                                                                        7.1
                                                                              7.3
                                                                                    8.1
                                                                   7.8
## 19
             LEVINE, I.
                          8.3
                                8.2
                                      7.4
                                           7.8
                                                 7.7
                                                       7.7
                                                             7.7
                                                                        7.5
                                                                              7.6
                                                                                    8.0
                                                                                          8.0
##
  20
         LEVISTER, R.L.
                          9.6
                                6.9
                                      5.7
                                           6.6
                                                 6.9
                                                       6.6
                                                             6.2
                                                                   6.0
                                                                        5.8
                                                                              5.8
                                                                                    7.2
                                                                                          6.0
##
  21
           MARTIN, L.F.
                          7.1
                                8.2
                                     7.7
                                           7.1
                                                 6.6
                                                       6.6
                                                             6.7
                                                                   6.7
                                                                         6.8
                                                                              6.8
                                                                                    7.5
                                                                                          7.3
##
  22
          MCGRATH, J.F.
                          7.6
                                7.3
                                      6.9
                                           6.8
                                                 6.7
                                                       6.8
                                                             6.4
                                                                   6.3
                                                                         6.3
                                                                              6.3
                                                                                    7.4
                                                                                          6.6
                                7.4
                                                       5.7
                                                                   5.9
##
  23
          MIGNONE, A.F.
                          6.6
                                      6.2
                                           6.2
                                                 5.4
                                                             5.8
                                                                         5.2
                                                                              5.8
                                                                                    4.7
                                                                                          5.2
##
  24
           MISSAL, H.M.
                          6.2
                                8.3
                                      8.1
                                           7.7
                                                 7.4
                                                       7.3
                                                             7.3
                                                                   7.3
                                                                        7.2
                                                                              7.3
                                                                                    7.8
                                                                                          7.6
           MULVEY, H.M.
## 25
                          7.5
                                8.7
                                      8.5
                                           8.6
                                                 8.5
                                                       8.4
                                                             8.5
                                                                   8.5
                                                                         8.4
                                                                              8.4
                                                                                    8.7
## 26
                                8.9
                                      8.7
                                                             8.9
                                                                   9.0
            NARUK, H.J.
                          7.8
                                           8.9
                                                 8.7
                                                       8.8
                                                                         8.8
                                                                              8.9
                                                                                    9.0
                                                                                          9.0
## 27
          O'BRIEN, F.J.
                          7.1
                                8.5
                                      8.3
                                           8.0
                                                 7.9
                                                       7.9
                                                             7.8
                                                                   7.8
                                                                        7.8
                                                                              7.7
                                                                                    8.3
                                                                                          8.2
                          7.5
                                                       8.5
## 28 O'SULLIVAN, T.J.
                                9.0
                                      8.9
                                           8.7
                                                 8.4
                                                             8.4
                                                                   8.3
                                                                        8.3
                                                                              8.3
                                                                                    8.8
                                                                                          8.7
## 29
             PASKEY, L.
                          7.5
                                8.1
                                      7.7
                                           8.2
                                                 8.0
                                                       8.1
                                                             8.2
                                                                   8.4
                                                                         8.0
                                                                              8.1
                                                                                    8.4
                                                                  9.1
## 30
          RUBINOW, J.E.
                          7.1
                                9.2
                                      9.0
                                           9.0
                                                 8.4
                                                       8.6
                                                             9.1
                                                                        8.9
                                                                              9.0
                                                                                    8.9
## 31
            SADEN.G.A.
                          6.6
                                7.4
                                      6.9
                                           8.4
                                                 8.0
                                                       7.9
                                                             8.2
                                                                  8.4
                                                                        7.7
                                                                              7.9
                                                                                    8.4
## 32 SATANIELLO, A.G.
                          8.4
                                8.0
                                      7.9
                                           7.9
                                                 7.8
                                                       7.8
                                                             7.6
                                                                  7.4
                                                                        7.4
                                                                              7.4
                                                                                    8.1
## 33
                          6.9
                                      7.8
                                                       8.2
             SHEA, D.M.
                                8.5
                                           8.5
                                                 8.1
                                                             8.4
                                                                   8.5
                                                                         8.1
                                                                              8.3
                                      8.8
                                                                   8.5
                                                                                          8.8
## 34
          SHEA, J.F. JR.
                          7.3
                                8.9
                                           8.7
                                                 8.4
                                                       8.5
                                                             8.5
                                                                        8.4
                                                                              8.4
                                                                                    8.8
##
   35
            SIDOR, W.J.
                          7.7
                                6.2
                                      5.1
                                           5.6
                                                 5.6
                                                       5.9
                                                             5.6
                                                                  5.6
                                                                        5.3
                                                                              5.5
                                                                                    6.3
                                                                                          5.3
                                                       8.2
                                                                  8.1
## 36
         SPEZIALE, J.A.
                          8.5
                                8.3
                                      8.1
                                           8.3
                                                 8.4
                                                             8.2
                                                                        7.9
                                                                              8.0
                                                                                    8.0
##
  37
           SPONZO, M.J.
                          6.9
                                8.3
                                      8.0
                                           8.1
                                                 7.9
                                                       7.9
                                                             7.9
                                                                  7.7
                                                                        7.6
                                                                              7.7
                                                                                    8.1
                          6.5
                                8.2
                                      7.7
                                           7.8
                                                 7.6
                                                       7.7
                                                             7.7
                                                                  7.7
                                                                        7.5
                                                                                          7.7
##
   38
        STAPLETON, J.F.
                                                                              7.6
                                                                                    8.5
##
   39
            TESTO, R.J.
                          8.3
                                7.3
                                      7.0
                                           6.8
                                                 7.0
                                                       7.1
                                                             6.7
                                                                   6.7
                                                                         6.7
                                                                              6.7
                                                                                    8.0
                                                                                          7.0
                                8.2
                                      7.8
                                                       8.3
                                                                   7.6
##
   40
      TIERNEY, W.L.JR.
                          8.3
                                           8.3
                                                 8.4
                                                             7.7
                                                                        7.5
                                                                              7.7
                                                                                    8.1
                                                                                          7.9
                                           7.0
## 41
                          9.0
                                7.0
                                      5.9
                                                 7.0
                                                       7.2
                                                             6.9
                                                                   6.9
                                                                         6.5
                                                                              6.6
                                                                                    7.6
                                                                                          6.6
             WALL, R.A.
## 42
           WRIGHT, D.B.
                          7.1
                                8.4
                                      8.4
                                           7.7
                                                 7.5
                                                       7.7
                                                             7.8
                                                                  8.2
                                                                        8.0
                                                                              8.1
                                                                                    8.3
                                                                                          8.1
## 43
         ZARRILLI, K.J.
                          8.6
                                7.4
                                     7.0
                                           7.5
                                                 7.5
                                                       7.7
                                                             7.4
                                                                  7.2
                                                                         6.9
                                                                              7.0
                                                                                    7.8
                                                                                          7.1
```

(a) Aplique la función prcomp() para obtener los componentes principales. Inspeccione cómo se obtiene cada variable mediante la combinación lineal de cada componente.

```
# Excluir la 1ra columna del conjunto de datos
dfNumeros <- dfJudge[, -1]

# Aplicar la funcion prcomp()
dfComponentes <- prcomp(dfNumeros)

# Obtiene los componentes principales
componentes <- dfComponentes$x

# Inspecciona la combinacion lineal de cada variable en cada componente
for (i in 1:length(dfComponentes$rotation)) {
    # Obtiene el numero de columnas de dfComponentes$rotationy se asegura de que i sea menor o igual a es
if (i <= ncol(dfComponentes$rotation)) {
    variable <- names(dfNumeros)[i]
    combLineal <- dfComponentes$rotation[, i]</pre>
```

```
print(paste("Variable:", variable))
   print("Combinación lineal en cada componente:")
   print(combLineal)
   print("----")
 }
}
## [1] "Variable: CONT"
## [1] "Combinación lineal en cada componente:"
        CONT
                 INTG
                           DMNR
                                     DILG
                                               CFMG
                                                         DECT
##
   0.00599117 - 0.23476045 - 0.34774394 - 0.28678321 - 0.27201855 - 0.25330240
                           ORAL
##
        PREP
                 FAMI
                                     WRIT
                                               PHYS
## -0.30910791 -0.30510111 -0.33195277 -0.31396635 -0.27750639 -0.35932337
## [1] "----"
## [1] "Variable: INTG"
  [1] "Combinación lineal en cada componente:"
                              DMNR
                                                   CFMG
                   INTG
                                         DILG
##
   0.933248839 -0.138724061 -0.232070496
                                  0.047953743 0.163199298 0.117624159
        PREP
                   FAMI
                              ORAL
                                         WRIT
                                                   PHYS
                                                              RTEN
  ## [1] "----"
## [1] "Variable: DMNR"
## [1] "Combinación lineal en cada componente:"
##
        CONT
                 INTG
                           DMNR
                                     DILG
                                               CFMG
                                                         DECI
  -0.31985402 -0.36981582 -0.66343490 0.22433991
                                          0.18935451 0.24920335
##
        PREP
                 FAMI
                           ORAL
                                     WRIT
                                               PHYS
## 0.21702209 0.26692334 0.03718715 0.11487882 0.03603598 -0.19563408
## [1] "----"
## [1] "Variable: DILG"
## [1] "Combinación lineal en cada componente:"
##
                              DMNR
                                                              DECI
        CONT
                   INTG
                                         DILG
                                                   CFMG
   ##
        PREP
                              ORAL
                                         WRIT
                                                   PHYS
                   FAMI
  0.191109898 0.168833090
                        ## [1] "----"
## [1] "Variable: CFMG"
## [1] "Combinación lineal en cada componente:"
##
        CONT
                 INTG
                           DMNR
                                     DILG
                                               CFMG
                                                         DECI
##
   ##
        PREP
                           ORAL
                                     WRIT
                                               PHYS
                 FAMI
##
  0.14553660 0.47073965
                      0.25286574 0.29475017 0.09522754 0.02899495
## [1] "----"
## [1] "Variable: DECI"
## [1] "Combinación lineal en cada componente:"
##
        CONT
                   INTG
                              DMNR
                                         DILG
                                                   CFMG
                                                              DECI
## -0.002863094 -0.463156453 0.360824575 -0.563858944 0.169861226 0.368776968
##
                   FAMI
                              ORAL
                                         WRIT
                                                   PHYS
## [1] "----"
## [1] "Variable: PREP"
## [1] "Combinación lineal en cada componente:"
##
        CONT
                   INTG
                              DMNR
                                         DILG
                                                   CFMG
                                                              DECI
   0.017715828 \ -0.365508583 \quad 0.394379189 \quad 0.255305398 \quad 0.108985626 \ -0.482835530
##
        PREP
                   FAMI
                              ORAL
                                         WRIT
                                                   PHYS
                                                              RTEN
```

```
[1] "----"
  [1] "Variable: FAMI"
  [1] "Combinación lineal en cada componente:"
##
         CONT
                     INTG
                                 DMNR
                                             DTI.G
                                                         CFMG
                                                                     DECT
                          0.167204881
##
   0.049191638 -0.417669580
                                      0.282668734 -0.680468974
                                                              0.317726213
##
                     FAMI
                                 ORAL
                                             WRIT
                                                         PHYS
                                                                     RTEN
##
   0.169372297 0.005991298 -0.116735981 -0.141542794 -0.046966945 0.294439861
  [1] "----"
  [1] "Variable: ORAL"
  [1] "Combinación lineal en cada componente:"
                              DMNR
##
         CONT
                    INTG
                                         DILG
                                                    CFMG
                                                               DECI
##
  -0.03452922 -0.37748813 -0.12329552 -0.02924283
                                               0.26897827 -0.40752158
##
         PREP
                   FAMI
                               ORAL
                                         WRIT
                                                    PHYS
                                                               RTEN
   0.07226971 -0.22947394
                        0.27199080 -0.06726958 -0.27452313  0.62456547
##
  [1] "----"
  [1] "Variable: WRIT"
  [1] "Combinación lineal en cada componente:"
##
         CONT
                   INTG
                              DMNR
                                                               DECT
                                         DILG
                                                    CFMG
##
  -0.02698275
             0.18025018 -0.03720489 -0.41571794
                                               0.13173613
                                                          0.09720424
##
        PREP
                   FAMI
                              ORAL
                                         WR.TT
                                                    PHYS
                                                               R.T.F.N
   [1] "----"
  [1] "Variable: PHYS"
  [1] "Combinación lineal en cada componente:"
##
         CONT
                   INTG
                               DMNR
                                         DTI.G
                                                    CFMG
                                                               DECI
##
   0.01671326 -0.15992927
                        0.11310307
                                    0.09706351
                                               0.19431559 -0.18697238
##
         PREP
                   FAMI
                               ORAL
                                         WRIT
                                                    PHYS
                                                               RTEN
  -0.34000143 0.53543928 -0.63676735
                                   0.10601295 -0.01173895
                                                          0.24508578
  [1] "-----"
  [1] "Variable: RTEN"
  [1] "Combinación lineal en cada componente:"
##
         CONT
                     INTG
                                 DMNR
                                             DILG
                                                         CFMG
                                                                     DECI
##
   0.007431325 \ -0.006194162 \ -0.055818131 \ -0.059529611 \ -0.040188043 \ -0.045701668
         PREP
                     FAMI
                                 ORAL
                                             WRIT
                                                         PHYS
##
                                                                     RTEN
  0.293499296 -0.467666232 -0.429930400 0.702784185 0.056591229
                                                              0.052358190
## [1] "----"
```

(b) Cargue el paquete ggbiplot y trace los dos primeros componentes con la función ggbiplot (). Puede etiquetar cada punto con el nombre del abogado configurando el parámetro etiquetas.

```
# Cambiar nombre a columna
df Judge %>% rename(Nombre=X)

## Nombre CONT INTG DMNR DILG CFMG DECL PREP FAMI ORAL WRIT PHYS RTEN
```

```
Nombre CONT INTG DMNR DILG CFMG DECI PREP FAMI ORAL WRIT PHYS RTEN
##
## 1
        AARONSON, L.H.
                                                        7.1
                                                             7.1
                        5.7
                             7.9
                                  7.7
                                        7.3
                                             7.1
                                                  7.4
                                                                   7.1
                                                                        7.0
                                             7.8
## 2
       ALEXANDER, J.M.
                        6.8
                             8.9
                                  8.8
                                        8.5
                                                   8.1
                                                        8.0
                                                             8.0
                                                                   7.8
                                                                        7.9
                                                                             8.5
## 3
       ARMENTANO, A.J.
                        7.2
                             8.1
                                  7.8
                                        7.8
                                             7.5
                                                  7.6
                                                        7.5
                                                             7.5
                                                                  7.3
                                                                        7.4
                                                                             7.9
## 4
          BERDON, R.I.
                        6.8
                             8.8
                                  8.5
                                        8.8
                                             8.3
                                                  8.5
                                                        8.7
                                                             8.7
                                                                   8.4
                                                                        8.5
                                                                             8.8
## 5
                             6.4
                                  4.3
                                                        5.7
                                                             5.7
         BRACKEN, J.J.
                        7.3
                                        6.5
                                             6.0
                                                   6.2
                                                                   5.1
                                                                        5.3
                                                                             5.5
## 6
           BURNS, E.B.
                        6.2
                             8.8
                                  8.7
                                        8.5
                                             7.9
                                                   8.0
                                                        8.1
                                                             8.0
                                                                   8.0
                                                                        8.0
## 7
        CALLAHAN, R.J. 10.6
                             9.0
                                  8.9
                                        8.7
                                             8.5
                                                   8.5
                                                        8.5
                                                             8.5
                                                                   8.6
                                                                        8.4
                                                                             9.1
## 8
           COHEN, S.S.
                        7.0
                             5.9
                                  4.9
                                        5.1
                                             5.4
                                                   5.9
                                                        4.8
                                                             5.1
                                                                   4.7
                                                                        4.9
## 9
            DALY, J.J. 7.3 8.9 8.9 8.7
                                             8.6 8.5 8.4 8.4
                                                                  8.4
                                                                        8.5 8.8 8.8
```

```
## 10
          DANNEHY, J.F.
                          8.2
                               7.9
                                     6.7
                                           8.1
                                                 7.9
                                                       8.0
                                                             7.9
                                                                  8.1
                                                                              7.8
                                                                        7.7
## 11
                          7.0
                                     7.6
                                           7.4
                                                       7.5
                                                                  7.2
                                                                              7.2
                                                                                    8.4
             DEAN, H.H.
                                8.0
                                                 7.3
                                                            7.1
                                                                        7.1
                                                                                         7.7
## 12
           DEVITA, H.J.
                          6.5
                                8.0
                                     7.6
                                           7.2
                                                 7.0
                                                       7.1
                                                             6.9
                                                                  7.0
                                                                        7.0
                                                                              7.1
                                                                                    6.9
## 13
         DRISCOLL, P.J.
                          6.7
                                8.6
                                     8.2
                                           6.8
                                                 6.9
                                                       6.6
                                                             7.1
                                                                  7.3
                                                                        7.2
                                                                              7.2
                                                                                         7.7
                                                                                    8.1
##
   14
           GRILLO, A.E.
                          7.0
                                7.5
                                      6.4
                                           6.8
                                                 6.5
                                                       7.0
                                                             6.6
                                                                  6.8
                                                                        6.3
                                                                              6.6
                                                                                    6.2
                                                                                         6.5
                                                                  7.8
## 15
       HADDEN, W.L.JR.
                          6.5
                                8.1
                                     8.0
                                           8.0
                                                 7.9
                                                       8.0
                                                             7.9
                                                                        7.8
                                                                              7.8
                                                                                    8.4
## 16
           HAMILL, E.C.
                          7.3
                                8.0
                                     7.4
                                           7.7
                                                 7.3
                                                       7.3
                                                             7.3
                                                                  7.2
                                                                        7.1
                                                                              7.2
                                                                                    8.0
## 17
           HEALEY.A.H.
                          8.0
                                7.6
                                      6.6
                                           7.2
                                                 6.5
                                                       6.5
                                                             6.8
                                                                  6.7
                                                                        6.4
                                                                              6.5
                                                                                    6.9
                                                                                         6.7
## 18
             HULL, T.C.
                          7.7
                                7.7
                                      6.7
                                           7.5
                                                 7.4
                                                       7.5
                                                             7.1
                                                                  7.3
                                                                        7.1
                                                                              7.3
                                                                                    8.1
                                                                                         7.4
## 19
             LEVINE, I.
                          8.3
                                8.2
                                     7.4
                                           7.8
                                                 7.7
                                                       7.7
                                                             7.7
                                                                  7.8
                                                                        7.5
                                                                              7.6
                                                                                    8.0
                                                                                         8.0
##
  20
         LEVISTER, R.L.
                          9.6
                                6.9
                                      5.7
                                           6.6
                                                 6.9
                                                       6.6
                                                             6.2
                                                                  6.0
                                                                        5.8
                                                                              5.8
                                                                                    7.2
                                                                                         6.0
                          7.1
                                8.2
                                     7.7
                                           7.1
                                                             6.7
                                                                  6.7
                                                                                    7.5
##
  21
           MARTIN, L.F.
                                                 6.6
                                                       6.6
                                                                        6.8
                                                                              6.8
                                                                                         7.3
##
  22
          MCGRATH, J.F.
                          7.6
                                7.3
                                      6.9
                                           6.8
                                                 6.7
                                                       6.8
                                                             6.4
                                                                  6.3
                                                                        6.3
                                                                              6.3
                                                                                    7.4
                                                                                         6.6
## 23
          MIGNONE, A.F.
                          6.6
                                7.4
                                      6.2
                                           6.2
                                                 5.4
                                                       5.7
                                                             5.8
                                                                  5.9
                                                                        5.2
                                                                              5.8
                                                                                    4.7
                                                                                         5.2
## 24
                          6.2
                                8.3
                                      8.1
                                           7.7
                                                 7.4
                                                       7.3
                                                             7.3
                                                                  7.3
           MISSAL, H.M.
                                                                        7.2
                                                                              7.3
                                                                                    7.8
                                                                                         7.6
## 25
           MULVEY, H.M.
                          7.5
                                8.7
                                     8.5
                                           8.6
                                                 8.5
                                                       8.4
                                                             8.5
                                                                  8.5
                                                                        8.4
                                                                              8.4
                                                                                    8.7
                                                                                         8.7
                          7.8
                                     8.7
                                                       8.8
                                                                  9.0
                                                                        8.8
## 26
            NARUK, H.J.
                                8.9
                                           8.9
                                                 8.7
                                                             8.9
                                                                              8.9
                                                                                    9.0
                                                                                         9.0
## 27
          O'BRIEN, F.J.
                          7.1
                                8.5
                                     8.3
                                           8.0
                                                 7.9
                                                       7.9
                                                             7.8
                                                                  7.8
                                                                        7.8
                                                                              7.7
                                                                                    8.3
                                     8.9
## 28
      O'SULLIVAN, T.J.
                          7.5
                                9.0
                                           8.7
                                                 8.4
                                                       8.5
                                                             8.4
                                                                  8.3
                                                                        8.3
                                                                              8.3
                                                                                    8.8
                                                                                         8.7
## 29
             PASKEY, L.
                          7.5
                                8.1
                                     7.7
                                           8.2
                                                 8.0
                                                       8.1
                                                             8.2
                                                                  8.4
                                                                        8.0
                                                                              8.1
                                                                                    8.4
## 30
          RUBINOW, J.E.
                          7.1
                                9.2
                                     9.0
                                           9.0
                                                 8.4
                                                       8.6
                                                             9.1
                                                                  9.1
                                                                        8.9
                                                                              9.0
                                                                                    8.9
                                                                                         9.2
## 31
                          6.6
                                7.4
                                      6.9
                                                 8.0
                                                       7.9
                                                             8.2
                                                                  8.4
            SADEN.G.A.
                                           8.4
                                                                        7.7
                                                                              7.9
                                                                                    8.4
                                                                  7.4
                                8.0
                                     7.9
                                                 7.8
                                                       7.8
                                                             7.6
                                                                              7.4
## 32 SATANIELLO, A.G.
                          8.4
                                           7.9
                                                                        7.4
                                                                                    8.1
                                                                                         7.9
                          6.9
                                     7.8
                                                       8.2
                                                                  8.5
## 33
             SHEA, D.M.
                                8.5
                                           8.5
                                                 8.1
                                                             8.4
                                                                        8.1
                                                                              8.3
                                                                                    8.7
                                                                                         8.3
                                           8.7
## 34
          SHEA, J.F. JR.
                          7.3
                                8.9
                                     8.8
                                                 8.4
                                                       8.5
                                                             8.5
                                                                  8.5
                                                                        8.4
                                                                              8.4
                                                                                    8.8
                                                                                         8.8
##
  35
            SIDOR, W.J.
                          7.7
                                6.2
                                     5.1
                                           5.6
                                                 5.6
                                                       5.9
                                                             5.6
                                                                  5.6
                                                                        5.3
                                                                              5.5
                                                                                    6.3
                                                                                         5.3
  36
                                8.3
                                     8.1
                                                       8.2
                                                             8.2
                                                                  8.1
                                                                        7.9
##
         SPEZIALE, J.A.
                          8.5
                                           8.3
                                                 8.4
                                                                              8.0
                                                                                    8.0
                                                                                         8.2
##
   37
           SPONZO, M.J.
                          6.9
                                8.3
                                     8.0
                                           8.1
                                                 7.9
                                                       7.9
                                                             7.9
                                                                  7.7
                                                                        7.6
                                                                              7.7
                                                                                    8.1
                                                                                         8.0
                          6.5
                                8.2
                                     7.7
                                           7.8
                                                 7.6
                                                       7.7
                                                                  7.7
                                                                        7.5
##
  38
        STAPLETON, J.F.
                                                             7.7
                                                                              7.6
                                                                                    8.5
                                                                                         7.7
## 39
            TESTO, R.J.
                          8.3
                                7.3
                                     7.0
                                           6.8
                                                 7.0
                                                       7.1
                                                             6.7
                                                                  6.7
                                                                        6.7
                                                                              6.7
                                                                                    8.0
                                                                                         7.0
## 40
      TIERNEY, W.L.JR.
                          8.3
                                8.2
                                     7.8
                                           8.3
                                                 8.4
                                                       8.3
                                                             7.7
                                                                  7.6
                                                                        7.5
                                                                              7.7
                                                                                    8.1
                                                                                         7.9
## 41
             WALL, R.A.
                          9.0
                                7.0
                                     5.9
                                           7.0
                                                 7.0
                                                       7.2
                                                             6.9
                                                                  6.9
                                                                        6.5
                                                                              6.6
                                                                                    7.6
                                                                                         6.6
## 42
           WRIGHT, D.B.
                          7.1
                                8.4
                                     8.4
                                           7.7
                                                 7.5
                                                       7.7
                                                             7.8
                                                                  8.2
                                                                        8.0
                                                                              8.1
                                                                                    8.3
         ZARRILLI, K.J.
                               7.4
                                     7.0
                                                 7.5
                                                             7.4
                                                                  7.2
## 43
                          8.6
                                           7.5
                                                       7.7
                                                                        6.9
                                                                              7.0
                                                                                    7.8
                                                                                         7.1
```

No se puede imprimir las etiquetas con nombres de los abogados, por lo que se procede a imprimir sin las etiquetas de nombre de abogados

```
library(ggplot2)

# Crear un dataframe con los componentes principales y los nombres de los abogados

df_plot <- data.frame(Componente1 = componentes[, 1], Componente2 = componentes[, 2], Abogado = rowname

# Trama de dispersión de los componentes principales
ggplot(df_plot, aes(x = Componente1, y = Componente2, label = Abogado)) +
    geom_point() +
    geom_text(hjust = 0, vjust = 0)+
    ggtitle("Principal Components Analysis")</pre>
```

## Principal Components Analysis

