

Support Vector Machines using airquality dataset

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```
library("kernlab")

library("ggplot2")

##
## Attaching package: 'ggplot2'
## The following object is masked from 'package:kernlab':
##
##      alpha
library(e1071)

library(gridExtra)

#Step 1: Load the data

aq <- airquality

#replacing NA's with mean values
aq$Ozone[is.na(aq$Ozone)] <- round(mean(aq$Ozone, na.rm = TRUE))
aq$Solar.R[is.na(aq$Solar.R)] <- round(mean(aq$Solar.R, na.rm = TRUE))
aq
```

```
##      Ozone Solar.R Wind Temp Month Day
## 1      41     190  7.4   67     5    1
## 2      36     118  8.0   72     5    2
## 3      12     149 12.6   74     5    3
## 4      18     313 11.5   62     5    4
## 5      42     186 14.3   56     5    5
## 6      28     186 14.9   66     5    6
## 7      23     299  8.6   65     5    7
## 8      19      99 13.8   59     5    8
## 9       8      19 20.1   61     5    9
## 10     42     194  8.6   69     5   10
## 11      7     186  6.9   74     5   11
## 12     16     256  9.7   69     5   12
## 13     11     290  9.2   66     5   13
## 14     14     274 10.9   68     5   14
## 15     18      65 13.2   58     5   15
## 16     14     334 11.5   64     5   16
## 17     34     307 12.0   66     5   17
## 18      6      78 18.4   57     5   18
## 19     30     322 11.5   68     5   19
## 20     11      44  9.7   62     5   20
## 21      1       8  9.7   59     5   21
## 22     11     320 16.6   73     5   22
## 23      4      25  9.7   61     5   23
## 24     32      92 12.0   61     5   24
```

## 25	42	66	16.6	57	5	25
## 26	42	266	14.9	58	5	26
## 27	42	186	8.0	57	5	27
## 28	23	13	12.0	67	5	28
## 29	45	252	14.9	81	5	29
## 30	115	223	5.7	79	5	30
## 31	37	279	7.4	76	5	31
## 32	42	286	8.6	78	6	1
## 33	42	287	9.7	74	6	2
## 34	42	242	16.1	67	6	3
## 35	42	186	9.2	84	6	4
## 36	42	220	8.6	85	6	5
## 37	42	264	14.3	79	6	6
## 38	29	127	9.7	82	6	7
## 39	42	273	6.9	87	6	8
## 40	71	291	13.8	90	6	9
## 41	39	323	11.5	87	6	10
## 42	42	259	10.9	93	6	11
## 43	42	250	9.2	92	6	12
## 44	23	148	8.0	82	6	13
## 45	42	332	13.8	80	6	14
## 46	42	322	11.5	79	6	15
## 47	21	191	14.9	77	6	16
## 48	37	284	20.7	72	6	17
## 49	20	37	9.2	65	6	18
## 50	12	120	11.5	73	6	19
## 51	13	137	10.3	76	6	20
## 52	42	150	6.3	77	6	21
## 53	42	59	1.7	76	6	22
## 54	42	91	4.6	76	6	23
## 55	42	250	6.3	76	6	24
## 56	42	135	8.0	75	6	25
## 57	42	127	8.0	78	6	26
## 58	42	47	10.3	73	6	27
## 59	42	98	11.5	80	6	28
## 60	42	31	14.9	77	6	29
## 61	42	138	8.0	83	6	30
## 62	135	269	4.1	84	7	1
## 63	49	248	9.2	85	7	2
## 64	32	236	9.2	81	7	3
## 65	42	101	10.9	84	7	4
## 66	64	175	4.6	83	7	5
## 67	40	314	10.9	83	7	6
## 68	77	276	5.1	88	7	7
## 69	97	267	6.3	92	7	8
## 70	97	272	5.7	92	7	9
## 71	85	175	7.4	89	7	10
## 72	42	139	8.6	82	7	11
## 73	10	264	14.3	73	7	12
## 74	27	175	14.9	81	7	13
## 75	42	291	14.9	91	7	14
## 76	7	48	14.3	80	7	15
## 77	48	260	6.9	81	7	16
## 78	35	274	10.3	82	7	17

## 79	61	285	6.3	84	7	18
## 80	79	187	5.1	87	7	19
## 81	63	220	11.5	85	7	20
## 82	16	7	6.9	74	7	21
## 83	42	258	9.7	81	7	22
## 84	42	295	11.5	82	7	23
## 85	80	294	8.6	86	7	24
## 86	108	223	8.0	85	7	25
## 87	20	81	8.6	82	7	26
## 88	52	82	12.0	86	7	27
## 89	82	213	7.4	88	7	28
## 90	50	275	7.4	86	7	29
## 91	64	253	7.4	83	7	30
## 92	59	254	9.2	81	7	31
## 93	39	83	6.9	81	8	1
## 94	9	24	13.8	81	8	2
## 95	16	77	7.4	82	8	3
## 96	78	186	6.9	86	8	4
## 97	35	186	7.4	85	8	5
## 98	66	186	4.6	87	8	6
## 99	122	255	4.0	89	8	7
## 100	89	229	10.3	90	8	8
## 101	110	207	8.0	90	8	9
## 102	42	222	8.6	92	8	10
## 103	42	137	11.5	86	8	11
## 104	44	192	11.5	86	8	12
## 105	28	273	11.5	82	8	13
## 106	65	157	9.7	80	8	14
## 107	42	64	11.5	79	8	15
## 108	22	71	10.3	77	8	16
## 109	59	51	6.3	79	8	17
## 110	23	115	7.4	76	8	18
## 111	31	244	10.9	78	8	19
## 112	44	190	10.3	78	8	20
## 113	21	259	15.5	77	8	21
## 114	9	36	14.3	72	8	22
## 115	42	255	12.6	75	8	23
## 116	45	212	9.7	79	8	24
## 117	168	238	3.4	81	8	25
## 118	73	215	8.0	86	8	26
## 119	42	153	5.7	88	8	27
## 120	76	203	9.7	97	8	28
## 121	118	225	2.3	94	8	29
## 122	84	237	6.3	96	8	30
## 123	85	188	6.3	94	8	31
## 124	96	167	6.9	91	9	1
## 125	78	197	5.1	92	9	2
## 126	73	183	2.8	93	9	3
## 127	91	189	4.6	93	9	4
## 128	47	95	7.4	87	9	5
## 129	32	92	15.5	84	9	6
## 130	20	252	10.9	80	9	7
## 131	23	220	10.3	78	9	8
## 132	21	230	10.9	75	9	9

```
## 133    24    259  9.7   73    9  10
## 134    44    236 14.9   81    9  11
## 135    21    259 15.5   76    9  12
## 136    28    238  6.3   77    9  13
## 137     9     24 10.9   71    9  14
## 138    13    112 11.5   71    9  15
## 139    46    237  6.9   78    9  16
## 140    18    224 13.8   67    9  17
## 141    13     27 10.3   76    9  18
## 142    24    238 10.3   68    9  19
## 143    16    201  8.0   82    9  20
## 144    13    238 12.6   64    9  21
## 145    23     14  9.2   71    9  22
## 146    36    139 10.3   81    9  23
## 147     7     49 10.3   69    9  24
## 148    14     20 16.6   63    9  25
## 149    30    193  6.9   70    9  26
## 150    42    145 13.2   77    9  27
## 151    14    191 14.3   75    9  28
## 152    18    131  8.0   76    9  29
## 153    20    223 11.5   68    9  30
```

#Step 2: Creat test and train dataset

```
randIndex  <- sample(1:nrow(aq))
head(randIndex)
```

```
## [1]  2 115  56 110 117 147
```

```
nr<- nrow(aq)
```

```
cutPoint2_3 <- floor(2*nr/3)
cutPoint2_3
```

```
## [1] 102
```

```
trainaq <- aq[randIndex[1:cutPoint2_3],]
testaq <- aq[randIndex[(cutPoint2_3+1):nr],]
```

#Step 3: Build a Model using KSVM & visualize the results

#1

```
predictOzone <- function(a, aq){
  predictedOzone <- predict(a, aq)
  results1 <- table(predictedOzone, aq$Ozone)
  print(results1)
  percentCorrect1 <- (results1[1,1]+results1[2,2])/(results1[1,1]+results1[1,2]+results1[2,1]+results1[2,2])
  round(percentCorrect1)
  return(percentCorrect1)
}
```

```
modelKSVM <- ksvm(Ozone ~ ., data = aq)
predictOzone(modelKSVM, aq)
```

```
##
```

```
## predictedOzone      1  4  6  7  8  9 10 11 12 13 14 16 18 19 20 21 22 23 24 27
```

##	10.1804272563529	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	10.877335691948	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.4590268524647	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
##	11.5814338884403	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	11.7497713634439	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.8754298598628	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
##	12.3498129551997	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	12.7010547771215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	13.8694861306936	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	14.5254460171591	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
##	14.6365907329745	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	14.8012974537632	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.1276998333616	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
##	15.3953320502156	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
##	15.5309351806734	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	15.69514772418	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
##	15.8692733407491	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	16.762613927952	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
##	16.8630260173213	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	16.869759581559	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	17.6361125536432	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	19.120177363835	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
##	19.1812378952077	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.3340723320756	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
##	20.1404891247325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	20.191467405534	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	20.3093097253489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.4238303992893	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	20.603173709003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
##	21.1355568261344	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
##	21.2652269708453	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.4591484432142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.8765392053374	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
##	22.5357678941276	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	22.5710110416314	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	22.6738987483514	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	22.7204610550799	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	22.7470699341612	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.8332963721451	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.9629654442641	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
##	23.2913549454113	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	23.8741841482392	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	24.084208433306	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	25.5340506338944	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.5475710806577	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
##	25.8754133939546	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	25.9839522922036	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
##	26.1784646984639	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	26.3043731139352	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.3227590100217	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.2188459184697	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
##	27.7765884708212	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.897471776311	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	28.1996508913033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	28.685914977391	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	28.8665840781166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	29.1253239319593	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.5351521194382	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.7048484548377	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.9354121136264	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	31.2368595156314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	31.2694897167648	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.0335288962996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	33.1429086380779	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.2138412253174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.2568400868432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.3602685624317	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.4255327173815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.4647922950293	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.8853206461392	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.1211219979269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.560146182476	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.6028892451939	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	35.4250149705632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	37.6192739201726	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	37.7641591205519	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.0838307824213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.0933876334112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.1277517517985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1165781579984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1206485363383	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1207194064681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1269648777008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1278627807285	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1323902688844	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1328500093772	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1352218187059	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1366315828792	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.139817819414	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.8344787311132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.8444765914543	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	40.0988531723656	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	40.2363424725788	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
##	40.9449566390541	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.2728889993974	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.5913127149874	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.7080307179383	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.7279248738713	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.8600861318949	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.8751935951558	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.127750908592	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.7525228700726	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.8344559085514	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	43.0308355214337	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.2972949209431	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.8695407524272	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.8708049379492	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.8714751552444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	44.8740470861703	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	45.9306013985595	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	46.5901915190141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	46.8603980031057	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	48.2845881922038	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	48.6100327840864	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.1279506878308	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.8683979262022	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.9541194303069	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	51.0880713891816	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	51.8811692751485	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	52.1099935853694	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	52.4792528633162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	56.1201835765997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	60.521265831551	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	60.9497835390965	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	61.9878055206395	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	63.495665013605	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	63.8664350529441	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	66.467930126294	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	66.5513826528675	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	67.5794454679193	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	68.099757050761	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.13141545667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.6825409456768	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	71.4933950477123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	72.4287641888914	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	74.1789871653209	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	74.1960518848151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	76.1964651225621	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	76.2091647333937	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	76.3753810708455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	77.022132380835	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	77.1197692574954	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	78.0789521493689	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	78.8390972167752	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	79.8698841920293	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	80.654261243226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	81.5071187607337	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.1249224944576	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.4211676369233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	84.4600772204226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	86.8712481542063	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	91.6648708229546	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	92.6031256690796	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##																			
##	predictedOzone	28	29	30	31	32	34	35	36	37	39	40	41	42	44	45	46	47	48
##	10.1804272563529	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	10.877335691948	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.4590268524647	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.5814338884403	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.7497713634439	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.8754298598628	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	12.3498129551997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	12.7010547771215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	13.8694861306936	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	14.5254460171591	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	14.6365907329745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	14.8012974537632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.1276998333616	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.3953320502156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.5309351806734	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.69514772418	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.8692733407491	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.762613927952	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.8630260173213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.869759581559	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	17.6361125536432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.120177363835	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.1812378952077	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	19.3340723320756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.1404891247325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.191467405534	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.3093097253489	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	20.4238303992893	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.603173709003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.1355568261344	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.2652269708453	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.4591484432142	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	21.8765392053374	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.5357678941276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.5710110416314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.6738987483514	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.7204610550799	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.7470699341612	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.8332963721451	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.9629654442641	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.2913549454113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.8741841482392	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	24.084208433306	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.5340506338944	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	25.5475710806577	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.8754133939546	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.9839522922036	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.1784646984639	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.3043731139352	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	26.3227590100217	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	27.2188459184697	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.7765884708212	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.897471776311	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
##	28.1996508913033	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	28.685914977391	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	28.8665840781166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.1253239319593	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
##	29.5351521194382	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.7048484548377	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	29.9354121136264	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	31.2368595156314	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

##	31.2694897167648	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	33.0335288962996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.1429086380779	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	33.2138412253174	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	33.2568400868432	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.3602685624317	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	33.4255327173815	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	33.4647922950293	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	33.8853206461392	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.1211219979269	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
##	34.560146182476	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	34.6028892451939	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	35.4250149705632	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	37.6192739201726	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	37.7641591205519	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	38.0838307824213	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	38.0933876334112	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
##	38.1277517517985	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
##	39.1165781579984	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1206485363383	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1207194064681	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1269648777008	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1278627807285	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1323902688844	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1328500093772	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1352218187059	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1366315828792	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.139817819414	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.8344787311132	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
##	39.8444765914543	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	40.0988531723656	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	40.2363424725788	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	40.9449566390541	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
##	41.2728889993974	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	41.5913127149874	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	41.7080307179383	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.7279248738713	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.8600861318949	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	41.8751935951558	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	42.127750908592	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	42.7525228700726	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	42.8344559085514	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	43.0308355214337	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	44.2972949209431	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	44.8695407524272	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	44.8708049379492	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	44.8714751552444	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	44.8740470861703	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	45.9306013985595	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	46.5901915190141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	46.8603980031057	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	48.2845881922038	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	48.6100327840864	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	49.1279506878308	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	49.8683979262022	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
##	49.9541194303069	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	51.0880713891816	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
##	51.8811692751485	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	52.1099935853694	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	52.4792528633162	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	56.1201835765997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	60.521265831551	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	60.9497835390965	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	61.9878055206395	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	63.495665013605	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	63.8664350529441	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	66.467930126294	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	66.5513826528675	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	67.5794454679193	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	68.099757050761	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.13141545667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.6825409456768	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	71.4933950477123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	72.4287641888914	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	74.1789871653209	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	74.1960518848151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	76.1964651225621	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	76.2091647333937	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	76.3753810708455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	77.022132380835	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	77.1197692574954	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	78.0789521493689	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	78.8390972167752	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	79.8698841920293	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	80.654261243226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	81.5071187607337	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.1249224944576	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.4211676369233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	84.4600772204226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	86.8712481542063	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	91.6648708229546	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	92.6031256690796	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##																			
##	predictedOzone	49	50	52	59	61	63	64	65	66	71	73	76	77	78	79	80	82	84
##	10.1804272563529	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	10.877335691948	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.4590268524647	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.5814338884403	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.7497713634439	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.8754298598628	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	12.3498129551997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	12.7010547771215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	13.8694861306936	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	14.5254460171591	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	14.6365907329745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	14.8012974537632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.1276998333616	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.3953320502156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	15.5309351806734	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.69514772418	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.8692733407491	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.762613927952	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.8630260173213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.869759581559	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	17.6361125536432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.120177363835	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.1812378952077	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.3340723320756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.1404891247325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.191467405534	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.3093097253489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.4238303992893	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.603173709003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.1355568261344	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.2652269708453	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.4591484432142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.8765392053374	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.5357678941276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.5710110416314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.6738987483514	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.7204610550799	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.7470699341612	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.8332963721451	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.9629654442641	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.2913549454113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.8741841482392	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	24.084208433306	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.5340506338944	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.5475710806577	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.8754133939546	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.9839522922036	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.1784646984639	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.3043731139352	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.3227590100217	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.2188459184697	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.7765884708212	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.897471776311	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	28.1996508913033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	28.685914977391	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	28.8665840781166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.1253239319593	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.5351521194382	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.7048484548377	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.9354121136264	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	31.2368595156314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	31.2694897167648	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.0335288962996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.1429086380779	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.2138412253174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.2568400868432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.3602685624317	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.4255327173815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	33.4647922950293	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.8853206461392	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.1211219979269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.560146182476	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.6028892451939	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
##	35.4250149705632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	37.6192739201726	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	37.7641591205519	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.0838307824213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.0933876334112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.1277517517985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1165781579984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1206485363383	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1207194064681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1269648777008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1278627807285	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1323902688844	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1328500093772	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1352218187059	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1366315828792	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.139817819414	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.8344787311132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.8444765914543	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	40.0988531723656	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	40.2363424725788	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	40.9449566390541	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.2728889993974	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.5913127149874	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.7080307179383	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.7279248738713	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.8600861318949	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.8751935951558	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.127750908592	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.7525228700726	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.8344559085514	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	43.0308355214337	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.2972949209431	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.8695407524272	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.8708049379492	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.8714751552444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.8740470861703	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	45.9306013985595	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	46.5901915190141	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	46.8603980031057	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	48.2845881922038	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	48.6100327840864	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.1279506878308	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.8683979262022	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.9541194303069	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	51.0880713891816	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	51.8811692751485	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	52.1099935853694	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	52.4792528633162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	56.1201835765997	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

##	60.521265831551	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	60.9497835390965	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	61.9878055206395	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	63.495665013605	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	63.8664350529441	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
##	66.467930126294	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	66.5513826528675	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	67.5794454679193	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	68.099757050761	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.13141545667	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
##	70.6825409456768	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	71.4933950477123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	72.4287641888914	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	74.1789871653209	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
##	74.1960518848151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	76.1964651225621	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	76.2091647333937	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
##	76.3753810708455	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
##	77.022132380835	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	77.1197692574954	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	78.0789521493689	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
##	78.8390972167752	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	79.8698841920293	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	80.654261243226	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	81.5071187607337	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.1249224944576	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.4211676369233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	84.4600772204226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	86.8712481542063	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
##	91.6648708229546	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	92.6031256690796	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##																			
##	predictedOzone	85	89	91	96	97	108	110	115	118	122	135	168						
##	10.1804272563529	0	0	0	0	0	0	0	0	0	0	0	0						
##	10.877335691948	0	0	0	0	0	0	0	0	0	0	0	0						
##	11.4590268524647	0	0	0	0	0	0	0	0	0	0	0	0						
##	11.5814338884403	0	0	0	0	0	0	0	0	0	0	0	0						
##	11.7497713634439	0	0	0	0	0	0	0	0	0	0	0	0						
##	11.8754298598628	0	0	0	0	0	0	0	0	0	0	0	0						
##	12.3498129551997	0	0	0	0	0	0	0	0	0	0	0	0						
##	12.7010547771215	0	0	0	0	0	0	0	0	0	0	0	0						
##	13.8694861306936	0	0	0	0	0	0	0	0	0	0	0	0						
##	14.5254460171591	0	0	0	0	0	0	0	0	0	0	0	0						
##	14.6365907329745	0	0	0	0	0	0	0	0	0	0	0	0						
##	14.8012974537632	0	0	0	0	0	0	0	0	0	0	0	0						
##	15.1276998333616	0	0	0	0	0	0	0	0	0	0	0	0						
##	15.3953320502156	0	0	0	0	0	0	0	0	0	0	0	0						
##	15.5309351806734	0	0	0	0	0	0	0	0	0	0	0	0						
##	15.69514772418	0	0	0	0	0	0	0	0	0	0	0	0						
##	15.8692733407491	0	0	0	0	0	0	0	0	0	0	0	0						
##	16.762613927952	0	0	0	0	0	0	0	0	0	0	0	0						
##	16.8630260173213	0	0	0	0	0	0	0	0	0	0	0	0						
##	16.869759581559	0	0	0	0	0	0	0	0	0	0	0	0						
##	17.6361125536432	0	0	0	0	0	0	0	0	0	0	0	0						

##	19.120177363835	0	0	0	0	0	0	0	0	0	0	0
##	19.1812378952077	0	0	0	0	0	0	0	0	0	0	0
##	19.3340723320756	0	0	0	0	0	0	0	0	0	0	0
##	20.1404891247325	0	0	0	0	0	0	0	0	0	0	0
##	20.191467405534	0	0	0	0	0	0	0	0	0	0	0
##	20.3093097253489	0	0	0	0	0	0	0	0	0	0	0
##	20.4238303992893	0	0	0	0	0	0	0	0	0	0	0
##	20.603173709003	0	0	0	0	0	0	0	0	0	0	0
##	21.1355568261344	0	0	0	0	0	0	0	0	0	0	0
##	21.2652269708453	0	0	0	0	0	0	0	0	0	0	0
##	21.4591484432142	0	0	0	0	0	0	0	0	0	0	0
##	21.8765392053374	0	0	0	0	0	0	0	0	0	0	0
##	22.5357678941276	0	0	0	0	0	0	0	0	0	0	0
##	22.5710110416314	0	0	0	0	0	0	0	0	0	0	0
##	22.6738987483514	0	0	0	0	0	0	0	0	0	0	0
##	22.7204610550799	0	0	0	0	0	0	0	0	0	0	0
##	22.7470699341612	0	0	0	0	0	0	0	0	0	0	0
##	22.8332963721451	0	0	0	0	0	0	0	0	0	0	0
##	22.9629654442641	0	0	0	0	0	0	0	0	0	0	0
##	23.2913549454113	0	0	0	0	0	0	0	0	0	0	0
##	23.8741841482392	0	0	0	0	0	0	0	0	0	0	0
##	24.084208433306	0	0	0	0	0	0	0	0	0	0	0
##	25.5340506338944	0	0	0	0	0	0	0	0	0	0	0
##	25.5475710806577	0	0	0	0	0	0	0	0	0	0	0
##	25.8754133939546	0	0	0	0	0	0	0	0	0	0	0
##	25.9839522922036	0	0	0	0	0	0	0	0	0	0	0
##	26.1784646984639	0	0	0	0	0	0	0	0	0	0	0
##	26.3043731139352	0	0	0	0	0	0	0	0	0	0	0
##	26.3227590100217	0	0	0	0	0	0	0	0	0	0	0
##	27.2188459184697	0	0	0	0	0	0	0	0	0	0	0
##	27.7765884708212	0	0	0	0	0	0	0	0	0	0	0
##	27.897471776311	0	0	0	0	0	0	0	0	0	0	0
##	28.1996508913033	0	0	0	0	0	0	0	0	0	0	0
##	28.685914977391	0	0	0	0	0	0	0	0	0	0	0
##	28.8665840781166	0	0	0	0	0	0	0	0	0	0	0
##	29.1253239319593	0	0	0	0	0	0	0	0	0	0	0
##	29.5351521194382	0	0	0	0	0	0	0	0	0	0	0
##	29.7048484548377	0	0	0	0	0	0	0	0	0	0	0
##	29.9354121136264	0	0	0	0	0	0	0	0	0	0	0
##	31.2368595156314	0	0	0	0	0	0	0	0	0	0	0
##	31.2694897167648	0	0	0	0	0	0	0	0	0	0	0
##	33.0335288962996	0	0	0	0	0	0	0	0	0	0	0
##	33.1429086380779	0	0	0	0	0	0	0	0	0	0	0
##	33.2138412253174	0	0	0	0	0	0	0	0	0	0	0
##	33.2568400868432	0	0	0	0	0	0	0	0	0	0	0
##	33.3602685624317	0	0	0	0	0	0	0	0	0	0	0
##	33.4255327173815	0	0	0	0	0	0	0	0	0	0	0
##	33.4647922950293	0	0	0	0	0	0	0	0	0	0	0
##	33.8853206461392	0	0	0	0	0	0	0	0	0	0	0
##	34.1211219979269	0	0	0	0	0	0	0	0	0	0	0
##	34.560146182476	0	0	0	0	0	0	0	0	0	0	0
##	34.6028892451939	0	0	0	0	0	0	0	0	0	0	0
##	35.4250149705632	0	0	0	0	0	0	0	0	0	0	0
##	37.6192739201726	0	0	0	0	0	0	0	0	0	0	0

##	37.7641591205519	0	0	0	0	0	0	0	0	0	0	0
##	38.0838307824213	0	0	0	0	0	0	0	0	0	0	0
##	38.0933876334112	0	0	0	0	0	0	0	0	0	0	0
##	38.1277517517985	0	0	0	0	0	0	0	0	0	0	0
##	39.1165781579984	0	0	0	0	0	0	0	0	0	0	0
##	39.1206485363383	0	0	0	0	0	0	0	0	0	0	0
##	39.1207194064681	0	0	0	0	0	0	0	0	0	0	0
##	39.1269648777008	0	0	0	0	0	0	0	0	0	0	0
##	39.1278627807285	0	0	0	0	0	0	0	0	0	0	0
##	39.1323902688844	0	0	0	0	0	0	0	0	0	0	0
##	39.1328500093772	0	0	0	0	0	0	0	0	0	0	0
##	39.1352218187059	0	0	0	0	0	0	0	0	0	0	0
##	39.1366315828792	0	0	0	0	0	0	0	0	0	0	0
##	39.139817819414	0	0	0	0	0	0	0	0	0	0	0
##	39.8344787311132	0	0	0	0	0	0	0	0	0	0	0
##	39.8444765914543	0	0	0	0	0	0	0	0	0	0	0
##	40.0988531723656	0	0	0	0	0	0	0	0	0	0	0
##	40.2363424725788	0	0	0	0	0	0	0	0	0	0	0
##	40.9449566390541	0	0	0	0	0	0	0	0	0	0	0
##	41.2728889993974	0	0	0	0	0	0	0	0	0	0	0
##	41.5913127149874	0	0	0	0	0	0	0	0	0	0	0
##	41.7080307179383	0	0	0	0	0	0	0	0	0	0	0
##	41.7279248738713	0	0	0	0	0	0	0	0	0	0	0
##	41.8600861318949	0	0	0	0	0	0	0	0	0	0	0
##	41.8751935951558	0	0	0	0	0	0	0	0	0	0	0
##	42.127750908592	0	0	0	0	0	0	0	0	0	0	0
##	42.7525228700726	0	0	0	0	0	0	0	0	0	0	0
##	42.8344559085514	0	0	0	0	0	0	0	0	0	0	0
##	43.0308355214337	0	0	0	0	0	0	0	0	0	0	0
##	44.2972949209431	0	0	0	0	0	0	0	0	0	0	0
##	44.8695407524272	0	0	0	0	0	0	0	0	0	0	0
##	44.8708049379492	0	0	0	0	0	0	0	0	0	0	0
##	44.8714751552444	0	0	0	0	0	0	0	0	0	0	0
##	44.8740470861703	0	0	0	0	0	0	0	0	0	0	0
##	45.9306013985595	0	0	0	0	0	0	0	0	0	0	0
##	46.5901915190141	0	0	0	0	0	0	0	0	0	0	0
##	46.8603980031057	0	0	0	0	0	0	0	0	0	0	0
##	48.2845881922038	0	0	0	0	0	0	0	0	0	0	0
##	48.6100327840864	0	0	0	0	0	0	0	0	0	0	0
##	49.1279506878308	0	0	0	0	0	0	0	0	0	0	0
##	49.8683979262022	0	0	0	0	0	0	0	0	0	0	0
##	49.9541194303069	0	0	0	0	0	0	1	0	0	0	0
##	51.0880713891816	0	0	0	0	0	0	0	0	0	0	0
##	51.8811692751485	0	0	0	0	0	0	0	0	0	0	0
##	52.1099935853694	0	0	0	0	0	0	0	0	0	0	0
##	52.4792528633162	0	0	0	0	0	0	0	0	0	0	0
##	56.1201835765997	0	0	0	0	0	0	0	0	0	0	0
##	60.521265831551	0	0	0	0	0	0	0	0	0	0	0
##	60.9497835390965	0	1	0	0	0	0	0	0	0	0	0
##	61.9878055206395	0	0	0	0	0	0	0	0	0	0	0
##	63.495665013605	0	0	0	0	0	0	0	0	0	0	0
##	63.8664350529441	0	0	0	0	0	0	0	0	0	0	0
##	66.467930126294	0	0	0	0	0	1	0	0	0	0	0
##	66.5513826528675	0	0	0	0	0	0	0	0	0	0	0

```
## 67.5794454679193 0 0 0 0 0 0 0 0 0 0 0 0
## 68.099757050761 1 0 0 0 0 0 0 0 0 0 0 0
## 70.13141545667 0 0 0 0 0 0 0 0 0 0 0 0
## 70.6825409456768 0 0 0 0 0 0 0 0 0 0 0 0
## 71.4933950477123 0 0 0 1 0 0 0 0 0 0 0 0
## 72.4287641888914 0 0 0 0 0 0 0 0 0 0 0 0
## 74.1789871653209 0 0 0 0 0 0 0 0 0 0 0 0
## 74.1960518848151 0 0 0 0 0 0 0 0 0 0 1 0
## 76.1964651225621 0 0 0 0 0 0 1 0 0 0 0 0
## 76.2091647333937 0 0 0 0 0 0 0 0 0 0 0 0
## 76.3753810708455 0 0 0 0 0 0 0 0 0 0 0 0
## 77.022132380835 0 0 0 0 0 0 0 0 0 0 0 0
## 77.1197692574954 0 0 0 0 0 0 0 0 0 0 0 1
## 78.0789521493689 0 0 0 0 0 0 0 0 0 0 0 0
## 78.8390972167752 0 0 0 0 0 0 0 0 0 0 0 0
## 79.8698841920293 0 0 0 0 0 0 0 0 0 0 0 0
## 80.654261243226 0 0 0 0 0 0 0 0 0 0 0 0
## 81.5071187607337 0 0 0 0 1 0 0 0 0 0 0 0
## 82.1249224944576 1 0 0 0 0 0 0 0 0 0 0 0
## 82.4211676369233 0 0 1 0 0 0 0 0 0 0 0 0
## 84.4600772204226 0 0 0 0 1 0 0 0 0 0 0 0
## 86.8712481542063 0 0 0 0 0 0 0 0 0 0 0 0
## 91.6648708229546 0 0 0 0 0 0 0 0 1 0 0 0
## 92.6031256690796 0 0 0 0 0 0 0 0 1 0 0 0
```

```
## [1] NaN
```

```
#2
root_square <- function(error)
{
  sqrt(mean(error^2))
}

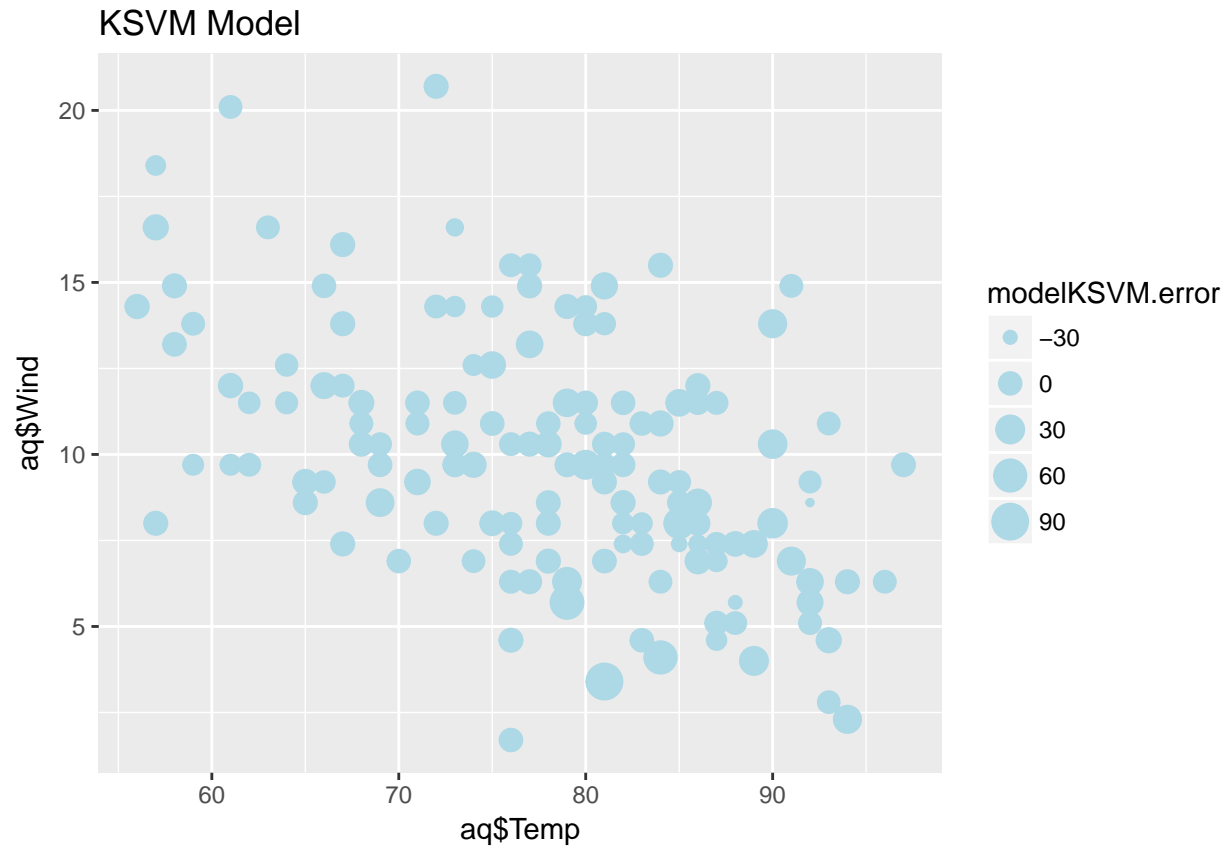
modelKSVM.first <- predict(modelKSVM, aq)
modelKSVM.error <- (aq$Ozone - modelKSVM.first)
root_square(modelKSVM.error)
```

```
## [1] 15.66534
```

```
#3
#Creating new dataframe
dfnew <- data.frame(aq$Wind, aq$Temp, modelKSVM.error)

#altering column names
colnames(dfnew) <- c("Wind", "Temp", "Error")

#plotting points
plotdf <- ggplot(data = dfnew, aes(x=aq$Temp, y=aq$Wind)) + geom_point(aes(size=modelKSVM.error), color =
plotdf
```

#4

```
modelSVM <- svm(Ozone ~ ., data = aq)
predictOzone(modelSVM, aq)
```

```
##
## predictedOzone      1 4 6 7 8 9 10 11 12 13 14 16 18 19 20 21 22 23 24 27
## 10.5077860514431 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
## 10.6632897707632 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
## 10.8463874276409 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
## 10.8743508890732 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
## 11.8769581830864 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
## 11.8864187030789 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
## 11.9911314675275 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
## 12.643378006464 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
## 13.8563371633129 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
## 14.8547780113639 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
## 15.1362425521458 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
## 15.2255335486467 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
## 15.4772875829574 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
## 15.8637004650325 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
## 15.8995681414631 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
## 16.1087928122042 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
## 16.4382187133474 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
## 16.5044346786019 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
```

##	16.8616545184562	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	17.386429307473	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	17.513053245239	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	19.1157766029543	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
##	19.3753849646695	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	19.5211898997009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
##	19.7499456707375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.1396733490946	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	20.2619896823467	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.6133887912373	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	20.6874761147755	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	21.1287968522205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
##	21.2398117873089	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.8510662057195	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.8791187340337	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
##	22.7987079800424	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.8729105372192	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	23.4061777970819	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	23.507446604398	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
##	23.6360600076071	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.729207441442	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	23.8262267780286	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	23.870717731307	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	24.0115971945336	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
##	25.1276143400122	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	25.8713859138115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	25.9171815668456	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.3369567582265	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.5379594909722	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
##	26.8164681172638	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.9167716134653	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	27.2503000329297	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.7518025183831	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
##	27.8518824798896	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
##	28.3173763917276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	28.3423018967242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.1269597123487	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.5020303434884	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	29.6411169976854	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.7824845289276	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	30.211138218112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	30.3974918884043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	31.1979146646715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	31.785233598381	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	32.3832799841281	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	32.9326615208755	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	32.9549351777744	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.1375688933527	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.6226523036878	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.8432129531326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	34.1292895280946	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.5799366950773	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.6060817812968	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	34.7752186694269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	35.3974258304906	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	35.5543511267484	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	37.6708436574846	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	37.7012463475882	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	38.0595508645108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.1270993628527	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.522672759538	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.6382799139891	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.0116047208662	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1146569509596	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1225951562334	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1252322510418	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1254041203955	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1267184009164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1317828655393	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1354950354573	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1372566002999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.9148970635242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	40.0749181280709	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	40.5135076830817	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.3306406103533	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	41.4053507790377	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.5646595292702	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.8709200592412	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.954758980924	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.0274938338482	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.0555432381879	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.1368500721049	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.1682859716695	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	43.1420190971524	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	43.1662217350491	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	43.2175376452064	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.0419403009164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.378188714746	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.8585258548663	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	45.1002475888919	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	45.2728685768451	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	45.7330461645189	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	46.7978894118596	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	46.8792178840486	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.132342500535	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.3412768126013	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	49.6920188167093	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.739065214292	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.8650449814979	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	51.4344802273589	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	51.8674824984338	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	52.9006945892195	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	52.9368601960207	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	56.1351850061144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	60.6002303302768	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	60.8814638044167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	61.2390502871653	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	63.5739616230272	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	63.8755763811295	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	65.9478582207971	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	66.1706426007346	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	66.5935273135748	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	67.2999775625471	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.1259538825996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.3102483382664	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.6118700189308	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	73.1771725333943	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	73.9487523895888	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	74.7650127109529	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	75.2022517648047	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	75.5076613445504	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	76.3892476478619	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	76.5498049472777	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	77.6033764774433	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	77.7030217728978	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	78.309048800467	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	79.3497180643149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	80.248953939173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	81.0154303212573	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.1376052314839	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.4138123014983	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	84.0207823198666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	86.8695580450136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	90.9694694518706	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	92.4522578994087	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##																			
##	predictedOzone	28	29	30	31	32	34	35	36	37	39	40	41	42	44	45	46	47	48
##	10.5077860514431	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	10.6632897707632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	10.8463874276409	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	10.8743508890732	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.8769581830864	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.8864187030789	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.9911314675275	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	12.643378006464	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	13.8563371633129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	14.8547780113639	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.1362425521458	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.2255335486467	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.4772875829574	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.8637004650325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.8995681414631	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.1087928122042	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.4382187133474	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.5044346786019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.8616545184562	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	17.386429307473	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	17.513053245239	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.1157766029543	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.3753849646695	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.5211898997009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.7499456707375	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

##	20.1396733490946	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.2619896823467	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	20.6133887912373	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.6874761147755	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.1287968522205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.2398117873089	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.8510662057195	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	21.8791187340337	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.7987079800424	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.8729105372192	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.4061777970819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.507446604398	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.6360600076071	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.729207441442	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.8262267780286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.870717731307	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	24.0115971945336	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.1276143400122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.8713859138115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.9171815668456	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	26.3369567582265	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	26.5379594909722	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.8164681172638	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	26.9167716134653	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.2503000329297	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
##	27.7518025183831	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.8518824798896	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	28.3173763917276	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	28.3423018967242	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.1269597123487	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
##	29.5020303434884	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.6411169976854	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
##	29.7824845289276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	30.211138218112	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	30.3974918884043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	31.1979146646715	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	31.785233598381	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
##	32.3832799841281	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	32.9326615208755	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	32.9549351777744	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	33.1375688933527	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
##	33.6226523036878	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
##	33.8432129531326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.1292895280946	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
##	34.5799366950773	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.6060817812968	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.7752186694269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	35.3974258304906	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	35.5543511267484	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
##	37.6708436574846	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	37.7012463475882	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.0595508645108	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	38.1270993628527	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	38.522672759538	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

##	38.6382799139891	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.0116047208662	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	39.1146569509596	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1225951562334	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1252322510418	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1254041203955	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1267184009164	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1317828655393	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1354950354573	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.1372566002999	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	39.9148970635242	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	40.0749181280709	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	40.5135076830817	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
##	41.3306406103533	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.4053507790377	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	41.5646595292702	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	41.8709200592412	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	41.954758980924	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	42.0274938338482	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.0555432381879	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.1368500721049	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
##	42.1682859716695	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	43.1420190971524	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	43.1662217350491	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	43.2175376452064	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
##	44.0419403009164	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	44.378188714746	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	44.8585258548663	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	45.1002475888919	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	45.2728685768451	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	45.7330461645189	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	46.7978894118596	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	46.8792178840486	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	49.132342500535	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.3412768126013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.6920188167093	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.739065214292	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	49.8650449814979	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
##	51.4344802273589	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
##	51.8674824984338	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	52.9006945892195	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	52.9368601960207	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	56.1351850061144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	60.6002303302768	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	60.8814638044167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	61.2390502871653	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	63.5739616230272	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	63.8755763811295	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	65.9478582207971	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	66.1706426007346	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	66.5935273135748	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	67.2999775625471	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.1259538825996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.3102483382664	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	70.6118700189308	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	73.1771725333943	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	73.9487523895888	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	74.7650127109529	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	75.2022517648047	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	75.5076613445504	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	76.3892476478619	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
##	76.5498049472777	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	77.6033764774433	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	77.7030217728978	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	78.309048800467	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	79.3497180643149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	80.248953939173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	81.0154303212573	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.1376052314839	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.4138123014983	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	84.0207823198666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	86.8695580450136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	90.9694694518706	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	92.4522578994087	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##																			
##	predictedOzone	49	50	52	59	61	63	64	65	66	71	73	76	77	78	79	80	82	84
##	10.5077860514431	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	10.6632897707632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	10.8463874276409	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	10.8743508890732	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.8769581830864	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.8864187030789	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	11.9911314675275	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	12.643378006464	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	13.8563371633129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	14.8547780113639	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.1362425521458	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.2255335486467	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.4772875829574	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.8637004650325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	15.8995681414631	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.1087928122042	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.4382187133474	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.5044346786019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	16.8616545184562	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	17.386429307473	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	17.513053245239	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.1157766029543	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.3753849646695	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.5211898997009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	19.7499456707375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.1396733490946	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.2619896823467	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.6133887912373	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	20.6874761147755	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.1287968522205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.2398117873089	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	21.8510662057195	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	21.8791187340337	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.7987079800424	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	22.8729105372192	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.4061777970819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.507446604398	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.6360600076071	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.729207441442	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.8262267780286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	23.870717731307	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	24.0115971945336	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.1276143400122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.8713859138115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	25.9171815668456	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.3369567582265	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.5379594909722	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.8164681172638	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	26.9167716134653	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.2503000329297	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.7518025183831	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	27.8518824798896	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	28.3173763917276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	28.3423018967242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.1269597123487	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.5020303434884	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.6411169976854	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	29.7824845289276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	30.211138218112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	30.3974918884043	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
##	31.1979146646715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	31.785233598381	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	32.3832799841281	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	32.9326615208755	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	32.9549351777744	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.1375688933527	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.6226523036878	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	33.8432129531326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.1292895280946	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.5799366950773	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.6060817812968	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	34.7752186694269	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
##	35.3974258304906	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	35.5543511267484	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	37.6708436574846	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	37.7012463475882	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.0595508645108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.1270993628527	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.522672759538	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	38.6382799139891	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.0116047208662	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1146569509596	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1225951562334	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1252322510418	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1254041203955	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1267184009164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	39.1317828655393	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1354950354573	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.1372566002999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	39.9148970635242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	40.0749181280709	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	40.5135076830817	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.3306406103533	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.4053507790377	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.5646595292702	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.8709200592412	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	41.954758980924	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.0274938338482	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.0555432381879	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.1368500721049	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	42.1682859716695	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	43.1420190971524	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	43.1662217350491	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	43.2175376452064	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.0419403009164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.378188714746	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	44.8585258548663	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	45.1002475888919	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	45.2728685768451	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	45.7330461645189	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	46.7978894118596	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
##	46.8792178840486	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.132342500535	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.3412768126013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.6920188167093	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.739065214292	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	49.8650449814979	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	51.4344802273589	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	51.8674824984338	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	52.9006945892195	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	52.9368601960207	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	56.1351850061144	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
##	60.6002303302768	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	60.8814638044167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	61.2390502871653	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	63.5739616230272	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
##	63.8755763811295	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
##	65.9478582207971	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	66.1706426007346	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
##	66.5935273135748	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	67.2999775625471	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.1259538825996	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
##	70.3102483382664	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	70.6118700189308	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	73.1771725333943	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	73.9487523895888	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	74.7650127109529	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
##	75.2022517648047	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	75.5076613445504	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
##	76.3892476478619	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

##	76.5498049472777	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	77.6033764774433	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
##	77.7030217728978	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
##	78.309048800467	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
##	79.3497180643149	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
##	80.248953939173	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
##	81.0154303212573	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.1376052314839	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	82.4138123014983	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	84.0207823198666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	86.8695580450136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
##	90.9694694518706	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##	92.4522578994087	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
##																		
##	predictedOzone	85	89	91	96	97	108	110	115	118	122	135	168					
##	10.5077860514431	0	0	0	0	0	0	0	0	0	0	0	0					
##	10.6632897707632	0	0	0	0	0	0	0	0	0	0	0	0					
##	10.8463874276409	0	0	0	0	0	0	0	0	0	0	0	0					
##	10.8743508890732	0	0	0	0	0	0	0	0	0	0	0	0					
##	11.8769581830864	0	0	0	0	0	0	0	0	0	0	0	0					
##	11.8864187030789	0	0	0	0	0	0	0	0	0	0	0	0					
##	11.9911314675275	0	0	0	0	0	0	0	0	0	0	0	0					
##	12.643378006464	0	0	0	0	0	0	0	0	0	0	0	0					
##	13.8563371633129	0	0	0	0	0	0	0	0	0	0	0	0					
##	14.8547780113639	0	0	0	0	0	0	0	0	0	0	0	0					
##	15.1362425521458	0	0	0	0	0	0	0	0	0	0	0	0					
##	15.2255335486467	0	0	0	0	0	0	0	0	0	0	0	0					
##	15.4772875829574	0	0	0	0	0	0	0	0	0	0	0	0					
##	15.8637004650325	0	0	0	0	0	0	0	0	0	0	0	0					
##	15.8995681414631	0	0	0	0	0	0	0	0	0	0	0	0					
##	16.1087928122042	0	0	0	0	0	0	0	0	0	0	0	0					
##	16.4382187133474	0	0	0	0	0	0	0	0	0	0	0	0					
##	16.5044346786019	0	0	0	0	0	0	0	0	0	0	0	0					
##	16.8616545184562	0	0	0	0	0	0	0	0	0	0	0	0					
##	17.386429307473	0	0	0	0	0	0	0	0	0	0	0	0					
##	17.513053245239	0	0	0	0	0	0	0	0	0	0	0	0					
##	19.1157766029543	0	0	0	0	0	0	0	0	0	0	0	0					
##	19.3753849646695	0	0	0	0	0	0	0	0	0	0	0	0					
##	19.5211898997009	0	0	0	0	0	0	0	0	0	0	0	0					
##	19.7499456707375	0	0	0	0	0	0	0	0	0	0	0	0					
##	20.1396733490946	0	0	0	0	0	0	0	0	0	0	0	0					
##	20.2619896823467	0	0	0	0	0	0	0	0	0	0	0	0					
##	20.6133887912373	0	0	0	0	0	0	0	0	0	0	0	0					
##	20.6874761147755	0	0	0	0	0	0	0	0	0	0	0	0					
##	21.1287968522205	0	0	0	0	0	0	0	0	0	0	0	0					
##	21.2398117873089	0	0	0	0	0	0	0	0	0	0	0	0					
##	21.8510662057195	0	0	0	0	0	0	0	0	0	0	0	0					
##	21.8791187340337	0	0	0	0	0	0	0	0	0	0	0	0					
##	22.7987079800424	0	0	0	0	0	0	0	0	0	0	0	0					
##	22.8729105372192	0	0	0	0	0	0	0	0	0	0	0	0					
##	23.4061777970819	0	0	0	0	0	0	0	0	0	0	0	0					
##	23.507446604398	0	0	0	0	0	0	0	0	0	0	0	0					
##	23.6360600076071	0	0	0	0	0	0	0	0	0	0	0	0					
##	23.729207441442	0	0	0	0	0	0	0	0	0	0	0	0					

##	23.8262267780286	0	0	0	0	0	0	0	0	0	0	0
##	23.870717731307	0	0	0	0	0	0	0	0	0	0	0
##	24.0115971945336	0	0	0	0	0	0	0	0	0	0	0
##	25.1276143400122	0	0	0	0	0	0	0	0	0	0	0
##	25.8713859138115	0	0	0	0	0	0	0	0	0	0	0
##	25.9171815668456	0	0	0	0	0	0	0	0	0	0	0
##	26.3369567582265	0	0	0	0	0	0	0	0	0	0	0
##	26.5379594909722	0	0	0	0	0	0	0	0	0	0	0
##	26.8164681172638	0	0	0	0	0	0	0	0	0	0	0
##	26.9167716134653	0	0	0	0	0	0	0	0	0	0	0
##	27.2503000329297	0	0	0	0	0	0	0	0	0	0	0
##	27.7518025183831	0	0	0	0	0	0	0	0	0	0	0
##	27.8518824798896	0	0	0	0	0	0	0	0	0	0	0
##	28.3173763917276	0	0	0	0	0	0	0	0	0	0	0
##	28.3423018967242	0	0	0	0	0	0	0	0	0	0	0
##	29.1269597123487	0	0	0	0	0	0	0	0	0	0	0
##	29.5020303434884	0	0	0	0	0	0	0	0	0	0	0
##	29.6411169976854	0	0	0	0	0	0	0	0	0	0	0
##	29.7824845289276	0	0	0	0	0	0	0	0	0	0	0
##	30.211138218112	0	0	0	0	0	0	0	0	0	0	0
##	30.3974918884043	0	0	0	0	0	0	0	0	0	0	0
##	31.1979146646715	0	0	0	0	0	0	0	0	0	0	0
##	31.785233598381	0	0	0	0	0	0	0	0	0	0	0
##	32.3832799841281	0	0	0	0	0	0	0	0	0	0	0
##	32.9326615208755	0	0	0	0	0	0	0	0	0	0	0
##	32.9549351777744	0	0	0	0	0	0	0	0	0	0	0
##	33.1375688933527	0	0	0	0	0	0	0	0	0	0	0
##	33.6226523036878	0	0	0	0	0	0	0	0	0	0	0
##	33.8432129531326	0	0	0	0	0	0	0	0	0	0	0
##	34.1292895280946	0	0	0	0	0	0	0	0	0	0	0
##	34.5799366950773	0	0	0	0	0	0	0	0	0	0	0
##	34.6060817812968	0	0	0	0	0	0	0	0	0	0	0
##	34.7752186694269	0	0	0	0	0	0	0	0	0	0	0
##	35.3974258304906	0	0	0	0	0	0	0	0	0	0	0
##	35.5543511267484	0	0	0	0	0	0	0	0	0	0	0
##	37.6708436574846	0	0	0	0	0	0	0	0	0	0	0
##	37.7012463475882	0	0	0	0	0	0	0	0	0	0	0
##	38.0595508645108	0	0	0	0	0	0	0	0	0	0	0
##	38.1270993628527	0	0	0	0	0	0	0	0	0	0	0
##	38.522672759538	0	0	0	0	0	0	0	0	0	0	0
##	38.6382799139891	0	0	0	0	0	0	0	0	0	0	0
##	39.0116047208662	0	0	0	0	0	0	0	0	0	0	0
##	39.1146569509596	0	0	0	0	0	0	0	0	0	0	0
##	39.1225951562334	0	0	0	0	0	0	0	0	0	0	0
##	39.1252322510418	0	0	0	0	0	0	0	0	0	0	0
##	39.1254041203955	0	0	0	0	0	0	0	0	0	0	0
##	39.1267184009164	0	0	0	0	0	0	0	0	0	0	0
##	39.1317828655393	0	0	0	0	0	0	0	0	0	0	0
##	39.1354950354573	0	0	0	0	0	0	0	0	0	0	0
##	39.1372566002999	0	0	0	0	0	0	0	0	0	0	0
##	39.9148970635242	0	0	0	0	0	0	0	0	0	0	0
##	40.0749181280709	0	0	0	0	0	0	0	0	0	0	0
##	40.5135076830817	0	0	0	0	0	0	0	0	0	0	0
##	41.3306406103533	0	0	0	0	0	0	0	0	0	0	0

##	41.4053507790377	0	0	0	0	0	0	0	0	0	0	0
##	41.5646595292702	0	0	0	0	0	0	0	0	0	0	0
##	41.8709200592412	0	0	0	0	0	0	0	0	0	0	0
##	41.954758980924	0	0	0	0	0	0	0	0	0	0	0
##	42.0274938338482	0	0	0	0	0	0	0	0	0	0	0
##	42.0555432381879	0	0	0	0	0	0	0	0	0	0	0
##	42.1368500721049	0	0	0	0	0	0	0	0	0	0	0
##	42.1682859716695	0	0	0	0	0	0	0	0	0	0	0
##	43.1420190971524	0	0	0	0	0	0	0	0	0	0	0
##	43.1662217350491	0	0	0	0	0	0	0	0	0	0	0
##	43.2175376452064	0	0	0	0	0	0	0	0	0	0	0
##	44.0419403009164	0	0	0	0	0	0	0	0	0	0	0
##	44.378188714746	0	0	0	0	0	0	0	0	0	0	0
##	44.8585258548663	0	0	0	0	0	0	0	0	0	0	0
##	45.1002475888919	0	0	0	0	0	0	0	0	0	0	0
##	45.2728685768451	0	0	0	0	0	0	0	0	0	0	0
##	45.7330461645189	0	0	0	0	0	0	0	0	0	0	0
##	46.7978894118596	0	0	0	0	0	0	0	0	0	0	0
##	46.8792178840486	0	0	0	0	0	0	0	0	0	0	0
##	49.132342500535	0	0	0	0	0	0	0	0	0	0	0
##	49.3412768126013	0	0	0	0	0	0	0	0	0	0	0
##	49.6920188167093	0	0	0	0	0	0	1	0	0	0	0
##	49.739065214292	0	0	0	0	0	0	0	0	0	0	0
##	49.8650449814979	0	0	0	0	0	0	0	0	0	0	0
##	51.4344802273589	0	0	0	0	0	0	0	0	0	0	0
##	51.8674824984338	0	0	0	0	0	0	0	0	0	0	0
##	52.9006945892195	0	0	0	0	0	0	0	0	0	0	0
##	52.9368601960207	0	0	0	0	0	0	0	0	0	0	0
##	56.1351850061144	0	0	0	0	0	0	0	0	0	0	0
##	60.6002303302768	0	0	0	0	0	0	0	0	0	0	0
##	60.8814638044167	0	1	0	0	0	0	0	0	0	0	0
##	61.2390502871653	0	0	0	0	0	0	0	0	0	0	0
##	63.5739616230272	0	0	0	0	0	0	0	0	0	0	0
##	63.8755763811295	0	0	0	0	0	0	0	0	0	0	0
##	65.9478582207971	0	0	0	0	0	1	0	0	0	0	0
##	66.1706426007346	0	0	0	0	0	0	0	0	0	0	0
##	66.5935273135748	0	0	0	0	0	0	0	0	0	0	0
##	67.2999775625471	1	0	0	0	0	0	0	0	0	0	0
##	70.1259538825996	0	0	0	0	0	0	0	0	0	0	0
##	70.3102483382664	0	0	0	0	0	0	0	0	0	0	0
##	70.6118700189308	0	0	0	1	0	0	0	0	0	0	0
##	73.1771725333943	0	0	0	0	0	0	0	0	0	0	0
##	73.9487523895888	0	0	0	0	0	0	0	0	0	1	0
##	74.7650127109529	0	0	0	0	0	0	0	0	0	0	0
##	75.2022517648047	0	0	0	0	0	1	0	0	0	0	0
##	75.5076613445504	0	0	0	0	0	0	0	0	0	0	0
##	76.3892476478619	0	0	0	0	0	0	0	0	0	0	0
##	76.5498049472777	0	0	0	0	0	0	0	0	0	0	1
##	77.6033764774433	0	0	0	0	0	0	0	0	0	0	0
##	77.7030217728978	0	0	0	0	0	0	0	0	0	0	0
##	78.309048800467	0	0	0	0	0	0	0	0	0	0	0
##	79.3497180643149	0	0	0	0	0	0	0	0	0	0	0
##	80.248953939173	0	0	0	0	0	0	0	0	0	0	0
##	81.0154303212573	0	0	0	0	1	0	0	0	0	0	0

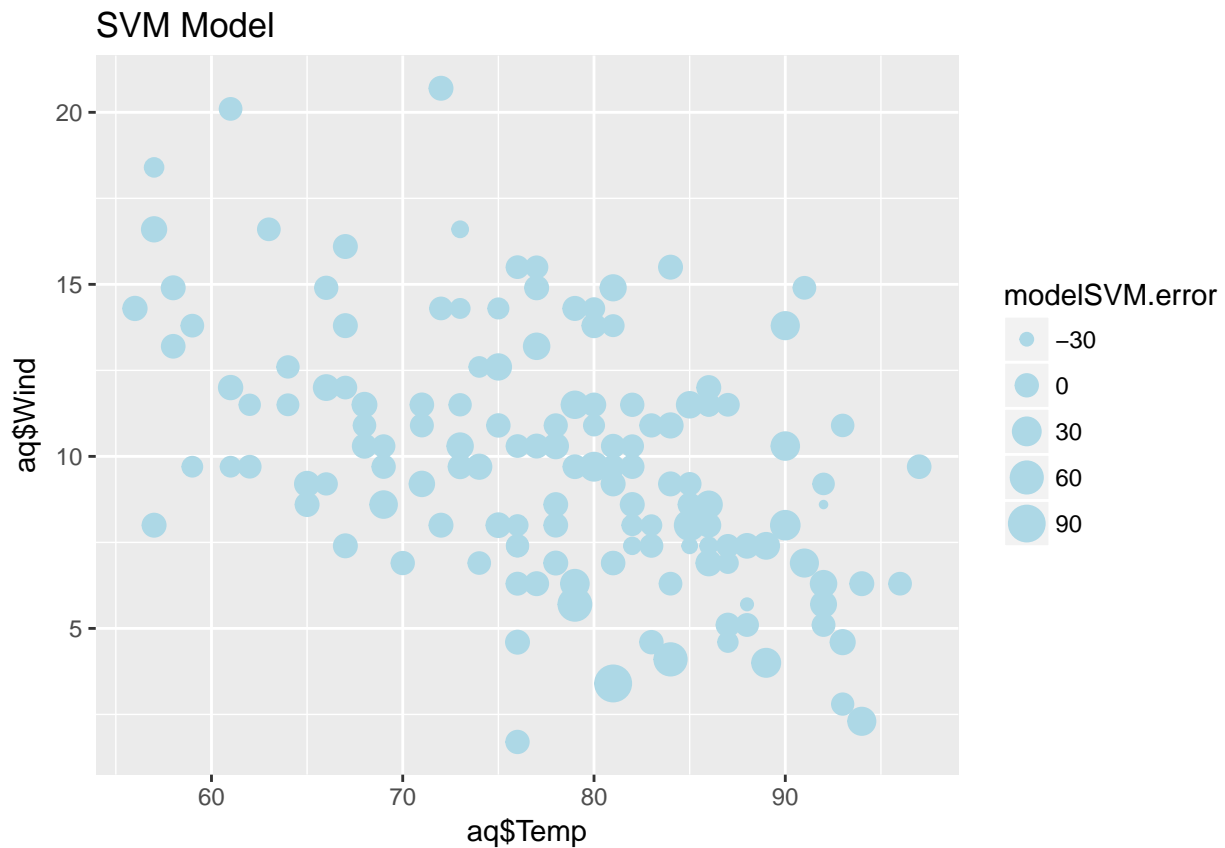
```
## 82.1376052314839 1 0 0 0 0 0 0 0 0 0 0 0
## 82.4138123014983 0 0 1 0 0 0 0 0 0 0 0 0
## 84.0207823198666 0 0 0 0 1 0 0 0 0 0 0 0
## 86.8695580450136 0 0 0 0 0 0 0 0 0 0 0 0
## 90.9694694518706 0 0 0 0 0 0 0 0 0 1 0 0
## 92.4522578994087 0 0 0 0 0 0 0 0 1 0 0 0
```

```
## [1] NaN
```

```
modelSVM.first <- predict(modelSVM, aq)
modelSVM.error <- (aq$Ozone - modelSVM.first)
root_square(modelSVM.error)
```

```
## [1] 15.84425
```

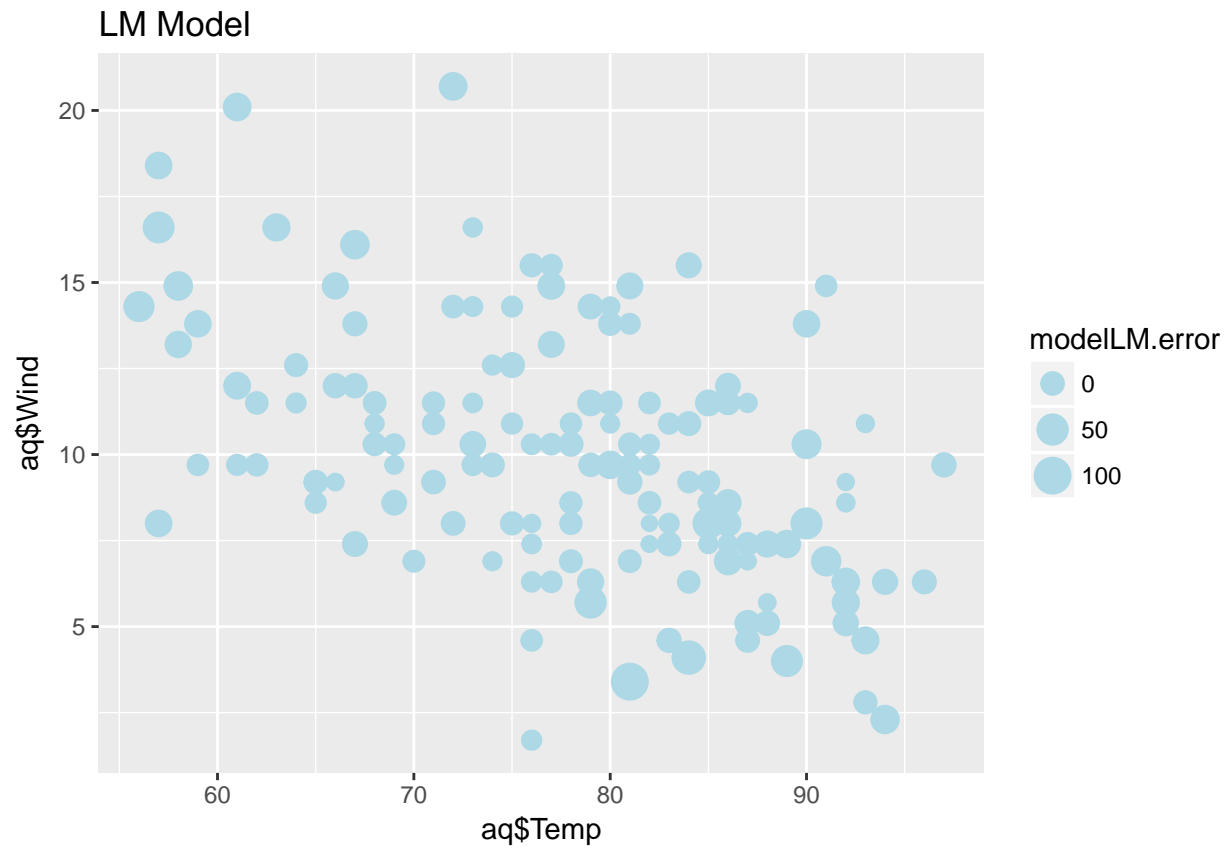
```
dfnew1 <- data.frame(aq$Wind, aq$Temp, modelSVM.error)
colnames(dfnew1) <- c("Wind", "Temp", "Error")
plotdf1 <- ggplot(data = dfnew1, aes(x=aq$Temp, y=aq$Wind)) + geom_point(aes(size=modelSVM.error), color = "blue")
plotdf1
```



```
modelLM <- lm(Ozone ~ ., data=aq)
modelLM.first <- predict(modelLM, aq)
modelLM.error <- (aq$Ozone - modelLM.first)
root_square(modelLM.error)
```

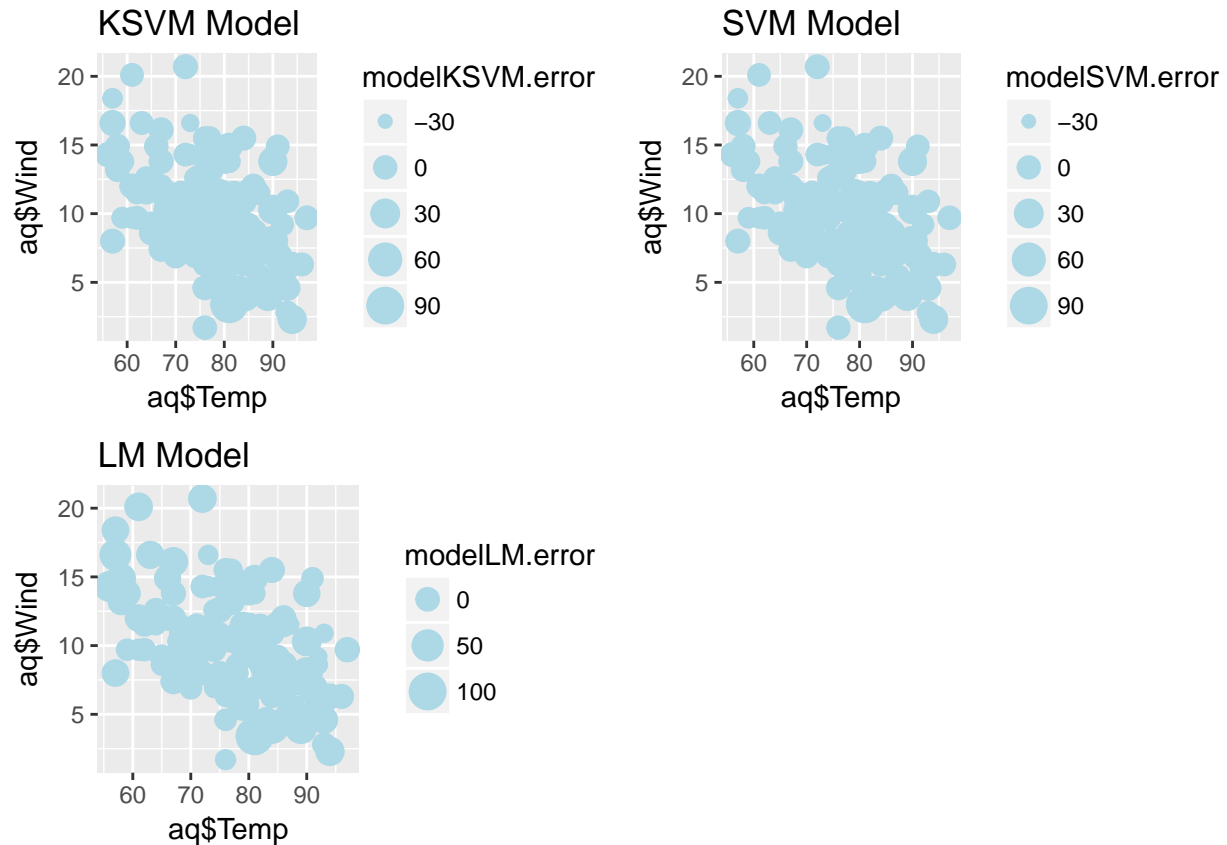
```
## [1] 20.37072
```

```
dfnew2 <- data.frame(aq$Wind,aq$Temp,modelLM.error)
colnames(dfnew2) <- c("Wind","Temp","Error")
plotdf2 <- ggplot(data = dfnew2,aes(x=aq$Temp,y=aq$Wind)) + geom_point(aes(size=modelLM.error), color =
plotdf2
```



#5

```
grid.arrange(plotdf,plotdf1, plotdf2, ncol = 2)
```



#Step 4: Create a goodOzone variable

```
goodOzone <-c()
for (i in 1:153) {
  if (aq$Ozone[i] < mean(aq$Ozone)){
    goodOzone<-append(goodOzone,0)
  }
  else goodOzone<-append(goodOzone,1)
}
```

#adding the column in the dataframe

```
aq<-data.frame(aq,goodOzone)
```

#Step 5: See if we can do a better job predicting good and bad days

#1

```
predictGoodozone <- function(m, aq){
  predictedGoodozone <- predict(m, aq)
  results1 <- table(predictedGoodozone, aq$goodOzone)
  print(results1)
  percentCorrect1 <- (results1[1,1]+results1[2,2])/(results1[1,1]+results1[1,2]+results1[2,1]+results1[2,2])
  round(percentCorrect1)
  return(percentCorrect1)
}
```

```
modelKSVM1 <- ksvm(goodOzone ~ ., data = aq)
```

```
predictGoodozone(modelKSVM1, aq)
```

```
##
## predictedGoodozone      0 1
## -0.0766236809953091    1 0
## -0.0566873983854956    1 0
## -0.0456173666108105    1 0
## -0.0455810052263144    1 0
## -0.045562414182504     1 0
## -0.0455568020697367    1 0
## -0.0454550157524534    1 0
## -0.0454028437756878    1 0
## -0.0453717136687843    1 0
## -0.04530966251975      1 0
## -0.0452319510818135    1 0
## -0.0452086175403343    1 0
## -0.0421652761871671    1 0
## -0.040721048389831     1 0
## -0.0396725197442778    1 0
## -0.0380694340507204    1 0
## -0.0345415402895549    1 0
## -0.0291562793076078    1 0
## -0.0290178167473421    1 0
## -0.0270560018219763    1 0
## -0.0266213313809579    1 0
## -0.0241444940747749    1 0
## -0.0236798742811451    1 0
## -0.0226757881280725    1 0
## -0.0207778799890486    1 0
## -0.0206978716088462    1 0
## -0.0203947928746652    1 0
## -0.0173274054884811    1 0
## -0.0167646222839932    1 0
## -0.0159299253141824    1 0
## -0.0126047244345104    1 0
## -0.0108672166266142    1 0
## -0.0106112053808176    1 0
## -0.00901385907995661    1 0
## -0.00900027370053691    1 0
## -0.00896338637436034    1 0
## -0.00759381352636779    1 0
## -0.00511678044290187    1 0
## -0.00459794906122707    1 0
## -0.00424654373553202    1 0
## -0.00317511493918426    1 0
## 0.00046374893041029     1 0
## 0.00239210150752361     1 0
## 0.00346009481440995     1 0
## 0.00372001855023363     1 0
## 0.00682909912512131     1 0
## 0.0121900381236035      1 0
## 0.0133748052792907      1 0
## 0.0162202854450998      1 0
## 0.0174087272528096      1 0
```


##	0.0180835967530985	1 0
##	0.0183510199247454	1 0
##	0.0191943042910718	1 0
##	0.0195050525953558	1 0
##	0.0197033476777955	1 0
##	0.0208671030658231	1 0
##	0.0208801475572002	1 0
##	0.0288892003054666	1 0
##	0.0320662106949856	1 0
##	0.0360073532509752	1 0
##	0.0417998315805149	1 0
##	0.0427983036729032	1 0
##	0.0435501708566389	1 0
##	0.0445878459616272	1 0
##	0.045202105817937	1 0
##	0.0452186191928252	1 0
##	0.0452812439760069	1 0
##	0.0452871790166357	1 0
##	0.0453093853763252	1 0
##	0.0453251572258836	1 0
##	0.0453309548720254	1 0
##	0.0453444739762449	1 0
##	0.0453803247749418	1 0
##	0.0453939968395463	1 0
##	0.0454069970719497	1 0
##	0.0454131630404563	1 0
##	0.0454230466011482	1 0
##	0.0454587009877306	1 0
##	0.0454609741201006	1 0
##	0.0454610186119229	1 0
##	0.0454839527076422	1 0
##	0.0454843322000954	1 0
##	0.0455061533662053	1 0
##	0.0455345411359774	1 0
##	0.0455610842505728	1 0
##	0.0455636647891692	1 0
##	0.0455675897259549	1 0
##	0.0455799338888479	1 0
##	0.0456172253889226	1 0
##	0.0456208551534215	1 0
##	0.0470450291515534	1 0
##	0.060040904595144	1 0
##	0.0726431818702858	1 0
##	0.0728248104200158	1 0
##	0.0902954403756904	1 0
##	0.0953569680798406	1 0
##	0.104095153177841	1 0
##	0.115921086819456	1 0
##	0.1190384390352	1 0
##	0.138709186604546	1 0
##	0.155016948564107	1 0
##	0.17408656593275	1 0
##	0.177967765336981	1 0
##	0.194601918484276	1 0

```
## 0.216002506795206 1 0
## 0.218349591816784 1 0
## 0.228105738671859 0 1
## 0.237859939166269 0 1
## 0.247844167858177 0 1
## 0.249976056177854 1 0
## 0.255285163095896 0 1
## 0.272585179155569 0 1
## 0.288962743186593 1 0
## 0.303408023246166 0 1
## 0.332951475259868 0 1
## 0.378915190455015 1 0
## 0.417247380604563 0 1
## 0.433981081990422 0 1
## 0.443083657941639 0 1
## 0.469232930639988 0 1
## 0.495247640091412 0 1
## 0.620903570027158 0 1
## 0.623315694250234 0 1
## 0.651794106105238 0 1
## 0.667494983596987 0 1
## 0.758852479355327 0 1
## 0.762002725414944 0 1
## 0.807272195387763 0 1
## 0.86292487851523 0 1
## 0.923831120829108 0 1
## 0.927890379653757 0 1
## 0.934465217421156 0 1
## 0.954403446699506 0 1
## 0.954451078237008 0 1
## 0.954496441911025 0 1
## 0.954562864875617 0 1
## 0.954596065462281 0 1
## 0.954683330647029 0 1
## 0.968639122186319 0 1
## 0.980193461865046 0 1
## 0.984706954636601 0 1
## 1.00452144187914 0 1
## 1.01251113374775 0 1
## 1.01730386746185 0 1
## 1.02672003199752 0 1
## 1.03537859199184 0 1
## 1.03698164971627 0 1
## 1.03722376852624 0 1
## 1.04530459125349 0 1
## 1.04544702157388 0 1
## 1.04549399163744 0 1
## 1.06121099753082 0 1
## 1.14857808692802 0 1

## [1] 50
```

#2

```
root_square1 <- function(error)
```

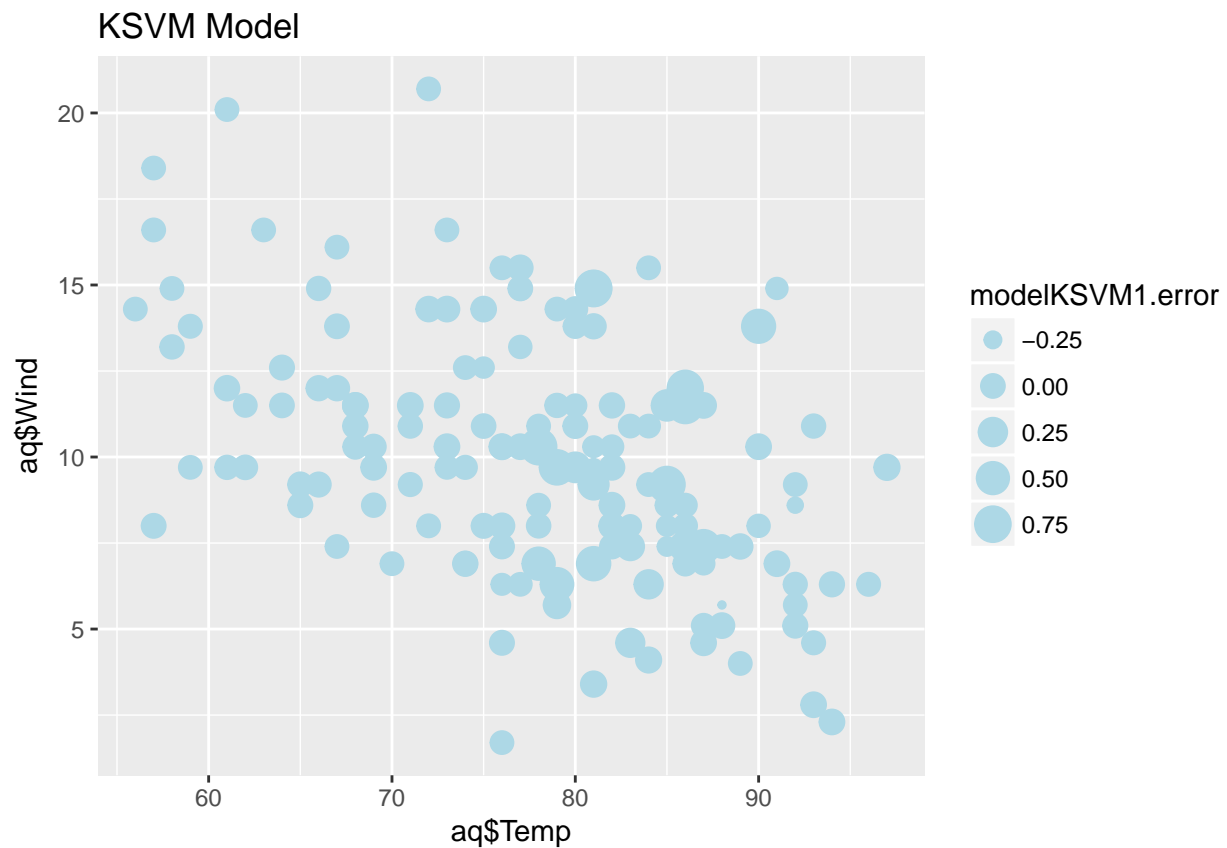
```
{
  sqrt(mean(error^2))
}

modelKSVM1.first <- predict(modelKSVM1, aq)
modelKSVM1.error <- (aq$goodOzone - modelKSVM1.first)
root_square1(modelKSVM1.error)

## [1] 0.209726

#3

dfnew11 <- data.frame(aq$Wind, aq$Temp, modelKSVM1.error)
colnames(dfnew11) <- c("Wind", "Temp", "Error")
plotdf11 <- ggplot(data = dfnew11, aes(x=aq$Temp, y=aq$Wind)) + geom_point(aes(size=modelKSVM1.error), col="blue")
plotdf11
```



```
#4

modelSVM1 <- svm(goodOzone ~ ., data = aq)
predictGoodozone(modelSVM1, aq)

##
## predictedGoodozone      0 1
## -0.0771030850274648    1 0
## -0.0584976588901537    1 0
## -0.0456556256393371    1 0
```

##	-0.045602887472896	1	0
##	-0.0455749991208499	1	0
##	-0.0455487102013977	1	0
##	-0.045537022684177	1	0
##	-0.0455002523364071	1	0
##	-0.0454381096553351	1	0
##	-0.0454274394720439	1	0
##	-0.0453829807853176	1	0
##	-0.0453468077036941	1	0
##	-0.0407546451944006	1	0
##	-0.0404593785305791	1	0
##	-0.0393998822847841	1	0
##	-0.0383124759846093	1	0
##	-0.0351813132770065	1	0
##	-0.0314837949986077	1	0
##	-0.0286104769173429	1	0
##	-0.0277452974490514	1	0
##	-0.0252051582450913	1	0
##	-0.0251397079850373	1	0
##	-0.0225319646196848	1	0
##	-0.0222451949247343	1	0
##	-0.0220546653995459	1	0
##	-0.019830301157286	1	0
##	-0.019558891850017	1	0
##	-0.0189307696875313	1	0
##	-0.0173690951209597	1	0
##	-0.0170667241435329	1	0
##	-0.013531456464362	1	0
##	-0.0112702539204824	1	0
##	-0.0108131633373023	1	0
##	-0.00895916979167299	1	0
##	-0.00894088344365901	1	0
##	-0.00884153809384458	1	0
##	-0.00638460371504801	1	0
##	-0.00636349254035096	1	0
##	-0.00576754699302218	1	0
##	-0.00395817961145356	1	0
##	-0.00359953759171322	1	0
##	0.000310886161784485	1	0
##	0.00252169590075157	1	0
##	0.00323228058951192	1	0
##	0.00384270167836098	1	0
##	0.00708409143191441	1	0
##	0.0108821785748623	1	0
##	0.0127485023392218	1	0
##	0.0167819031286272	1	0
##	0.0170729725058735	1	0
##	0.0175154716691585	1	0
##	0.0190837373814796	1	0
##	0.019963728520332	1	0
##	0.0201999148428662	1	0
##	0.0204888568699071	1	0
##	0.0207832457507671	1	0
##	0.0218784873338567	1	0

##	0.0292300687725976	1 0
##	0.0306633852739168	1 0
##	0.0367456162024048	1 0
##	0.0403716533313619	1 0
##	0.0423214861398732	1 0
##	0.0433363523829111	1 0
##	0.0452406095001177	1 0
##	0.0452418687870705	1 0
##	0.0452684153107193	1 0
##	0.0452904908004193	1 0
##	0.0453224140021294	1 0
##	0.0453239848045846	1 0
##	0.0453272752094211	1 0
##	0.0453453421831304	1 0
##	0.0453742414789563	1 0
##	0.045379207896166	1 0
##	0.0453895323149236	1 0
##	0.0454112635050506	1 0
##	0.0454135353956798	1 0
##	0.045424586237542	1 0
##	0.04542739002674	1 0
##	0.045435787627556	1 0
##	0.0454599974017418	1 0
##	0.0454602977406093	1 0
##	0.0454785104693202	1 0
##	0.0454812540698761	1 0
##	0.0454967971776194	1 0
##	0.0455238443734372	1 0
##	0.045537521617893	1 0
##	0.0455427642148813	1 0
##	0.0455723479085759	1 0
##	0.045611057132808	1 0
##	0.0456117268680238	1 0
##	0.0479605984176519	1 0
##	0.0622163220429668	1 0
##	0.0730674264719526	1 0
##	0.0732995829315157	1 0
##	0.0906587955248549	1 0
##	0.0965360832735483	1 0
##	0.105055206799654	1 0
##	0.115554600738561	1 0
##	0.120772639278822	1 0
##	0.139815459047076	1 0
##	0.155864369729379	1 0
##	0.174304931907605	1 0
##	0.179422979908218	1 0
##	0.196638333857948	1 0
##	0.217350894030597	1 0
##	0.218681949144588	1 0
##	0.228393597752514	0 1
##	0.238368752550133	0 1
##	0.247342029043468	0 1
##	0.249205260399178	1 0
##	0.254895565414816	0 1

```
## 0.272837533660292 0 1
## 0.290638850091938 1 0
## 0.301233401806402 0 1
## 0.332079732948374 0 1
## 0.380589072678441 1 0
## 0.416439817182057 0 1
## 0.431882978628545 0 1
## 0.443417455761443 0 1
## 0.468213504749165 0 1
## 0.495594523832946 0 1
## 0.619315297839639 0 1
## 0.620151856174672 0 1
## 0.649294753630401 0 1
## 0.665810340939876 0 1
## 0.757224550689502 0 1
## 0.762037363389922 0 1
## 0.804688177726246 0 1
## 0.864683364467317 0 1
## 0.923333223096581 0 1
## 0.928237586277914 0 1
## 0.933556674362067 0 1
## 0.954512604196211 0 1
## 0.954584879876443 0 1
## 0.954644682287672 0 1
## 0.954677322617173 0 1
## 0.954691875244112 0 1
## 0.954759215306557 0 1
## 0.968204565905295 0 1
## 0.982179013087773 0 1
## 0.984505552383171 0 1
## 1.00354326417525 0 1
## 1.01280187159595 0 1
## 1.01614638407697 0 1
## 1.0266449178121 0 1
## 1.03530030837437 0 1
## 1.03586806351554 0 1
## 1.03817436691645 0 1
## 1.04536778764145 0 1
## 1.04554217396104 0 1
## 1.04561235702286 0 1
## 1.06378363399893 0 1
## 1.1526029919175 0 1
```

```
## [1] 50
```

```
modelSVM1.first <- predict(modelSVM1, aq)
modelSVM1.error <- (aq$goodOzone - modelSVM1.first)
root_square1(modelSVM1.error)
```

```
## [1] 0.2100874
```

```
dfnew12 <- data.frame(aq$Wind,aq$Temp,modelSVM1.error)
colnames(dfnew12) <- c("Wind","Temp","Error")
plotdf12 <- ggplot(data = dfnew12,aes(x=aq$Temp,y=aq$Wind)) + geom_point(aes(size=modelSVM1.error), col=
plotdf12
```

