

```
insurance <- read.csv("C:/Users/KSY/Desktop/Code-Machine learning with R(3rd)/Code-Machine learning with R(3rd)/Chapter06/insurance.csv", stringsAsFactors = TRUE)
insurance
```

##	age	sex	bmi	children	smoker	region	expenses
## 1	19	female	27.9	0	yes	southwest	16884.92
## 2	18	male	33.8	1	no	southeast	1725.55
## 3	28	male	33.0	3	no	southeast	4449.46
## 4	33	male	22.7	0	no	northwest	21984.47
## 5	32	male	28.9	0	no	northwest	3866.86
## 6	31	female	25.7	0	no	southeast	3756.62
## 7	46	female	33.4	1	no	southeast	8240.59
## 8	37	female	27.7	3	no	northwest	7281.51
## 9	37	male	29.8	2	no	northeast	6406.41
## 10	60	female	25.8	0	no	northwest	28923.14
## 11	25	male	26.2	0	no	northeast	2721.32
## 12	62	female	26.3	0	yes	southeast	27808.73
## 13	23	male	34.4	0	no	southwest	1826.84
## 14	56	female	39.8	0	no	southeast	11090.72
## 15	27	male	42.1	0	yes	southeast	39611.76
## 16	19	male	24.6	1	no	southwest	1837.24
## 17	52	female	30.8	1	no	northeast	10797.34
## 18	23	male	23.8	0	no	northeast	2395.17
## 19	56	male	40.3	0	no	southwest	10602.39
## 20	30	male	35.3	0	yes	southwest	36837.47
## 21	60	female	36.0	0	no	northeast	13228.85
## 22	30	female	32.4	1	no	southwest	4149.74
## 23	18	male	34.1	0	no	southeast	1137.01
## 24	34	female	31.9	1	yes	northeast	37701.88
## 25	37	male	28.0	2	no	northwest	6203.90
## 26	59	female	27.7	3	no	southeast	14001.13
## 27	63	female	23.1	0	no	northeast	14451.84
## 28	55	female	32.8	2	no	northwest	12268.63
## 29	23	male	17.4	1	no	northwest	2775.19
## 30	31	male	36.3	2	yes	southwest	38711.00
## 31	22	male	35.6	0	yes	southwest	35585.58
## 32	18	female	26.3	0	no	northeast	2198.19
## 33	19	female	28.6	5	no	southwest	4687.80
## 34	63	male	28.3	0	no	northwest	13770.10
## 35	28	male	36.4	1	yes	southwest	51194.56
## 36	19	male	20.4	0	no	northwest	1625.43
## 37	62	female	33.0	3	no	northwest	15612.19
## 38	26	male	20.8	0	no	southwest	2302.30
## 39	35	male	36.7	1	yes	northeast	39774.28
## 40	60	male	39.9	0	yes	southwest	48173.36
## 41	24	female	26.6	0	no	northeast	3046.06
## 42	31	female	36.6	2	no	southeast	4949.76
## 43	41	male	21.8	1	no	southeast	6272.48
## 44	37	female	30.8	2	no	southeast	6313.76
## 45	38	male	37.1	1	no	northeast	6079.67
## 46	55	male	37.3	0	no	southwest	20630.28
## 47	18	female	38.7	2	no	northeast	3393.36
## 48	28	female	34.8	0	no	northwest	3556.92
## 49	60	female	24.5	0	no	southeast	12629.90
## 50	36	male	35.2	1	yes	southeast	38709.18
## 51	18	female	35.6	0	no	northeast	2211.13
## 52	21	female	33.6	2	no	northwest	3579.83
## 53	48	male	28.0	1	yes	southwest	23568.27
## 54	36	male	34.4	0	yes	southeast	37742.58
## 55	40	female	28.7	3	no	northwest	8059.68
## 56	58	male	37.0	2	yes	northwest	47496.49
## 57	58	female	31.8	2	no	northeast	13607.37
## 58	18	male	31.7	2	yes	southeast	34303.17
## 59	53	female	22.9	1	yes	southeast	23244.79
## 60	34	female	37.3	2	no	northwest	5989.52
## 61	43	male	27.4	3	no	northeast	8606.22
## 62	25	male	33.7	4	no	southeast	4504.66
## 63	64	male	24.7	1	no	northwest	30166.62
## 64	28	female	25.9	1	no	northwest	4133.64
## 65	20	female	22.4	0	yes	northwest	14711.74
## 66	19	female	28.9	0	no	southwest	1743.21
## 67	61	female	39.1	2	no	southwest	14235.07

## 67	51	female	33.1	2	no	southwest	14233.07
## 68	40	male	26.3	1	no	northwest	6389.38
## 69	40	female	36.2	0	no	southeast	5920.10
## 70	28	male	24.0	3	yes	southeast	17663.14
## 71	27	female	24.8	0	yes	southeast	16577.78
## 72	31	male	28.5	5	no	northeast	6799.46
## 73	53	female	28.1	3	no	southwest	11741.73
## 74	58	male	32.0	1	no	southeast	11946.63
## 75	44	male	27.4	2	no	southwest	7726.85
## 76	57	male	34.0	0	no	northwest	11356.66
## 77	29	female	29.6	1	no	southeast	3947.41
## 78	21	male	35.5	0	no	southeast	1532.47
## 79	22	female	39.8	0	no	northeast	2755.02
## 80	41	female	33.0	0	no	northwest	6571.02
## 81	31	male	26.9	1	no	northeast	4441.21
## 82	45	female	38.3	0	no	northeast	7935.29
## 83	22	male	37.6	1	yes	southeast	37165.16
## 84	48	female	41.2	4	no	northwest	11033.66
## 85	37	female	34.8	2	yes	southwest	39836.52
## 86	45	male	22.9	2	yes	northwest	21098.55
## 87	57	female	31.2	0	yes	northwest	43578.94
## 88	56	female	27.2	0	no	southwest	11073.18
## 89	46	female	27.7	0	no	northwest	8026.67
## 90	55	female	27.0	0	no	northwest	11082.58
## 91	21	female	39.5	0	no	southeast	2026.97
## 92	53	female	24.8	1	no	northwest	10942.13
## 93	59	male	29.8	3	yes	northeast	30184.94
## 94	35	male	34.8	2	no	northwest	5729.01
## 95	64	female	31.3	2	yes	southwest	47291.06
## 96	28	female	37.6	1	no	southeast	3766.88
## 97	54	female	30.8	3	no	southwest	12105.32
## 98	55	male	38.3	0	no	southeast	10226.28
## 99	56	male	20.0	0	yes	northeast	22412.65
## 100	38	male	19.3	0	yes	southwest	15820.70
## 101	41	female	31.6	0	no	southwest	6186.13
## 102	30	male	25.5	0	no	northeast	3645.09
## 103	18	female	30.1	0	no	northeast	21344.85
## 104	61	female	29.9	3	yes	southeast	30942.19
## 105	34	female	27.5	1	no	southwest	5003.85
## 106	20	male	28.0	1	yes	northwest	17560.38
## 107	19	female	28.4	1	no	southwest	2331.52
## 108	26	male	30.9	2	no	northwest	3877.30
## 109	29	male	27.9	0	no	southeast	2867.12
## 110	63	male	35.1	0	yes	southeast	47055.53
## 111	54	male	33.6	1	no	northwest	10825.25
## 112	55	female	29.7	2	no	southwest	11881.36
## 113	37	male	30.8	0	no	southwest	4646.76
## 114	21	female	35.7	0	no	northwest	2404.73
## 115	52	male	32.2	3	no	northeast	11488.32
## 116	60	male	28.6	0	no	northeast	30260.00
## 117	58	male	49.1	0	no	southeast	11381.33
## 118	29	female	27.9	1	yes	southeast	19107.78
## 119	49	female	27.2	0	no	southeast	8601.33
## 120	37	female	23.4	2	no	northwest	6686.43
## 121	44	male	37.1	2	no	southwest	7740.34
## 122	18	male	23.8	0	no	northeast	1705.62
## 123	20	female	29.0	0	no	northwest	2257.48
## 124	44	male	31.4	1	yes	northeast	39556.49
## 125	47	female	33.9	3	no	northwest	10115.01
## 126	26	female	28.8	0	no	northeast	3385.40
## 127	19	female	28.3	0	yes	southwest	17081.08
## 128	52	female	37.4	0	no	southwest	9634.54
## 129	32	female	17.8	2	yes	northwest	32734.19
## 130	38	male	34.7	2	no	southwest	6082.41
## 131	59	female	26.5	0	no	northeast	12815.44
## 132	61	female	22.0	0	no	northeast	13616.36
## 133	53	female	35.9	2	no	southwest	11163.57
## 134	19	male	25.6	0	no	northwest	1632.56
## 135	20	female	28.8	0	no	northeast	2457.21
## 136	22	female	28.1	0	no	southeast	2155.68
## 137	19	male	34.1	0	no	southwest	1261.44
## 138	22	male	25.2	0	no	northwest	2045.69
## 139	54	female	31.9	3	no	southeast	27322.73

## 140	22	female	36.0	0	no southwest	2166.73
## 141	34	male	22.4	2	no northeast	27375.90
## 142	26	male	32.5	1	no northeast	3490.55
## 143	34	male	25.3	2	yes southeast	18972.50
## 144	29	male	29.7	2	no northwest	18157.88
## 145	30	male	28.7	3	yes northwest	20745.99
## 146	29	female	38.8	3	no southeast	5138.26
## 147	46	male	30.5	3	yes northwest	40720.55
## 148	51	female	37.7	1	no southeast	9877.61
## 149	53	female	37.4	1	no northwest	10959.69
## 150	19	male	28.4	1	no southwest	1842.52
## 151	35	male	24.1	1	no northwest	5125.22
## 152	48	male	29.7	0	no southeast	7789.64
## 153	32	female	37.1	3	no northeast	6334.34
## 154	42	female	23.4	0	yes northeast	19964.75
## 155	40	female	25.5	1	no northeast	7077.19
## 156	44	male	39.5	0	no northwest	6948.70
## 157	48	male	24.4	0	yes southeast	21223.68
## 158	18	male	25.2	0	yes northeast	15518.18
## 159	30	male	35.5	0	yes southeast	36950.26
## 160	50	female	27.8	3	no southeast	19749.38
## 161	42	female	26.6	0	yes northwest	21348.71
## 162	18	female	36.9	0	yes southeast	36149.48
## 163	54	male	39.6	1	no southwest	10450.55
## 164	32	female	29.8	2	no southwest	5152.13
## 165	37	male	29.6	0	no northwest	5028.15
## 166	47	male	28.2	4	no northeast	10407.09
## 167	20	female	37.0	5	no southwest	4830.63
## 168	32	female	33.2	3	no northwest	6128.80
## 169	19	female	31.8	1	no northwest	2719.28
## 170	27	male	18.9	3	no northeast	4827.90
## 171	63	male	41.5	0	no southeast	13405.39
## 172	49	male	30.3	0	no southwest	8116.68
## 173	18	male	16.0	0	no northeast	1694.80
## 174	35	female	34.8	1	no southwest	5246.05
## 175	24	female	33.3	0	no northwest	2855.44
## 176	63	female	37.7	0	yes southwest	48824.45
## 177	38	male	27.8	2	no northwest	6455.86
## 178	54	male	29.2	1	no southwest	10436.10
## 179	46	female	28.9	2	no southwest	8823.28
## 180	41	female	33.2	3	no northeast	8538.29
## 181	58	male	28.6	0	no northwest	11735.88
## 182	18	female	38.3	0	no southeast	1631.82
## 183	22	male	20.0	3	no northeast	4005.42
## 184	44	female	26.4	0	no northwest	7419.48
## 185	44	male	30.7	2	no southeast	7731.43
## 186	36	male	41.9	3	yes northeast	43753.34
## 187	26	female	29.9	2	no southeast	3981.98
## 188	30	female	30.9	3	no southwest	5325.65
## 189	41	female	32.2	1	no southwest	6775.96
## 190	29	female	32.1	2	no northwest	4922.92
## 191	61	male	31.6	0	no southeast	12557.61
## 192	36	female	26.2	0	no southwest	4883.87
## 193	25	male	25.7	0	no southeast	2137.65
## 194	56	female	26.6	1	no northwest	12044.34
## 195	18	male	34.4	0	no southeast	1137.47
## 196	19	male	30.6	0	no northwest	1639.56
## 197	39	female	32.8	0	no southwest	5649.72
## 198	45	female	28.6	2	no southeast	8516.83
## 199	51	female	18.1	0	no northwest	9644.25
## 200	64	female	39.3	0	no northeast	14901.52
## 201	19	female	32.1	0	no northwest	2130.68
## 202	48	female	32.2	1	no southeast	8871.15
## 203	60	female	24.0	0	no northwest	13012.21
## 204	27	female	36.1	0	yes southeast	37133.90
## 205	46	male	22.3	0	no southwest	7147.11
## 206	28	female	28.9	1	no northeast	4337.74
## 207	59	male	26.4	0	no southeast	11743.30
## 208	35	male	27.7	2	yes northeast	20984.09
## 209	63	female	31.8	0	no southwest	13880.95
## 210	40	male	41.2	1	no northeast	6610.11
## 211	20	male	33.0	1	no southwest	1980.07
## 212	40	male	30.9	4	no northwest	8162.72

## 213	24	male	28.5	2	no	northwest	3537.70
## 214	34	female	26.7	1	no	southeast	5002.78
## 215	45	female	30.9	2	no	southwest	8520.03
## 216	41	female	37.1	2	no	southwest	7371.77
## 217	53	female	26.6	0	no	northwest	10355.64
## 218	27	male	23.1	0	no	southeast	2483.74
## 219	26	female	29.9	1	no	southeast	3392.98
## 220	24	female	23.2	0	no	southeast	25081.77
## 221	34	female	33.7	1	no	southwest	5012.47
## 222	53	female	33.3	0	no	northeast	10564.88
## 223	32	male	30.8	3	no	southwest	5253.52
## 224	19	male	34.8	0	yes	southwest	34779.62
## 225	42	male	24.6	0	yes	southeast	19515.54
## 226	55	male	33.9	3	no	southeast	11987.17
## 227	28	male	38.1	0	no	southeast	2689.50
## 228	58	female	41.9	0	no	southeast	24227.34
## 229	41	female	31.6	1	no	northeast	7358.18
## 230	47	male	25.5	2	no	northeast	9225.26
## 231	42	female	36.2	1	no	northwest	7443.64
## 232	59	female	27.8	3	no	southeast	14001.29
## 233	19	female	17.8	0	no	southwest	1727.79
## 234	59	male	27.5	1	no	southwest	12333.83
## 235	39	male	24.5	2	no	northwest	6710.19
## 236	40	female	22.2	2	yes	southeast	19444.27
## 237	18	female	26.7	0	no	southeast	1615.77
## 238	31	male	38.4	2	no	southeast	4463.21
## 239	19	male	29.1	0	yes	northwest	17352.68
## 240	44	male	38.1	1	no	southeast	7152.67
## 241	23	female	36.7	2	yes	northeast	38511.63
## 242	33	female	22.1	1	no	northeast	5354.07
## 243	55	female	26.8	1	no	southwest	35160.13
## 244	40	male	35.3	3	no	southwest	7196.87
## 245	63	female	27.7	0	yes	northeast	29523.17
## 246	54	male	30.0	0	no	northwest	24476.48
## 247	60	female	38.1	0	no	southeast	12648.70
## 248	24	male	35.9	0	no	southeast	1986.93
## 249	19	male	20.9	1	no	southwest	1832.09
## 250	29	male	29.0	1	no	northeast	4040.56
## 251	18	male	17.3	2	yes	northeast	12829.46
## 252	63	female	32.2	2	yes	southwest	47305.31
## 253	54	male	34.2	2	yes	southeast	44260.75
## 254	27	male	30.3	3	no	southwest	4260.74
## 255	50	male	31.8	0	yes	northeast	41097.16
## 256	55	female	25.4	3	no	northeast	13047.33
## 257	56	male	33.6	0	yes	northwest	43921.18
## 258	38	female	40.2	0	no	southeast	5400.98
## 259	51	male	24.4	4	no	northwest	11520.10
## 260	19	male	31.9	0	yes	northwest	33750.29
## 261	58	female	25.2	0	no	southwest	11837.16
## 262	20	female	26.8	1	yes	southeast	17085.27
## 263	52	male	24.3	3	yes	northeast	24869.84
## 264	19	male	37.0	0	yes	northwest	36219.41
## 265	53	female	38.1	3	no	southeast	20463.00
## 266	46	male	42.4	3	yes	southeast	46151.12
## 267	40	male	19.8	1	yes	southeast	17179.52
## 268	59	female	32.4	3	no	northeast	14590.63
## 269	45	male	30.2	1	no	southwest	7441.05
## 270	49	male	25.8	1	no	northeast	9282.48
## 271	18	male	29.4	1	no	southeast	1719.44
## 272	50	male	34.2	2	yes	southwest	42856.84
## 273	41	male	37.1	2	no	northwest	7265.70
## 274	50	male	27.5	1	no	northeast	9617.66
## 275	25	male	27.6	0	no	northwest	2523.17
## 276	47	female	26.6	2	no	northeast	9715.84
## 277	19	male	20.6	2	no	northwest	2803.70
## 278	22	female	24.3	0	no	southwest	2150.47
## 279	59	male	31.8	2	no	southeast	12928.79
## 280	51	female	21.6	1	no	southeast	9855.13
## 281	40	female	28.1	1	yes	northeast	22331.57
## 282	54	male	40.6	3	yes	northeast	48549.18
## 283	30	male	27.6	1	no	northeast	4237.13
## 284	55	female	32.4	1	no	northeast	11879.10
## 285	52	female	31.2	0	no	southwest	9625.92

##	285	52	female	31.2	0	no	southwest	3023.72
##	286	46	male	26.6	1	no	southeast	7742.11
##	287	46	female	48.1	2	no	northeast	9432.93
##	288	63	female	26.2	0	no	northwest	14256.19
##	289	59	female	36.8	1	yes	northeast	47896.79
##	290	52	male	26.4	3	no	southeast	25992.82
##	291	28	female	33.4	0	no	southwest	3172.02
##	292	29	male	29.6	1	no	northeast	20277.81
##	293	25	male	45.5	2	yes	southeast	42112.24
##	294	22	female	28.8	0	no	southeast	2156.75
##	295	25	male	26.8	3	no	southwest	3906.13
##	296	18	male	23.0	0	no	northeast	1704.57
##	297	19	male	27.7	0	yes	southwest	16297.85
##	298	47	male	25.4	1	yes	southeast	21978.68
##	299	31	male	34.4	3	yes	northwest	38746.36
##	300	48	female	28.9	1	no	northwest	9249.50
##	301	36	male	27.6	3	no	northeast	6746.74
##	302	53	female	22.6	3	yes	northeast	24873.38
##	303	56	female	37.5	2	no	southeast	12265.51
##	304	28	female	33.0	2	no	southeast	4349.46
##	305	57	female	38.0	2	no	southwest	12646.21
##	306	29	male	33.3	2	no	northwest	19442.35
##	307	28	female	27.5	2	no	southwest	20177.67
##	308	30	female	33.3	1	no	southeast	4151.03
##	309	58	male	34.9	0	no	northeast	11944.59
##	310	41	female	33.1	2	no	northwest	7749.16
##	311	50	male	26.6	0	no	southwest	8444.47
##	312	19	female	24.7	0	no	southwest	1737.38
##	313	43	male	36.0	3	yes	southeast	42124.52
##	314	49	male	35.9	0	no	southeast	8124.41
##	315	27	female	31.4	0	yes	southwest	34838.87
##	316	52	male	33.3	0	no	northeast	9722.77
##	317	50	male	32.2	0	no	northwest	8835.26
##	318	54	male	32.8	0	no	northeast	10435.07
##	319	44	female	27.6	0	no	northwest	7421.19
##	320	32	male	37.3	1	no	northeast	4667.61
##	321	34	male	25.3	1	no	northwest	4894.75
##	322	26	female	29.6	4	no	northeast	24671.66
##	323	34	male	30.8	0	yes	southwest	35491.64
##	324	57	male	40.9	0	no	northeast	11566.30
##	325	29	male	27.2	0	no	southwest	2866.09
##	326	40	male	34.1	1	no	northeast	6600.21
##	327	27	female	23.2	1	no	southeast	3561.89
##	328	45	male	36.5	2	yes	northwest	42760.50
##	329	64	female	33.8	1	yes	southwest	47928.03
##	330	52	male	36.7	0	no	southwest	9144.57
##	331	61	female	36.4	1	yes	northeast	48517.56
##	332	52	male	27.4	0	yes	northwest	24393.62
##	333	61	female	31.2	0	no	northwest	13429.04
##	334	56	female	28.8	0	no	northeast	11658.38
##	335	43	female	35.7	2	no	northeast	19144.58
##	336	64	male	34.5	0	no	southwest	13822.80
##	337	60	male	25.7	0	no	southeast	12142.58
##	338	62	male	27.6	1	no	northwest	13937.67
##	339	50	male	32.3	1	yes	northeast	41919.10
##	340	46	female	27.7	1	no	southeast	8232.64
##	341	24	female	27.6	0	no	southwest	18955.22
##	342	62	male	30.0	0	no	northwest	13352.10
##	343	60	female	27.6	0	no	northeast	13217.09
##	344	63	male	36.8	0	no	northeast	13981.85
##	345	49	female	41.5	4	no	southeast	10977.21
##	346	34	female	29.3	3	no	southeast	6184.30
##	347	33	male	35.8	2	no	southeast	4890.00
##	348	46	male	33.3	1	no	northeast	8334.46
##	349	36	female	29.9	1	no	southeast	5478.04
##	350	19	male	27.8	0	no	northwest	1635.73
##	351	57	female	23.2	0	no	northwest	11830.61
##	352	50	female	25.6	0	no	southwest	8932.08
##	353	30	female	27.7	0	no	southwest	3554.20
##	354	33	male	35.2	0	no	northeast	12404.88
##	355	18	female	38.3	0	no	southeast	14133.04
##	356	46	male	27.6	0	no	southwest	24603.05
##	357	46	male	43.9	3	no	southeast	8944.12

## 358	47	male	29.8	3	no	northwest	9620.33
## 359	23	male	41.9	0	no	southeast	1837.28
## 360	18	female	20.8	0	no	southeast	1607.51
## 361	48	female	32.3	2	no	northeast	10043.25
## 362	35	male	30.5	1	no	southwest	4751.07
## 363	19	female	21.7	0	yes	southwest	13844.51
## 364	21	female	26.4	1	no	southwest	2597.78
## 365	21	female	21.9	2	no	southeast	3180.51
## 366	49	female	30.8	1	no	northeast	9778.35
## 367	56	female	32.3	3	no	northeast	13430.27
## 368	42	female	25.0	2	no	northwest	8017.06
## 369	44	male	32.0	2	no	northwest	8116.27
## 370	18	male	30.4	3	no	northeast	3481.87
## 371	61	female	21.1	0	no	northwest	13415.04
## 372	57	female	22.2	0	no	northeast	12029.29
## 373	42	female	33.2	1	no	northeast	7639.42
## 374	26	male	32.9	2	yes	southwest	36085.22
## 375	20	male	33.3	0	no	southeast	1391.53
## 376	23	female	28.3	0	yes	northwest	18033.97
## 377	39	female	24.9	3	yes	northeast	21659.93
## 378	24	male	40.2	0	yes	southeast	38126.25
## 379	64	female	30.1	3	no	northwest	16455.71
## 380	62	male	31.5	1	no	southeast	27000.98
## 381	27	female	18.0	2	yes	northeast	15006.58
## 382	55	male	30.7	0	yes	northeast	42303.69
## 383	55	male	33.0	0	no	southeast	20781.49
## 384	35	female	43.3	2	no	southeast	5846.92
## 385	44	male	22.1	2	no	northeast	8302.54
## 386	19	male	34.4	0	no	southwest	1261.86
## 387	58	female	39.1	0	no	southeast	11856.41
## 388	50	male	25.4	2	no	northwest	30284.64
## 389	26	female	22.6	0	no	northwest	3176.82
## 390	24	female	30.2	3	no	northwest	4618.08
## 391	48	male	35.6	4	no	northeast	10736.87
## 392	19	female	37.4	0	no	northwest	2138.07
## 393	48	male	31.4	1	no	northeast	8964.06
## 394	49	male	31.4	1	no	northeast	9290.14
## 395	46	female	32.3	2	no	northeast	9411.01
## 396	46	male	19.9	0	no	northwest	7526.71
## 397	43	female	34.4	3	no	southwest	8522.00
## 398	21	male	31.0	0	no	southeast	16586.50
## 399	64	male	25.6	2	no	southwest	14988.43
## 400	18	female	38.2	0	no	southeast	1631.67
## 401	51	female	20.6	0	no	southwest	9264.80
## 402	47	male	47.5	1	no	southeast	8083.92
## 403	64	female	33.0	0	no	northwest	14692.67
## 404	49	male	32.3	3	no	northwest	10269.46
## 405	31	male	20.4	0	no	southwest	3260.20
## 406	52	female	38.4	2	no	northeast	11396.90
## 407	33	female	24.3	0	no	southeast	4185.10
## 408	47	female	23.6	1	no	southwest	8539.67
## 409	38	male	21.1	3	no	southeast	6652.53
## 410	32	male	30.0	1	no	southeast	4074.45
## 411	19	male	17.5	0	no	northwest	1621.34
## 412	44	female	20.2	1	yes	northeast	19594.81
## 413	26	female	17.2	2	yes	northeast	14455.64
## 414	25	male	23.9	5	no	southwest	5080.10
## 415	19	female	35.2	0	no	northwest	2134.90
## 416	43	female	35.6	1	no	southeast	7345.73
## 417	52	male	34.1	0	no	southeast	9140.95
## 418	36	female	22.6	2	yes	southwest	18608.26
## 419	64	male	39.2	1	no	southeast	14418.28
## 420	63	female	27.0	0	yes	northwest	28950.47
## 421	64	male	33.9	0	yes	southeast	46889.26
## 422	61	male	35.9	0	yes	southeast	46599.11
## 423	40	male	32.8	1	yes	northeast	39125.33
## 424	25	male	30.6	0	no	northeast	2727.40
## 425	48	male	30.2	2	no	southwest	8968.33
## 426	45	male	24.3	5	no	southeast	9788.87
## 427	38	female	27.3	1	no	northeast	6555.07
## 428	18	female	29.2	0	no	northeast	7323.73
## 429	21	female	16.8	1	no	northeast	3167.46
## 430	27	female	30.4	3	no	northwest	18804.75

## 431	19	male	33.1	0	no southwest	23082.96
## 432	29	female	20.2	2	no northwest	4906.41
## 433	42	male	26.9	0	no southwest	5969.72
## 434	60	female	30.5	0	no southwest	12638.20
## 435	31	male	28.6	1	no northwest	4243.59
## 436	60	male	33.1	3	no southeast	13919.82
## 437	22	male	31.7	0	no northeast	2254.80
## 438	35	male	28.9	3	no southwest	5926.85
## 439	52	female	46.8	5	no southeast	12592.53
## 440	26	male	29.5	0	no northeast	2897.32
## 441	31	female	32.7	1	no northwest	4738.27
## 442	33	female	33.5	0	yes southwest	37079.37
## 443	18	male	43.0	0	no southeast	1149.40
## 444	59	female	36.5	1	no southeast	28287.90
## 445	56	male	26.7	1	yes northwest	26109.33
## 446	45	female	33.1	0	no southwest	7345.08
## 447	60	male	29.6	0	no northeast	12731.00
## 448	56	female	25.7	0	no northwest	11454.02
## 449	40	female	29.6	0	no southwest	5910.94
## 450	35	male	38.6	1	no southwest	4762.33
## 451	39	male	29.6	4	no southwest	7512.27
## 452	30	male	24.1	1	no northwest	4032.24
## 453	24	male	23.4	0	no southwest	1969.61
## 454	20	male	29.7	0	no northwest	1769.53
## 455	32	male	46.5	2	no southeast	4686.39
## 456	59	male	37.4	0	no southwest	21797.00
## 457	55	female	30.1	2	no southeast	11881.97
## 458	57	female	30.5	0	no northwest	11840.78
## 459	56	male	39.6	0	no southwest	10601.41
## 460	40	female	33.0	3	no southeast	7682.67
## 461	49	female	36.6	3	no southeast	10381.48
## 462	42	male	30.0	0	yes southwest	22144.03
## 463	62	female	38.1	2	no northeast	15230.32
## 464	56	male	25.9	0	no northeast	11165.42
## 465	19	male	25.2	0	no northwest	1632.04
## 466	30	female	28.4	1	yes southeast	19521.97
## 467	60	female	28.7	1	no southwest	13224.69
## 468	56	female	33.8	2	no northwest	12643.38
## 469	28	female	24.3	1	no northeast	23288.93
## 470	18	female	24.1	1	no southeast	2201.10
## 471	27	male	32.7	0	no southeast	2497.04
## 472	18	female	30.1	0	no northeast	2203.47
## 473	19	female	29.8	0	no southwest	1744.47
## 474	47	female	33.3	0	no northeast	20878.78
## 475	54	male	25.1	3	yes southwest	25382.30
## 476	61	male	28.3	1	yes northwest	28868.66
## 477	24	male	28.5	0	yes northeast	35147.53
## 478	25	male	35.6	0	no northwest	2534.39
## 479	21	male	36.9	0	no southeast	1534.30
## 480	23	male	32.6	0	no southeast	1824.29
## 481	63	male	41.3	3	no northwest	15555.19
## 482	49	male	37.5	2	no southeast	9304.70
## 483	18	female	31.4	0	no southeast	1622.19
## 484	51	female	39.5	1	no southwest	9880.07
## 485	48	male	34.3	3	no southwest	9563.03
## 486	31	female	31.1	0	no northeast	4347.02
## 487	54	female	21.5	3	no northwest	12475.35
## 488	19	male	28.7	0	no southwest	1253.94
## 489	44	female	38.1	0	yes southeast	48885.14
## 490	53	male	31.2	1	no northwest	10461.98
## 491	19	female	32.9	0	no southwest	1748.77
## 492	61	female	25.1	0	no southeast	24513.09
## 493	18	female	25.1	0	no northeast	2196.47
## 494	61	male	43.4	0	no southwest	12574.05
## 495	21	male	25.7	4	yes southwest	17942.11
## 496	20	male	27.9	0	no northeast	1967.02
## 497	31	female	23.6	2	no southwest	4931.65
## 498	45	male	28.7	2	no southwest	8027.97
## 499	44	female	24.0	2	no southeast	8211.10
## 500	62	female	39.2	0	no southwest	13470.86
## 501	29	male	34.4	0	yes southwest	36197.70
## 502	43	male	26.0	0	no northeast	6837.37
## 503	51	male	23.2	1	yes southeast	22218.11

##	503	31	male	23.2	1	yes	southeast	22210.11
##	504	19	male	30.3	0	yes	southeast	32548.34
##	505	38	female	28.9	1	no	southeast	5974.38
##	506	37	male	30.9	3	no	northwest	6796.86
##	507	22	male	31.4	1	no	northwest	2643.27
##	508	21	male	23.8	2	no	northwest	3077.10
##	509	24	female	25.3	0	no	northeast	3044.21
##	510	57	female	28.7	0	no	southwest	11455.28
##	511	56	male	32.1	1	no	northeast	11763.00
##	512	27	male	33.7	0	no	southeast	2498.41
##	513	51	male	22.4	0	no	northeast	9361.33
##	514	19	male	30.4	0	no	southwest	1256.30
##	515	39	male	28.3	1	yes	southwest	21082.16
##	516	58	male	35.7	0	no	southwest	11362.76
##	517	20	male	35.3	1	no	southeast	27724.29
##	518	45	male	30.5	2	no	northwest	8413.46
##	519	35	female	31.0	1	no	southwest	5240.77
##	520	31	male	30.9	0	no	northeast	3857.76
##	521	50	female	27.4	0	no	northeast	25656.58
##	522	32	female	44.2	0	no	southeast	3994.18
##	523	51	female	33.9	0	no	northeast	9866.30
##	524	38	female	37.7	0	no	southeast	5397.62
##	525	42	male	26.1	1	yes	southeast	38245.59
##	526	18	female	33.9	0	no	southeast	11482.63
##	527	19	female	30.6	2	no	northwest	24059.68
##	528	51	female	25.8	1	no	southwest	9861.03
##	529	46	male	39.4	1	no	northeast	8342.91
##	530	18	male	25.5	0	no	northeast	1708.00
##	531	57	male	42.1	1	yes	southeast	48675.52
##	532	62	female	31.7	0	no	northeast	14043.48
##	533	59	male	29.7	2	no	southeast	12925.89
##	534	37	male	36.2	0	no	southeast	19214.71
##	535	64	male	40.5	0	no	southeast	13831.12
##	536	38	male	28.0	1	no	northeast	6067.13
##	537	33	female	38.9	3	no	southwest	5972.38
##	538	46	female	30.2	2	no	southwest	8825.09
##	539	46	female	28.1	1	no	southeast	8233.10
##	540	53	male	31.4	0	no	southeast	27346.04
##	541	34	female	38.0	3	no	southwest	6196.45
##	542	20	female	31.8	2	no	southeast	3056.39
##	543	63	female	36.3	0	no	southeast	13887.20
##	544	54	female	47.4	0	yes	southeast	63770.43
##	545	54	male	30.2	0	no	northwest	10231.50
##	546	49	male	25.8	2	yes	northwest	23807.24
##	547	28	male	35.4	0	no	northeast	3268.85
##	548	54	female	46.7	2	no	southwest	11538.42
##	549	25	female	28.6	0	no	northeast	3213.62
##	550	43	female	46.2	0	yes	southeast	45863.21
##	551	63	male	30.8	0	no	southwest	13390.56
##	552	32	female	28.9	0	no	southeast	3972.92
##	553	62	male	21.4	0	no	southwest	12957.12
##	554	52	female	31.7	2	no	northwest	11187.66
##	555	25	female	41.3	0	no	northeast	17878.90
##	556	28	male	23.8	2	no	southwest	3847.67
##	557	46	male	33.4	1	no	northeast	8334.59
##	558	34	male	34.2	0	no	southeast	3935.18
##	559	35	female	34.1	3	yes	northwest	39983.43
##	560	19	male	35.5	0	no	northwest	1646.43
##	561	46	female	20.0	2	no	northwest	9193.84
##	562	54	female	32.7	0	no	northeast	10923.93
##	563	27	male	30.5	0	no	southwest	2494.02
##	564	50	male	44.8	1	no	southeast	9058.73
##	565	18	female	32.1	2	no	southeast	2801.26
##	566	19	female	30.5	0	no	northwest	2128.43
##	567	38	female	40.6	1	no	northwest	6373.56
##	568	41	male	30.6	2	no	northwest	7256.72
##	569	49	female	31.9	5	no	southwest	11552.90
##	570	48	male	40.6	2	yes	northwest	45702.02
##	571	31	female	29.1	0	no	southwest	3761.29
##	572	18	female	37.3	1	no	southeast	2219.45
##	573	30	female	43.1	2	no	southeast	4753.64
##	574	62	female	36.9	1	no	northeast	31620.00
##	575	57	female	34.3	2	no	northeast	13224.06

## 576	58	female	27.2	0	no	northwest	12222.90
## 577	22	male	26.8	0	no	southeast	1665.00
## 578	31	female	38.1	1	yes	northeast	58571.07
## 579	52	male	30.2	1	no	southwest	9724.53
## 580	25	female	23.5	0	no	northeast	3206.49
## 581	59	male	25.5	1	no	northeast	12913.99
## 582	19	male	30.6	0	no	northwest	1639.56
## 583	39	male	45.4	2	no	southeast	6356.27
## 584	32	female	23.7	1	no	southeast	17626.24
## 585	19	male	20.7	0	no	southwest	1242.82
## 586	33	female	28.3	1	no	southeast	4779.60
## 587	21	male	20.2	3	no	northeast	3861.21
## 588	34	female	30.2	1	yes	northwest	43943.88
## 589	61	female	35.9	0	no	northeast	13635.64
## 590	38	female	30.7	1	no	southeast	5976.83
## 591	58	female	29.0	0	no	southwest	11842.44
## 592	47	male	19.6	1	no	northwest	8428.07
## 593	20	male	31.1	2	no	southeast	2566.47
## 594	21	female	21.9	1	yes	northeast	15359.10
## 595	41	male	40.3	0	no	southeast	5709.16
## 596	46	female	33.7	1	no	northeast	8823.99
## 597	42	female	29.5	2	no	southeast	7640.31
## 598	34	female	33.3	1	no	northeast	5594.85
## 599	43	male	32.6	2	no	southwest	7441.50
## 600	52	female	37.5	2	no	northwest	33471.97
## 601	18	female	39.2	0	no	southeast	1633.04
## 602	51	male	31.6	0	no	northwest	9174.14
## 603	56	female	25.3	0	no	southwest	11070.54
## 604	64	female	39.1	3	no	southeast	16085.13
## 605	19	female	28.3	0	yes	northwest	17468.98
## 606	51	female	34.1	0	no	southeast	9283.56
## 607	27	female	25.2	0	no	northeast	3558.62
## 608	59	female	23.7	0	yes	northwest	25678.78
## 609	28	male	27.0	2	no	northeast	4435.09
## 610	30	male	37.8	2	yes	southwest	39241.44
## 611	47	female	29.4	1	no	southeast	8547.69
## 612	38	female	34.8	2	no	southwest	6571.54
## 613	18	female	33.2	0	no	northeast	2207.70
## 614	34	female	19.0	3	no	northeast	6753.04
## 615	20	female	33.0	0	no	southeast	1880.07
## 616	47	female	36.6	1	yes	southeast	42969.85
## 617	56	female	28.6	0	no	northeast	11658.12
## 618	49	male	25.6	2	yes	southwest	23306.55
## 619	19	female	33.1	0	yes	southeast	34439.86
## 620	55	female	37.1	0	no	southwest	10713.64
## 621	30	male	31.4	1	no	southwest	3659.35
## 622	37	male	34.1	4	yes	southwest	40182.25
## 623	49	female	21.3	1	no	southwest	9182.17
## 624	18	male	33.5	0	yes	northeast	34617.84
## 625	59	male	28.8	0	no	northwest	12129.61
## 626	29	female	26.0	0	no	northwest	3736.46
## 627	36	male	28.9	3	no	northeast	6748.59
## 628	33	male	42.5	1	no	southeast	11326.71
## 629	58	male	38.0	0	no	southwest	11365.95
## 630	44	female	39.0	0	yes	northwest	42983.46
## 631	53	male	36.1	1	no	southwest	10085.85
## 632	24	male	29.3	0	no	southwest	1977.82
## 633	29	female	35.5	0	no	southeast	3366.67
## 634	40	male	22.7	2	no	northeast	7173.36
## 635	51	male	39.7	1	no	southwest	9391.35
## 636	64	male	38.2	0	no	northeast	14410.93
## 637	19	female	24.5	1	no	northwest	2709.11
## 638	35	female	38.1	2	no	northeast	24915.05
## 639	39	male	26.4	0	yes	northeast	20149.32
## 640	56	male	33.7	4	no	southeast	12949.16
## 641	33	male	42.4	5	no	southwest	6666.24
## 642	42	male	28.3	3	yes	northwest	32787.46
## 643	61	male	33.9	0	no	northeast	13143.86
## 644	23	female	35.0	3	no	northwest	4466.62
## 645	43	male	35.3	2	no	southeast	18806.15
## 646	48	male	30.8	3	no	northeast	10141.14
## 647	39	male	26.2	1	no	northwest	6123.57
## 648	40	female	23.4	3	no	northeast	8252.28

## 649	18	male	28.5	0	no	northeast	1712.23
## 650	58	female	33.0	0	no	northeast	12430.95
## 651	49	female	42.7	2	no	southeast	9800.89
## 652	53	female	39.6	1	no	southeast	10579.71
## 653	48	female	31.1	0	no	southeast	8280.62
## 654	45	female	36.3	2	no	southeast	8527.53
## 655	59	female	35.2	0	no	southeast	12244.53
## 656	52	female	25.3	2	yes	southeast	24667.42
## 657	26	female	42.4	1	no	southwest	3410.32
## 658	27	male	33.2	2	no	northwest	4058.71
## 659	48	female	35.9	1	no	northeast	26392.26
## 660	57	female	28.8	4	no	northeast	14394.40
## 661	37	male	46.5	3	no	southeast	6435.62
## 662	57	female	24.0	1	no	southeast	22192.44
## 663	32	female	31.5	1	no	northeast	5148.55
## 664	18	male	33.7	0	no	southeast	1136.40
## 665	64	female	23.0	0	yes	southeast	27037.91
## 666	43	male	38.1	2	yes	southeast	42560.43
## 667	49	male	28.7	1	no	southwest	8703.46
## 668	40	female	32.8	2	yes	northwest	40003.33
## 669	62	male	32.0	0	yes	northeast	45710.21
## 670	40	female	29.8	1	no	southeast	6500.24
## 671	30	male	31.6	3	no	southeast	4837.58
## 672	29	female	31.2	0	no	northeast	3943.60
## 673	36	male	29.7	0	no	southeast	4399.73
## 674	41	female	31.0	0	no	southeast	6185.32
## 675	44	female	43.9	2	yes	southeast	46200.99
## 676	45	male	21.4	0	no	northwest	7222.79
## 677	55	female	40.8	3	no	southeast	12485.80
## 678	60	male	31.4	3	yes	northwest	46130.53
## 679	56	male	36.1	3	no	southwest	12363.55
## 680	49	female	23.2	2	no	northwest	10156.78
## 681	21	female	17.4	1	no	southwest	2585.27
## 682	19	male	20.3	0	no	southwest	1242.26
## 683	39	male	35.3	2	yes	southwest	40103.89
## 684	53	male	24.3	0	no	northwest	9863.47
## 685	33	female	18.5	1	no	southwest	4766.02
## 686	53	male	26.4	2	no	northeast	11244.38
## 687	42	male	26.1	2	no	northeast	7729.65
## 688	40	male	41.7	0	no	southeast	5438.75
## 689	47	female	24.1	1	no	southwest	26236.58
## 690	27	male	31.1	1	yes	southeast	34806.47
## 691	21	male	27.4	0	no	northeast	2104.11
## 692	47	male	36.2	1	no	southwest	8068.19
## 693	20	male	32.4	1	no	northwest	2362.23
## 694	24	male	23.7	0	no	northwest	2352.97
## 695	27	female	34.8	1	no	southwest	3578.00
## 696	26	female	40.2	0	no	northwest	3201.25
## 697	53	female	32.3	2	no	northeast	29186.48
## 698	41	male	35.8	1	yes	southeast	40273.65
## 699	56	male	33.7	0	no	northwest	10976.25
## 700	23	female	39.3	2	no	southeast	3500.61
## 701	21	female	34.9	0	no	southeast	2020.55
## 702	50	female	44.7	0	no	northeast	9541.70
## 703	53	male	41.5	0	no	southeast	9504.31
## 704	34	female	26.4	1	no	northwest	5385.34
## 705	47	female	29.5	1	no	northwest	8930.93
## 706	33	female	32.9	2	no	southwest	5375.04
## 707	51	female	38.1	0	yes	southeast	44400.41
## 708	49	male	28.7	3	no	northwest	10264.44
## 709	31	female	30.5	3	no	northeast	6113.23
## 710	36	female	27.7	0	no	northeast	5469.01
## 711	18	male	35.2	1	no	southeast	1727.54
## 712	50	female	23.5	2	no	southeast	10107.22
## 713	43	female	30.7	2	no	northwest	8310.84
## 714	20	male	40.5	0	no	northeast	1984.45
## 715	24	female	22.6	0	no	southwest	2457.50
## 716	60	male	28.9	0	no	southwest	12146.97
## 717	49	female	22.6	1	no	northwest	9566.99
## 718	60	male	24.3	1	no	northwest	13112.60
## 719	51	female	36.7	2	no	northwest	10848.13
## 720	58	female	33.4	0	no	northwest	12231.61
## 721	51	female	40.7	0	no	northeast	9875.68

## 721	51	female	40.7	0	no	northeast	5075.00
## 722	53	male	36.6	3	no	southwest	11264.54
## 723	62	male	37.4	0	no	southwest	12979.36
## 724	19	male	35.4	0	no	southwest	1263.25
## 725	50	female	27.1	1	no	northeast	10106.13
## 726	30	female	39.1	3	yes	southeast	40932.43
## 727	41	male	28.4	1	no	northwest	6664.69
## 728	29	female	21.8	1	yes	northeast	16657.72
## 729	18	female	40.3	0	no	northeast	2217.60
## 730	41	female	36.1	1	no	southeast	6781.35
## 731	35	male	24.4	3	yes	southeast	19362.00
## 732	53	male	21.4	1	no	southwest	10065.41
## 733	24	female	30.1	3	no	southwest	4234.93
## 734	48	female	27.3	1	no	northeast	9447.25
## 735	59	female	32.1	3	no	southwest	14007.22
## 736	49	female	34.8	1	no	northwest	9583.89
## 737	37	female	38.4	0	yes	southeast	40419.02
## 738	26	male	23.7	2	no	southwest	3484.33
## 739	23	male	31.7	3	yes	northeast	36189.10
## 740	29	male	35.5	2	yes	southwest	44585.46
## 741	45	male	24.0	2	no	northeast	8604.48
## 742	27	male	29.2	0	yes	southeast	18246.50
## 743	53	male	34.1	0	yes	northeast	43254.42
## 744	31	female	26.6	0	no	southeast	3757.84
## 745	50	male	26.4	0	no	northwest	8827.21
## 746	50	female	30.1	1	no	northwest	9910.36
## 747	34	male	27.0	2	no	southwest	11737.85
## 748	19	male	21.8	0	no	northwest	1627.28
## 749	47	female	36.0	1	no	southwest	8556.91
## 750	28	male	30.9	0	no	northwest	3062.51
## 751	37	female	26.4	0	yes	southeast	19539.24
## 752	21	male	29.0	0	no	northwest	1906.36
## 753	64	male	37.9	0	no	northwest	14210.54
## 754	58	female	22.8	0	no	southeast	11833.78
## 755	24	male	33.6	4	no	northeast	17128.43
## 756	31	male	27.6	2	no	northeast	5031.27
## 757	39	female	22.8	3	no	northeast	7985.82
## 758	47	female	27.8	0	yes	southeast	23065.42
## 759	30	male	37.4	3	no	northeast	5428.73
## 760	18	male	38.2	0	yes	southeast	36307.80
## 761	22	female	34.6	2	no	northeast	3925.76
## 762	23	male	35.2	1	no	southwest	2416.96
## 763	33	male	27.1	1	yes	southwest	19040.88
## 764	27	male	26.0	0	no	northeast	3070.81
## 765	45	female	25.2	2	no	northeast	9095.07
## 766	57	female	31.8	0	no	northwest	11842.62
## 767	47	male	32.3	1	no	southwest	8062.76
## 768	42	female	29.0	1	no	southwest	7050.64
## 769	64	female	39.7	0	no	southwest	14319.03
## 770	38	female	19.5	2	no	northwest	6933.24
## 771	61	male	36.1	3	no	southwest	27941.29
## 772	53	female	26.7	2	no	southwest	11150.78
## 773	44	female	36.5	0	no	northeast	12797.21
## 774	19	female	28.9	0	yes	northwest	17748.51
## 775	41	male	34.2	2	no	northwest	7261.74
## 776	51	male	33.3	3	no	southeast	10560.49
## 777	40	male	32.3	2	no	northwest	6986.70
## 778	45	male	39.8	0	no	northeast	7448.40
## 779	35	male	34.3	3	no	southeast	5934.38
## 780	53	male	28.9	0	no	northwest	9869.81
## 781	30	male	24.4	3	yes	southwest	18259.22
## 782	18	male	41.1	0	no	southeast	1146.80
## 783	51	male	36.0	1	no	southeast	9386.16
## 784	50	female	27.6	1	yes	southwest	24520.26
## 785	31	female	29.3	1	no	southeast	4350.51
## 786	35	female	27.7	3	no	southwest	6414.18
## 787	60	male	37.0	0	no	northeast	12741.17
## 788	21	male	36.9	0	no	northwest	1917.32
## 789	29	male	22.5	3	no	northeast	5209.58
## 790	62	female	29.9	0	no	southeast	13457.96
## 791	39	female	41.8	0	no	southeast	5662.23
## 792	19	male	27.6	0	no	southwest	1252.41
## 793	22	female	23.2	0	no	northeast	2731.91

## 794	53	male	20.9	0	yes	southeast	21195.82
## 795	39	female	31.9	2	no	northwest	7209.49
## 796	27	male	28.5	0	yes	northwest	18310.74
## 797	30	male	44.2	2	no	southeast	4266.17
## 798	30	female	22.9	1	no	northeast	4719.52
## 799	58	female	33.1	0	no	southwest	11848.14
## 800	33	male	24.8	0	yes	northeast	17904.53
## 801	42	female	26.2	1	no	southeast	7046.72
## 802	64	female	36.0	0	no	southeast	14313.85
## 803	21	male	22.3	1	no	southwest	2103.08
## 804	18	female	42.2	0	yes	southeast	38792.69
## 805	23	male	26.5	0	no	southeast	1815.88
## 806	45	female	35.8	0	no	northwest	7731.86
## 807	40	female	41.4	1	no	northwest	28476.73
## 808	19	female	36.6	0	no	northwest	2136.88
## 809	18	male	30.1	0	no	southeast	1131.51
## 810	25	male	25.8	1	no	northeast	3309.79
## 811	46	female	30.8	3	no	southwest	9414.92
## 812	33	female	42.9	3	no	northwest	6360.99
## 813	54	male	21.0	2	no	southeast	11013.71
## 814	28	male	22.5	2	no	northeast	4428.89
## 815	36	male	34.4	2	no	southeast	5584.31
## 816	20	female	31.5	0	no	southeast	1877.93
## 817	24	female	24.2	0	no	northwest	2842.76
## 818	23	male	37.1	3	no	southwest	3597.60
## 819	47	female	26.1	1	yes	northeast	23401.31
## 820	33	female	35.5	0	yes	northwest	55135.40
## 821	45	male	33.7	1	no	southwest	7445.92
## 822	26	male	17.7	0	no	northwest	2680.95
## 823	18	female	31.1	0	no	southeast	1621.88
## 824	44	female	29.8	2	no	southeast	8219.20
## 825	60	male	24.3	0	no	northwest	12523.60
## 826	64	female	31.8	2	no	northeast	16069.08
## 827	56	male	31.8	2	yes	southeast	43813.87
## 828	36	male	28.0	1	yes	northeast	20773.63
## 829	41	male	30.8	3	yes	northeast	39597.41
## 830	39	male	21.9	1	no	northwest	6117.49
## 831	63	male	33.1	0	no	southwest	13393.76
## 832	36	female	25.8	0	no	northwest	5266.37
## 833	28	female	23.8	2	no	northwest	4719.74
## 834	58	male	34.4	0	no	northwest	11743.93
## 835	36	male	33.8	1	no	northwest	5377.46
## 836	42	male	36.0	2	no	southeast	7160.33
## 837	36	male	31.5	0	no	southwest	4402.23
## 838	56	female	28.3	0	no	northeast	11657.72
## 839	35	female	23.5	2	no	northeast	6402.29
## 840	59	female	31.4	0	no	northwest	12622.18
## 841	21	male	31.1	0	no	southwest	1526.31
## 842	59	male	24.7	0	no	northeast	12323.94
## 843	23	female	32.8	2	yes	southeast	36021.01
## 844	57	female	29.8	0	yes	southeast	27533.91
## 845	53	male	30.5	0	no	northeast	10072.06
## 846	60	female	32.5	0	yes	southeast	45008.96
## 847	51	female	34.2	1	no	southwest	9872.70
## 848	23	male	50.4	1	no	southeast	2438.06
## 849	27	female	24.1	0	no	southwest	2974.13
## 850	55	male	32.8	0	no	northwest	10601.63
## 851	37	female	30.8	0	yes	northeast	37270.15
## 852	61	male	32.3	2	no	northwest	14119.62
## 853	46	female	35.5	0	yes	northeast	42111.66
## 854	53	female	23.8	2	no	northeast	11729.68
## 855	49	female	23.8	3	yes	northeast	24106.91
## 856	20	female	29.6	0	no	southwest	1875.34
## 857	48	female	33.1	0	yes	southeast	40974.16
## 858	25	male	24.1	0	yes	northwest	15817.99
## 859	25	female	32.2	1	no	southeast	18218.16
## 860	57	male	28.1	0	no	southwest	10965.45
## 861	37	female	47.6	2	yes	southwest	46113.51
## 862	38	female	28.0	3	no	southwest	7151.09
## 863	55	female	33.5	2	no	northwest	12269.69
## 864	36	female	19.9	0	no	northeast	5458.05
## 865	51	male	25.4	0	no	southwest	8782.47
## 866	40	male	29.9	2	no	southwest	6600.36

## 867	18	male	37.3	0	no	southeast	1141.45
## 868	57	male	43.7	1	no	southwest	11576.13
## 869	61	male	23.7	0	no	northeast	13129.60
## 870	25	female	24.3	3	no	southwest	4391.65
## 871	50	male	36.2	0	no	southwest	8457.82
## 872	26	female	29.5	1	no	southeast	3392.37
## 873	42	male	24.9	0	no	southeast	5966.89
## 874	43	male	30.1	1	no	southwest	6849.03
## 875	44	male	21.9	3	no	northeast	8891.14
## 876	23	female	28.1	0	no	northwest	2690.11
## 877	49	female	27.1	1	no	southwest	26140.36
## 878	33	male	33.4	5	no	southeast	6653.79
## 879	41	male	28.8	1	no	southwest	6282.24
## 880	37	female	29.5	2	no	southwest	6311.95
## 881	22	male	34.8	3	no	southwest	3443.06
## 882	23	male	27.4	1	no	northwest	2789.06
## 883	21	female	22.1	0	no	northeast	2585.85
## 884	51	female	37.1	3	yes	northeast	46255.11
## 885	25	male	26.7	4	no	northwest	4877.98
## 886	32	male	28.9	1	yes	southeast	19719.69
## 887	57	male	29.0	0	yes	northeast	27218.44
## 888	36	female	30.0	0	no	northwest	5272.18
## 889	22	male	39.5	0	no	southwest	1682.60
## 890	57	male	33.6	1	no	northwest	11945.13
## 891	64	female	26.9	0	yes	northwest	29330.98
## 892	36	female	29.0	4	no	southeast	7243.81
## 893	54	male	24.0	0	no	northeast	10422.92
## 894	47	male	38.9	2	yes	southeast	44202.65
## 895	62	male	32.1	0	no	northeast	13555.00
## 896	61	female	44.0	0	no	southwest	13063.88
## 897	43	female	20.0	2	yes	northeast	19798.05
## 898	19	male	25.6	1	no	northwest	2221.56
## 899	18	female	40.3	0	no	southeast	1634.57
## 900	19	female	22.5	0	no	northwest	2117.34
## 901	49	male	22.5	0	no	northeast	8688.86
## 902	60	male	40.9	0	yes	southeast	48673.56
## 903	26	male	27.3	3	no	northeast	4661.29
## 904	49	male	36.9	0	no	southeast	8125.78
## 905	60	female	35.1	0	no	southwest	12644.59
## 906	26	female	29.4	2	no	northeast	4564.19
## 907	27	male	32.6	3	no	northeast	4846.92
## 908	44	female	32.3	1	no	southeast	7633.72
## 909	63	male	39.8	3	no	southwest	15170.07
## 910	32	female	24.6	0	yes	southwest	17496.31
## 911	22	male	28.3	1	no	northwest	2639.04
## 912	18	male	31.7	0	yes	northeast	33732.69
## 913	59	female	26.7	3	no	northwest	14382.71
## 914	44	female	27.5	1	no	southwest	7626.99
## 915	33	male	24.6	2	no	northwest	5257.51
## 916	24	female	34.0	0	no	southeast	2473.33
## 917	43	female	26.9	0	yes	northwest	21774.32
## 918	45	male	22.9	0	yes	northeast	35069.37
## 919	61	female	28.2	0	no	southwest	13041.92
## 920	35	female	34.2	1	no	southeast	5245.23
## 921	62	female	25.0	0	no	southwest	13451.12
## 922	62	female	33.2	0	no	southwest	13462.52
## 923	38	male	31.0	1	no	southwest	5488.26
## 924	34	male	35.8	0	no	northwest	4320.41
## 925	43	male	23.2	0	no	southwest	6250.44
## 926	50	male	32.1	2	no	northeast	25333.33
## 927	19	female	23.4	2	no	southwest	2913.57
## 928	57	female	20.1	1	no	southwest	12032.33
## 929	62	female	39.2	0	no	southeast	13470.80
## 930	41	male	34.2	1	no	southeast	6289.75
## 931	26	male	46.5	1	no	southeast	2927.06
## 932	39	female	32.5	1	no	southwest	6238.30
## 933	46	male	25.8	5	no	southwest	10096.97
## 934	45	female	35.3	0	no	southwest	7348.14
## 935	32	male	37.2	2	no	southeast	4673.39
## 936	59	female	27.5	0	no	southwest	12233.83
## 937	44	male	29.7	2	no	northeast	32108.66
## 938	39	female	24.2	5	no	northwest	8965.80
## 939	18	male	26.2	2	no	southeast	2304.00

## 937	10	male	20.2	2	no	southeast	2304.00
## 940	53	male	29.5	0	no	southeast	9487.64
## 941	18	male	23.2	0	no	southeast	1121.87
## 942	50	female	46.1	1	no	southeast	9549.57
## 943	18	female	40.2	0	no	northeast	2217.47
## 944	19	male	22.6	0	no	northwest	1628.47
## 945	62	male	39.9	0	no	southeast	12982.87
## 946	56	female	35.8	1	no	southwest	11674.13
## 947	42	male	35.8	2	no	southwest	7160.09
## 948	37	male	34.2	1	yes	northeast	39047.29
## 949	42	male	31.3	0	no	northwest	6358.78
## 950	25	male	29.7	3	yes	southwest	19933.46
## 951	57	male	18.3	0	no	northeast	11534.87
## 952	51	male	42.9	2	yes	southeast	47462.89
## 953	30	female	28.4	1	no	northwest	4527.18
## 954	44	male	30.2	2	yes	southwest	38998.55
## 955	34	male	27.8	1	yes	northwest	20009.63
## 956	31	male	39.5	1	no	southeast	3875.73
## 957	54	male	30.8	1	yes	southeast	41999.52
## 958	24	male	26.8	1	no	northwest	12609.89
## 959	43	male	35.0	1	yes	northeast	41034.22
## 960	48	male	36.7	1	no	northwest	28468.92
## 961	19	female	39.6	1	no	northwest	2730.11
## 962	29	female	25.9	0	no	southwest	3353.28
## 963	63	female	35.2	1	no	southeast	14474.68
## 964	46	male	24.8	3	no	northeast	9500.57
## 965	52	male	36.8	2	no	northwest	26467.10
## 966	35	male	27.1	1	no	southwest	4746.34
## 967	51	male	24.8	2	yes	northwest	23967.38
## 968	44	male	25.4	1	no	northwest	7518.03
## 969	21	male	25.7	2	no	northeast	3279.87
## 970	39	female	34.3	5	no	southeast	8596.83
## 971	50	female	28.2	3	no	southeast	10702.64
## 972	34	female	23.6	0	no	northeast	4992.38
## 973	22	female	20.2	0	no	northwest	2527.82
## 974	19	female	40.5	0	no	southwest	1759.34
## 975	26	male	35.4	0	no	southeast	2322.62
## 976	29	male	22.9	0	yes	northeast	16138.76
## 977	48	male	40.2	0	no	southeast	7804.16
## 978	26	male	29.2	1	no	southeast	2902.91
## 979	45	female	40.0	3	no	northeast	9704.67
## 980	36	female	29.9	0	no	southeast	4889.04
## 981	54	male	25.5	1	no	northeast	25517.11
## 982	34	male	21.4	0	no	northeast	4500.34
## 983	31	male	25.9	3	yes	southwest	19199.94
## 984	27	female	30.6	1	no	northeast	16796.41
## 985	20	male	30.1	5	no	northeast	4915.06
## 986	44	female	25.8	1	no	southwest	7624.63
## 987	43	male	30.1	3	no	northwest	8410.05
## 988	45	female	27.6	1	no	northwest	28340.19
## 989	34	male	34.7	0	no	northeast	4518.83
## 990	24	female	20.5	0	yes	northeast	14571.89
## 991	26	female	19.8	1	no	southwest	3378.91
## 992	38	female	27.8	2	no	northeast	7144.86
## 993	50	female	31.6	2	no	southwest	10118.42
## 994	38	male	28.3	1	no	southeast	5484.47
## 995	27	female	20.0	3	yes	northwest	16420.49
## 996	39	female	23.3	3	no	northeast	7986.48
## 997	39	female	34.1	3	no	southwest	7418.52
## 998	63	female	36.9	0	no	southeast	13887.97
## 999	33	female	36.3	3	no	northeast	6551.75
## 1000	36	female	26.9	0	no	northwest	5267.82
## 1001	30	male	23.0	2	yes	northwest	17361.77
## 1002	24	male	32.7	0	yes	southwest	34472.84
## 1003	24	male	25.8	0	no	southwest	1972.95
## 1004	48	male	29.6	0	no	southwest	21232.18
## 1005	47	male	19.2	1	no	northeast	8627.54
## 1006	29	male	31.7	2	no	northwest	4433.39
## 1007	28	male	29.3	2	no	northeast	4438.26
## 1008	47	male	28.2	3	yes	northwest	24915.22
## 1009	25	male	25.0	2	no	northeast	23241.47
## 1010	51	male	27.7	1	no	northeast	9957.72
## 1011	48	female	22.8	0	no	southwest	8269.04

## 1012	43	male	20.1	2	yes	southeast	18767.74
## 1013	61	female	33.3	4	no	southeast	36580.28
## 1014	48	male	32.3	1	no	northwest	8765.25
## 1015	38	female	27.6	0	no	southwest	5383.54
## 1016	59	male	25.5	0	no	northwest	12124.99
## 1017	19	female	24.6	1	no	northwest	2709.24
## 1018	26	female	34.2	2	no	southwest	3987.93
## 1019	54	female	35.8	3	no	northwest	12495.29
## 1020	21	female	32.7	2	no	northwest	26018.95
## 1021	51	male	37.0	0	no	southwest	8798.59
## 1022	22	female	31.0	3	yes	southeast	35595.59
## 1023	47	male	36.1	1	yes	southeast	42211.14
## 1024	18	male	23.3	1	no	southeast	1711.03
## 1025	47	female	45.3	1	no	southeast	8569.86
## 1026	21	female	34.6	0	no	southwest	2020.18
## 1027	19	male	26.0	1	yes	northwest	16450.89
## 1028	23	male	18.7	0	no	northwest	21595.38
## 1029	54	male	31.6	0	no	southwest	9850.43
## 1030	37	female	17.3	2	no	northeast	6877.98
## 1031	46	female	23.7	1	yes	northwest	21677.28
## 1032	55	female	35.2	0	yes	southeast	44423.80
## 1033	30	female	27.9	0	no	northeast	4137.52
## 1034	18	male	21.6	0	yes	northeast	13747.87
## 1035	61	male	38.4	0	no	northwest	12950.07
## 1036	54	female	23.0	3	no	southwest	12094.48
## 1037	22	male	37.1	2	yes	southeast	37484.45
## 1038	45	female	30.5	1	yes	northwest	39725.52
## 1039	22	male	28.9	0	no	northeast	2250.84
## 1040	19	male	27.3	2	no	northwest	22493.66
## 1041	35	female	28.0	0	yes	northwest	20234.85
## 1042	18	male	23.1	0	no	northeast	1704.70
## 1043	20	male	30.7	0	yes	northeast	33475.82
## 1044	28	female	25.8	0	no	southwest	3161.45
## 1045	55	male	35.2	1	no	northeast	11394.07
## 1046	43	female	24.7	2	yes	northwest	21880.82
## 1047	43	female	25.1	0	no	northeast	7325.05
## 1048	22	male	52.6	1	yes	southeast	44501.40
## 1049	25	female	22.5	1	no	northwest	3594.17
## 1050	49	male	30.9	0	yes	southwest	39727.61
## 1051	44	female	37.0	1	no	northwest	8023.14
## 1052	64	male	26.4	0	no	northeast	14394.56
## 1053	49	male	29.8	1	no	northeast	9288.03
## 1054	47	male	29.8	3	yes	southwest	25309.49
## 1055	27	female	21.5	0	no	northwest	3353.47
## 1056	55	male	27.6	0	no	northwest	10594.50
## 1057	48	female	28.9	0	no	southwest	8277.52
## 1058	45	female	31.8	0	no	southeast	17929.30
## 1059	24	female	39.5	0	no	southeast	2480.98
## 1060	32	male	33.8	1	no	northwest	4462.72
## 1061	24	male	32.0	0	no	southeast	1981.58
## 1062	57	male	27.9	1	no	southeast	11554.22
## 1063	59	male	41.1	1	yes	southeast	48970.25
## 1064	36	male	28.6	3	no	northwest	6548.20
## 1065	29	female	25.6	4	no	southwest	5708.87
## 1066	42	female	25.3	1	no	southwest	7045.50
## 1067	48	male	37.3	2	no	southeast	8978.19
## 1068	39	male	42.7	0	no	northeast	5757.41
## 1069	63	male	21.7	1	no	northwest	14349.85
## 1070	54	female	31.9	1	no	southeast	10928.85
## 1071	37	male	37.1	1	yes	southeast	39871.70
## 1072	63	male	31.4	0	no	northeast	13974.46
## 1073	21	male	31.3	0	no	northwest	1909.53
## 1074	54	female	28.9	2	no	northeast	12096.65
## 1075	60	female	18.3	0	no	northeast	13204.29
## 1076	32	female	29.6	1	no	southeast	4562.84
## 1077	47	female	32.0	1	no	southwest	8551.35
## 1078	21	male	26.0	0	no	northeast	2102.26
## 1079	28	male	31.7	0	yes	southeast	34672.15
## 1080	63	male	33.7	3	no	southeast	15161.53
## 1081	18	male	21.8	2	no	southeast	11884.05
## 1082	32	male	27.8	1	no	northwest	4454.40
## 1083	38	male	20.0	1	no	northwest	5855.90
## 1084	32	male	31.5	1	no	southwest	4076.50

## 1085	62	female	30.5	2	no	northwest	15019.76
## 1086	39	female	18.3	5	yes	southwest	19023.26
## 1087	55	male	29.0	0	no	northeast	10796.35
## 1088	57	male	31.5	0	no	northwest	11353.23
## 1089	52	male	47.7	1	no	southeast	9748.91
## 1090	56	male	22.1	0	no	southwest	10577.09
## 1091	47	male	36.2	0	yes	southeast	41676.08
## 1092	55	female	29.8	0	no	northeast	11286.54
## 1093	23	male	32.7	3	no	southwest	3591.48
## 1094	22	female	30.4	0	yes	northwest	33907.55
## 1095	50	female	33.7	4	no	southwest	11299.34
## 1096	18	female	31.4	4	no	northeast	4561.19
## 1097	51	female	35.0	2	yes	northeast	44641.20
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## 1099	52	female	30.9	0	no	northeast	23045.57
## 1100	25	female	34.0	1	no	southeast	3227.12
## 1101	33	female	19.1	2	yes	northeast	16776.30
## 1102	53	male	28.6	3	no	southwest	11253.42
## 1103	29	male	38.9	1	no	southeast	3471.41
## 1104	58	male	36.1	0	no	southeast	11363.28
## 1105	37	male	29.8	0	no	southwest	20420.60
## 1106	54	female	31.2	0	no	southeast	10338.93
## 1107	49	female	29.9	0	no	northwest	8988.16
## 1108	50	female	26.2	2	no	northwest	10493.95
## 1109	26	male	30.0	1	no	southwest	2904.09
## 1110	45	male	20.4	3	no	southeast	8605.36
## 1111	54	female	32.3	1	no	northeast	11512.41
## 1112	38	male	38.4	3	yes	southeast	41949.24
## 1113	48	female	25.9	3	yes	southeast	24180.93
## 1114	28	female	26.3	3	no	northwest	5312.17
## 1115	23	male	24.5	0	no	northeast	2396.10
## 1116	55	male	32.7	1	no	southeast	10807.49
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## 1118	25	male	33.3	2	yes	southeast	36124.57
## 1119	33	male	35.8	1	yes	southeast	38282.75
## 1120	30	female	20.0	3	no	northwest	5693.43
## 1121	23	female	31.4	0	yes	southwest	34166.27
## 1122	46	male	38.2	2	no	southeast	8347.16
## 1123	53	female	36.9	3	yes	northwest	46661.44
## 1124	27	female	32.4	1	no	northeast	18903.49
## 1125	23	female	42.8	1	yes	northeast	40904.20
## 1126	63	female	25.1	0	no	northwest	14254.61
## 1127	55	male	29.9	0	no	southwest	10214.64
## 1128	35	female	35.9	2	no	southeast	5836.52
## 1129	34	male	32.8	1	no	southwest	14358.36
## 1130	19	female	18.6	0	no	southwest	1728.90
## 1131	39	female	23.9	5	no	southeast	8582.30
## 1132	27	male	45.9	2	no	southwest	3693.43
## 1133	57	male	40.3	0	no	northeast	20709.02
## 1134	52	female	18.3	0	no	northwest	9991.04
## 1135	28	male	33.8	0	no	northwest	19673.34
## 1136	50	female	28.1	3	no	northwest	11085.59
## 1137	44	female	25.0	1	no	southwest	7623.52
## 1138	26	female	22.2	0	no	northwest	3176.29
## 1139	33	male	30.3	0	no	southeast	3704.35
## 1140	19	female	32.5	0	yes	northwest	36898.73
## 1141	50	male	37.1	1	no	southeast	9048.03
## 1142	41	female	32.6	3	no	southwest	7954.52
## 1143	52	female	24.9	0	no	southeast	27117.99
## 1144	39	male	32.3	2	no	southeast	6338.08
## 1145	50	male	32.3	2	no	southwest	9630.40
## 1146	52	male	32.8	3	no	northwest	11289.11
## 1147	60	male	32.8	0	yes	southwest	52590.83
## 1148	20	female	31.9	0	no	northwest	2261.57
## 1149	55	male	21.5	1	no	southwest	10791.96
## 1150	42	male	34.1	0	no	southwest	5979.73
## 1151	18	female	30.3	0	no	northeast	2203.74
## 1152	58	female	36.5	0	no	northwest	12235.84
## 1153	43	female	32.6	3	yes	southeast	40941.29
## 1154	35	female	35.8	1	no	northwest	5630.46
## 1155	48	female	27.9	4	no	northwest	11015.17
## 1156	36	female	22.1	3	no	northeast	7228.22
## 1157	19	male	44.9	0	yes	southeast	38722.75

##	1157	17	male	44.7	0	yes	southeast	37122.75
##	1158	23	female	23.2	2	no	northwest	14426.07
##	1159	20	female	30.6	0	no	northeast	2459.72
##	1160	32	female	41.1	0	no	southwest	3989.84
##	1161	43	female	34.6	1	no	northwest	7727.25
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##	1164	18	female	28.2	0	no	northeast	2200.83
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##	1166	35	female	26.1	0	no	northeast	5227.99
##	1167	57	male	40.4	0	no	southeast	10982.50
##	1168	29	female	24.6	2	no	southwest	4529.48
##	1169	32	male	35.2	2	no	southwest	4670.64
##	1170	37	female	34.1	1	no	northwest	6112.35
##	1171	18	male	27.4	1	yes	northeast	17178.68
##	1172	43	female	26.7	2	yes	southwest	22478.60
##	1173	56	female	41.9	0	no	southeast	11093.62
##	1174	38	male	29.3	2	no	northwest	6457.84
##	1175	29	male	32.1	2	no	northwest	4433.92
##	1176	22	female	27.1	0	no	southwest	2154.36
##	1177	52	female	24.1	1	yes	northwest	23887.66
##	1178	40	female	27.4	1	no	southwest	6496.89
##	1179	23	female	34.9	0	no	northeast	2899.49
##	1180	31	male	29.8	0	yes	southeast	19350.37
##	1181	42	female	41.3	1	no	northeast	7650.77
##	1182	24	female	29.9	0	no	northwest	2850.68
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##	1188	62	female	32.7	0	no	northwest	13844.80
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##	1191	31	female	32.8	2	no	northwest	5327.40
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##	1194	48	female	36.6	0	no	northwest	8671.19
##	1195	31	female	21.8	0	no	northwest	4134.08
##	1196	19	female	27.9	3	no	northwest	18838.70
##	1197	19	female	30.0	0	yes	northwest	33307.55
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##	1202	46	male	40.4	2	no	northwest	8733.23
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## 1230	58	male	30.3	0	no	northeast	11938.26
## 1231	52	male	34.5	3	yes	northwest	60021.40
## 1232	20	female	21.8	0	yes	southwest	20167.34
## 1233	54	female	24.6	3	no	northwest	12479.71
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## 1235	45	female	27.8	2	no	southeast	8515.76
## 1236	26	male	31.1	0	no	northwest	2699.57
## 1237	63	female	21.7	0	no	northeast	14449.85
## 1238	58	female	28.2	0	no	northwest	12224.35
## 1239	37	male	22.7	3	no	northeast	6985.51
## 1240	25	female	42.1	1	no	southeast	3238.44
## 1241	52	male	41.8	2	yes	southeast	47269.85
## 1242	64	male	37.0	2	yes	southeast	49577.66
## 1243	22	female	21.3	3	no	northwest	4296.27
## 1244	28	female	33.1	0	no	southeast	3171.61
## 1245	18	male	33.3	0	no	southeast	1135.94
## 1246	28	male	24.3	5	no	southwest	5615.37
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## 1248	33	male	29.4	4	no	southwest	6059.17
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## 1252	19	male	19.8	0	no	southwest	1241.57
## 1253	20	male	27.3	0	yes	southwest	16232.85
## 1254	40	female	29.3	4	no	southwest	15828.82
## 1255	34	female	27.7	0	no	southeast	4415.16
## 1256	42	female	37.9	0	no	southwest	6474.01
## 1257	51	female	36.4	3	no	northwest	11436.74
## 1258	54	female	27.6	1	no	northwest	11305.93
## 1259	55	male	37.7	3	no	northwest	30063.58
## 1260	52	female	23.2	0	no	northeast	10197.77
## 1261	32	female	20.5	0	no	northeast	4544.23
## 1262	28	male	37.1	1	no	southwest	3277.16
## 1263	41	female	28.1	1	no	southeast	6770.19
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## 1265	49	female	33.3	2	no	northeast	10370.91
## 1266	64	male	23.8	0	yes	southeast	26926.51
## 1267	55	female	30.5	0	no	southwest	10704.47
## 1268	24	male	31.1	0	yes	northeast	34254.05
## 1269	20	female	33.3	0	no	southwest	1880.49
## 1270	45	male	27.5	3	no	southwest	8615.30
## 1271	26	male	33.9	1	no	northwest	3292.53
## 1272	25	female	34.5	0	no	northwest	3021.81
## 1273	43	male	25.5	5	no	southeast	14478.33
## 1274	35	male	27.6	1	no	southeast	4747.05
## 1275	26	male	27.1	0	yes	southeast	17043.34
## 1276	57	male	23.7	0	no	southwest	10959.33
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## 1278	32	female	29.7	0	no	northwest	4357.04
## 1279	39	male	29.9	1	yes	northeast	22462.04
## 1280	25	female	26.8	2	no	northwest	4189.11
## 1281	48	female	33.3	0	no	southeast	8283.68
## 1282	47	female	27.6	2	yes	northwest	24535.70
## 1283	18	female	21.7	0	yes	northeast	14283.46
## 1284	18	male	30.0	1	no	southeast	1720.35
## 1285	61	male	36.3	1	yes	southwest	47403.88
## 1286	47	female	24.3	0	no	northeast	8534.67
## 1287	28	female	17.3	0	no	northeast	3732.63
## 1288	36	female	25.9	1	no	southwest	5472.45
## 1289	20	male	39.4	2	yes	southwest	38344.57
## 1290	44	male	34.3	1	no	southeast	7147.47
## 1291	38	female	20.0	2	no	northeast	7133.90
## 1292	19	male	34.9	0	yes	southwest	34828.65
## 1293	21	male	23.2	0	no	southeast	1515.34
## 1294	46	male	25.7	3	no	northwest	9301.89
## 1295	58	male	25.2	0	no	northeast	11931.13
## 1296	20	male	22.0	1	no	southwest	1964.78
## 1297	18	male	26.1	0	no	northeast	1708.93
## 1298	28	female	26.5	2	no	southeast	4340.44
## 1299	33	male	27.5	2	no	northwest	5261.47
## 1300	19	female	25.7	1	no	northwest	2710.83
## 1301	45	male	30.4	0	yes	southeast	62592.87
## 1302	62	male	30.9	3	yes	northwest	46718.16

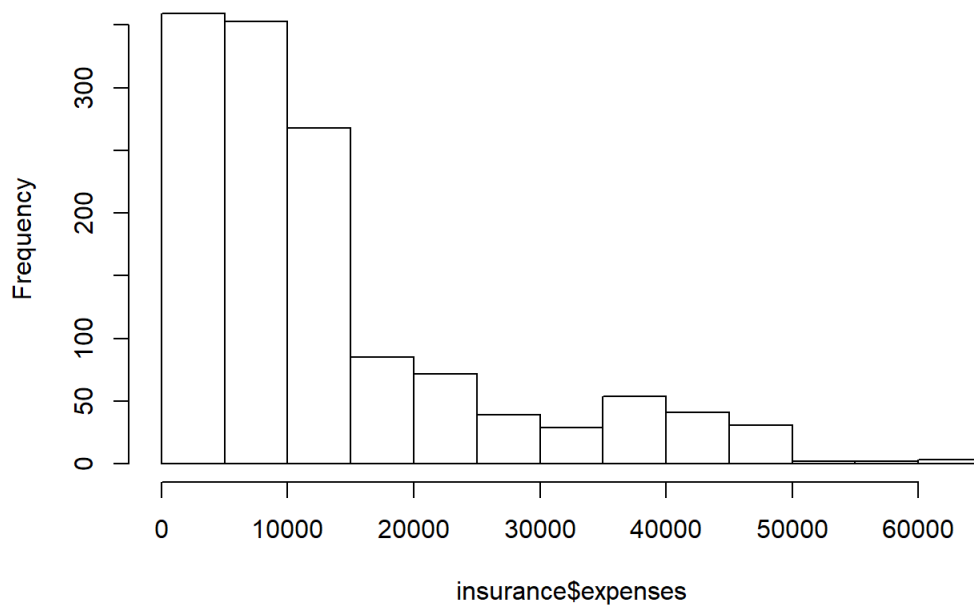
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## 1304 43 male 27.8        0      yes southwest 37829.72
## 1305 42 male 24.6        2      yes northeast 21259.38
## 1306 24 female 27.7      0      no southeast 2464.62
## 1307 29 female 21.9      0      yes northeast 16115.30
## 1308 32 male 28.1        4      yes northwest 21472.48
## 1309 25 female 30.2      0      yes southwest 33900.65
## 1310 41 male 32.2        2      no southwest 6875.96
## 1311 42 male 26.3        1      no northwest 6940.91
## 1312 33 female 26.7      0      no northwest 4571.41
## 1313 34 male 42.9        1      no southwest 4536.26
## 1314 19 female 34.7      2      yes southwest 36397.58
## 1315 30 female 23.7      3      yes northwest 18765.88
## 1316 18 male 28.3        1      no northeast 11272.33
## 1317 19 female 20.6      0      no southwest 1731.68
## 1318 18 male 53.1        0      no southeast 1163.46
## 1319 35 male 39.7        4      no northeast 19496.72
## 1320 39 female 26.3      2      no northwest 7201.70
## 1321 31 male 31.1        3      no northwest 5425.02
## 1322 62 male 26.7        0      yes northeast 28101.33
## 1323 62 male 38.8        0      no southeast 12981.35
## 1324 42 female 40.4      2      yes southeast 43896.38
## 1325 31 male 25.9        1      no northwest 4239.89
## 1326 61 male 33.5        0      no northeast 13143.34
## 1327 42 female 32.9      0      no northeast 7050.02
## 1328 51 male 30.0        1      no southeast 9377.90
## 1329 23 female 24.2      2      no northeast 22395.74
## 1330 52 male 38.6        2      no southwest 10325.21
## 1331 57 female 25.7      2      no southeast 12629.17
## 1332 23 female 33.4      0      no southwest 10795.94
## 1333 52 female 44.7      3      no southwest 11411.69
## 1334 50 male 31.0        3      no northwest 10600.55
## 1335 18 female 31.9      0      no northeast 2205.98
## 1336 18 female 36.9      0      no southeast 1629.83
## 1337 21 female 25.8      0      no southwest 2007.95
## 1338 61 female 29.1      0      yes northwest 29141.36
```

```
summary(insurance$expenses)
```

```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##      1122   4740   9382   13270   16640   63770
```

```
hist(insurance$expenses)
```

Histogram of insurance\$expenses



```
table(insurance$region)
```

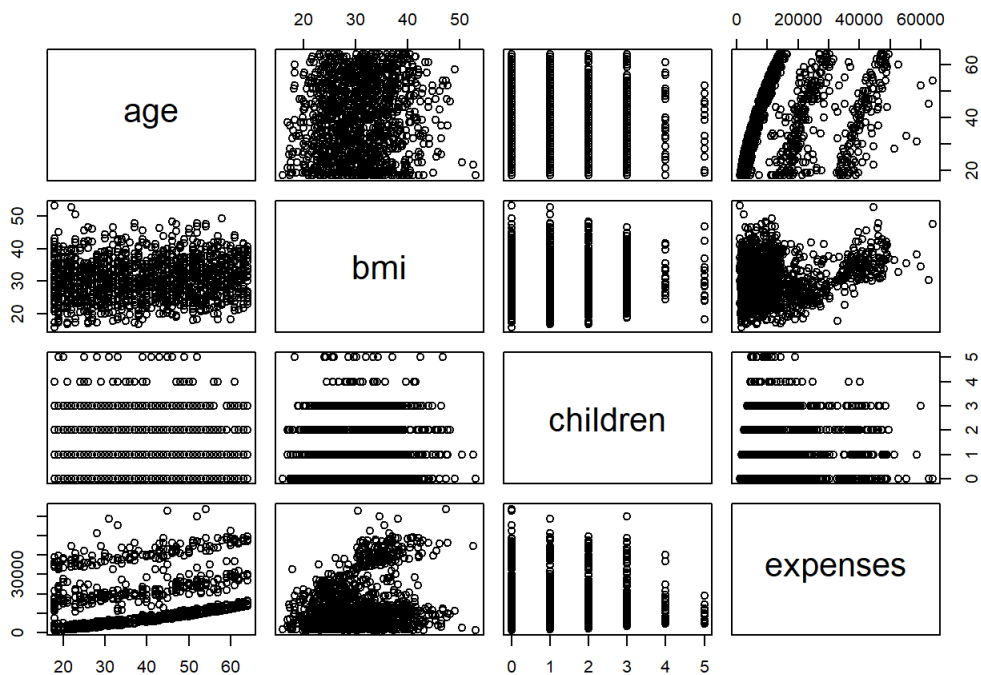
```
##
## northeast northwest southeast southwest
##          324          325          364          325
```

```
cor(insurance[c("age", "bmi", "children", "expenses")])
```

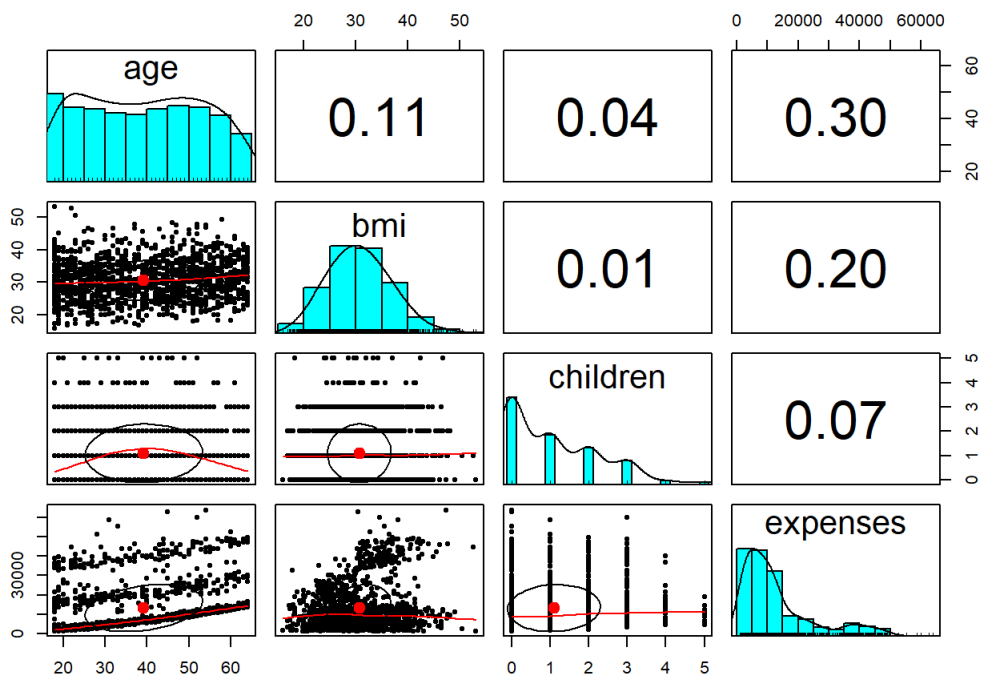
```
##           age           bmi    children    expenses
## age      1.0000000  0.10934101  0.04246900  0.29900819
## bmi      0.1093410  1.00000000  0.01264471  0.19857626
## children 0.0424690  0.01264471  1.00000000  0.06799823
## expenses 0.2990082  0.19857626  0.06799823  1.00000000
```

```
pairs(insurance[c("age", "bmi", "children", "expenses")])
```

```
library(psych)
```



```
pairs.panels(insurance[c("age", "bmi", "children", "expenses")])
```



```
ins_model <- lm(expenses~age+children+bmi+sex+smoker+region, data=insurance)
ins_model <- lm(expenses~.,data=insurance)
ins_model
```

```
##
## Call:
## lm(formula = expenses ~ ., data = insurance)
##
## Coefficients:
##      (Intercept)          age      sexmale          bmi
##      -11941.6         256.8        -131.4         339.3
##      children      smokeryes regionnorthwest regionsoutheast
##         475.7        23847.5         -352.8        -1035.6
## regionsouthwest
##         -959.3
```

```
summary(ins_model)
```

```
##
## Call:
## lm(formula = expenses ~ ., data = insurance)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -11302.7  -2850.9   -979.6   1383.9  29981.7
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -11941.6     987.8  -12.089 < 2e-16 ***
## age           256.8       11.9   21.586 < 2e-16 ***
## sexmale       -131.3      332.9   -0.395 0.693255
## bmi           339.3       28.6   11.864 < 2e-16 ***
## children      475.7      137.8    3.452 0.000574 ***
## smokeryes     23847.5     413.1   57.723 < 2e-16 ***
## regionnorthwest -352.8     476.3   -0.741 0.458976
## regionsoutheast -1035.6     478.7   -2.163 0.030685 *
## regionsouthwest -959.3     477.9   -2.007 0.044921 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 6062 on 1329 degrees of freedom
## Multiple R-squared:  0.7509, Adjusted R-squared:  0.7494
## F-statistic: 500.9 on 8 and 1329 DF,  p-value: < 2.2e-16
```

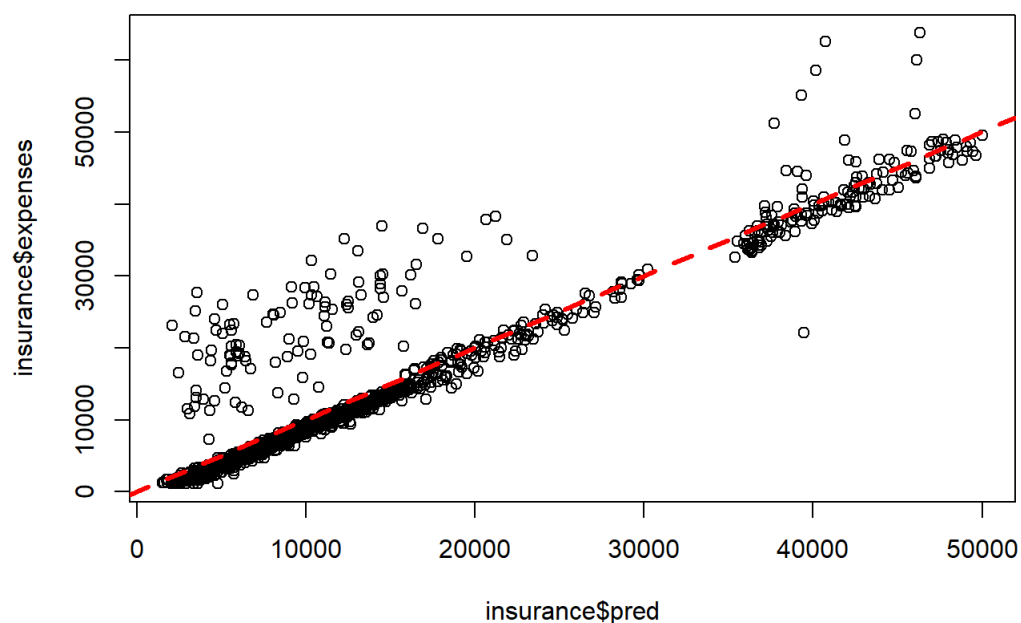
```
insurance$age2 <- insurance$age^2
insurance$bmi30 <- ifelse(insurance$bmi >= 30, 1, 0)
ins_model12 <- lm(expenses~ age+age2+children+bmi+sex+
                  bmi30*smoker+region, data=insurance)
summary(ins_model12)
```

```
##
## Call:
## lm(formula = expenses ~ age + age2 + children + bmi + sex + bmi30 *
##     smoker + region, data = insurance)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -17297.1  -1656.0  -1262.7   -727.8   24161.6
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    139.0053   1363.1359    0.102  0.918792
## age            -32.6181    59.8250   -0.545  0.585690
## age2             3.7307     0.7463    4.999 6.54e-07 ***
## children        678.6017   105.8855    6.409 2.03e-10 ***
## bmi             119.7715    34.2796    3.494 0.000492 ***
## sexmale        -496.7690   244.3713   -2.033 0.042267 *
## bmi30          -997.9355   422.9607   -2.359 0.018449 *
## smokeryes      13404.5952   439.9591   30.468 < 2e-16 ***
## regionnorthwest -279.1661   349.2826   -0.799 0.424285
## regionsoutheast -828.0345   351.6484   -2.355 0.018682 *
## regionsouthwest -1222.1619   350.5314   -3.487 0.000505 ***
## bmi30:smokeryes 19810.1534   604.6769   32.762 < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 4445 on 1326 degrees of freedom
## Multiple R-squared:  0.8664, Adjusted R-squared:  0.8653
## F-statistic: 781.7 on 11 and 1326 DF, p-value: < 2.2e-16
```

```
insurance$pred <- predict(ins_model12, insurance)
cor(insurance$pred, insurance$expenses)
```

```
## [1] 0.9307999
```

```
plot(insurance$pred, insurance$expenses)
abline(a=0,b=1, col="red",lwd=3,lty=2)
```



```
predict(ins_model12,  
  data.frame(age=30,age2=30^2, children =2,  
    bmi=30, sex="male",bmi30=1,  
    smoker="no", region="northeast"))
```

```
##          1  
## 5973.774
```

```
predict(ins_model12,  
  data.frame(age=30,age2=30^2, children =2,  
    bmi=30, sex="female",bmi30=1,  
    smoker="no", region="northeast"))
```

```
##          1  
## 6470.543
```

```
predict(ins_model12,  
  data.frame(age=30,age2=30^2, children =0,  
    bmi=30, sex="female",bmi30=1,  
    smoker="no", region="northeast"))
```

```
##          1  
## 5113.34
```

```
6470.543-5113.34
```

```
## [1] 1357.203
```