

## DENDOGRAMA

```
library(cluster.datasets)
library(dendextend)
```

```
##
## -----
## Welcome to dendextend version 1.15.2
## Type citation('dendextend') for how to cite the package.
##
## Type browseVignettes(package = 'dendextend') for the package vignette.
## The github page is: https://github.com/talgalili/dendextend/
##
## Suggestions and bug-reports can be submitted at: https://github.com/talgalili/dendextend/issu
es
## You may ask questions at stackoverflow, use the r and dendextend tags:
##   https://stackoverflow.com/questions/tagged/dendextend
##
## To suppress this message use: suppressPackageStartupMessages(library(dendextend))
## -----
```

```
##
## Attaching package: 'dendextend'
```

```
## The following object is masked from 'package:stats':
##
##   cutree
```

```
library(circlize)
```

```
## =====
## circlize version 0.4.15
## CRAN page: https://cran.r-project.org/package=circlize
## Github page: https://github.com/jokergoo/circlize
## Documentation: https://jokergoo.github.io/circlize_book/book/
##
## If you use it in published research, please cite:
## Gu, Z. circlize implements and enhances circular visualization
##   in R. Bioinformatics 2014.
##
## This message can be suppressed by:
##   suppressPackageStartupMessages(library(circlize))
## =====
```

Llamamos nuestra base de datos mediante clipboard

```
prueba_del_espejo<-read.delim('clipboard')
prueba_del_espejo
```

##	Sujeto	Sexo	Tratamiento	Condición	Tiempo.post.emparejamiento
## 1	Nala	F	OXITOCINA	reflejo	1 semana
## 2	Nala	F	OXITOCINA	control	1 semana
## 3	Nala	F	OXITOCINA	control	4 meses
## 4	Nala	F	OXITOCINA	reflejo	4 meses
## 5	Willow	F	SALINA	reflejo	1 semana
## 6	Willow	F	SALINA	control	1 semana
## 7	Willow	F	SALINA	control	4 meses
## 8	Willow	F	SALINA	reflejo	4 meses
## 9	Lily	F	OXITOCINA	reflejo	1 semana
## 10	Lily	F	OXITOCINA	control	1 semana
## 11	Lily	F	OXITOCINA	control	4 meses
## 12	Lily	F	OXITOCINA	reflejo	4 meses
## 13	Melody	F	SALINA	reflejo	1 semana
## 14	Melody	F	SALINA	control	1 semana
## 15	Melody	F	SALINA	control	4 meses
## 16	Melody	F	SALINA	reflejo	4 meses
## 17	Wenona	F	OXITOCINA	reflejo	1 semana
## 18	Wenona	F	OXITOCINA	control	1 semana
## 19	Wenona	F	OXITOCINA	control	4 meses
## 20	Wenona	F	OXITOCINA	reflejo	4 meses
## 21	Arwen	F	SALINA	reflejo	1 semana
## 22	Arwen	F	SALINA	control	1 semana
## 23	Arwen	F	SALINA	control	4 meses
## 24	Arwen	F	SALINA	reflejo	4 meses
## 25	Gogo	F	OXITOCINA	reflejo	1 semana
## 26	Gogo	F	OXITOCINA	control	1 semana
## 27	Gogo	F	OXITOCINA	control	4 meses
## 28	Gogo	F	OXITOCINA	reflejo	4 meses
## 29	Rogue	F	SALINA	control	1 semana
## 30	Rogue	F	SALINA	reflejo	1 semana
## 31	Rogue	F	SALINA	reflejo	4 meses
## 32	Rogue	F	SALINA	control	4 meses
## 33	Luna	F	OXITOCINA	control	1 semana
## 34	Luna	F	OXITOCINA	reflejo	1 semana
## 35	Luna	F	OXITOCINA	reflejo	4 meses
## 36	Luna	F	OXITOCINA	control	4 meses
## 37	Sriracha	F	OXITOCINA	control	1 semana
## 38	Sriracha	F	OXITOCINA	reflejo	1 semana
## 39	Sriracha	F	OXITOCINA	reflejo	4 meses
## 40	Sriracha	F	OXITOCINA	control	4 meses
## 41	Sookie	F	SALINA	reflejo	1 semana
## 42	Sookie	F	SALINA	control	1 semana
## 43	Sookie	F	SALINA	reflejo	4 meses
## 44	Sookie	F	SALINA	control	4 meses
## 45	Arya	F	OXITOCINA	reflejo	1 semana
## 46	Arya	F	OXITOCINA	control	1 semana
## 47	Arya	F	OXITOCINA	control	4 meses
## 48	Arya	F	OXITOCINA	reflejo	4 meses
## 49	Daphne	F	SALINA	control	1 semana
## 50	Daphne	F	SALINA	reflejo	1 semana
## 51	Daphne	F	SALINA	reflejo	4 meses

## 52	Daphne	F	SALINA	control	4 meses
## 53	Galia	F	SALINA	control	1 semana
## 54	Galia	F	SALINA	reflejo	1 semana
## 55	Galia	F	SALINA	reflejo	4 meses
## 56	Galia	F	SALINA	control	4 meses
## 57	Storm	F	OXITOCINA	reflejo	1 semana
## 58	Storm	F	OXITOCINA	control	1 semana
## 59	Storm	F	OXITOCINA	control	4 meses
## 60	Storm	F	OXITOCINA	reflejo	4 meses
## 61	Hercules	M	OXITOCINA	control	1 semana
## 62	Hercules	M	OXITOCINA	reflejo	1 semana
## 63	Hercules	M	OXITOCINA	reflejo	4 meses
## 64	Hercules	M	OXITOCINA	control	4 meses
## 65	Gadget	M	SALINA	control	1 semana
## 66	Gadget	M	SALINA	reflejo	1 semana
## 67	Gadget	M	SALINA	reflejo	4 meses
## 68	Gadget	M	SALINA	control	4 meses
## 69	Odin	M	OXITOCINA	control	1 semana
## 70	Odin	M	OXITOCINA	reflejo	1 semana
## 71	Odin	M	OXITOCINA	reflejo	4 meses
## 72	Odin	M	OXITOCINA	control	4 meses
## 73	Snoopy	M	SALINA	reflejo	1 semana
## 74	Snoopy	M	SALINA	control	1 semana
## 75	Snoopy	M	SALINA	control	4 meses
## 76	Snoopy	M	SALINA	reflejo	4 meses
## 77	Spike	M	SALINA	control	1 semana
## 78	Spike	M	SALINA	reflejo	1 semana
## 79	Homero	M	SALINA	reflejo	1 semana
## 80	Homero	M	SALINA	control	1 semana
## 81	Homero	M	SALINA	control	4 meses
## 82	Homero	M	SALINA	reflejo	4 meses
## 83	Yogi (G)	M	OXITOCINA	reflejo	1 semana
## 84	Yogi (G)	M	OXITOCINA	control	1 semana
## 85	Yogi (G)	M	OXITOCINA	control	4 meses
## 86	Yogi (G)	M	OXITOCINA	reflejo	4 meses
## 87	Batman	M	OXITOCINA	reflejo	1 semana
## 88	Batman	M	OXITOCINA	control	1 semana
## 89	Batman	M	OXITOCINA	control	4 meses
## 90	Batman	M	OXITOCINA	reflejo	4 meses
## 91	Scooby	M	SALINA	control	1 semana
## 92	Scooby	M	SALINA	reflejo	1 semana
## 93	Scooby	M	SALINA	reflejo	4 meses
## 94	Scooby	M	SALINA	control	4 meses
## 95	Popcorn	M	OXITOCINA	reflejo	1 semana
## 96	Popcorn	M	OXITOCINA	control	1 semana
## 97	Popcorn	M	OXITOCINA	control	4 meses
## 98	Popcorn	M	OXITOCINA	reflejo	4 meses
## 99	Robin	M	SALINA	control	1 semana
## 100	Robin	M	SALINA	reflejo	1 semana
## 101	Robin	M	SALINA	reflejo	4 meses
## 102	Robin	M	SALINA	control	4 meses
## 103	Wasabi	M	OXITOCINA	control	1 semana

## 104	Wasabi	M	OXITOCINA	reflejo	1 semana
## 105	Wasabi	M	OXITOCINA	reflejo	4 meses
## 106	Wasabi	M	OXITOCINA	control	4 meses
## 107	Rocket	M	SALINA	control	1 semana
## 108	Rocket	M	SALINA	reflejo	1 semana
## 109	Rocket	M	SALINA	reflejo	4 meses
## 110	Rocket	M	SALINA	control	4 meses
## 111	Moose	M	OXITOCINA	reflejo	1 semana
## 112	Moose	M	OXITOCINA	control	1 semana
## 113	Moose	M	OXITOCINA	control	4 meses
## 114	Moose	M	OXITOCINA	reflejo	4 meses
##	Tiempo.en.Proximidad.con.el.espejo..d. Proximidad.con.el.espejo..f.				
## 1				122	3
## 2				75	4
## 3				116	5
## 4				136	3
## 5				140	9
## 6				99	9
## 7				111	13
## 8				119	15
## 9				138	8
## 10				104	2
## 11				65	6
## 12				68	8
## 13				107	5
## 14				166	7
## 15				168	4
## 16				163	10
## 17				8	2
## 18				115	5
## 19				192	4
## 20				48	3
## 21				185	9
## 22				283	2
## 23				107	6
## 24				60	3
## 25				127	8
## 26				81	4
## 27				113	5
## 28				100	7
## 29				180	6
## 30				199	5
## 31				116	7
## 32				48	4
## 33				95	6
## 34				31	2
## 35				111	4
## 36				135	3
## 37				199	5
## 38				188	3
## 39				14	4
## 40				94	3

## 41	104	6
## 42	57	2
## 43	76	11
## 44	35	2
## 45	236	1
## 46	53	2
## 47	61	3
## 48	111	4
## 49	41	1
## 50	84	12
## 51	83	7
## 52	60	7
## 53	142	4
## 54	254	3
## 55	88	4
## 56	64	3
## 57	145	9
## 58	121	8
## 59	18	2
## 60	125	8
## 61	109	3
## 62	168	4
## 63	159	10
## 64	110	6
## 65	112	3
## 66	165	9
## 67	87	5
## 68	83	3
## 69	193	3
## 70	183	5
## 71	81	11
## 72	290	1
## 73	201	4
## 74	117	3
## 75	42	2
## 76	136	4
## 77	257	1
## 78	161	9
## 79	102	5
## 80	90	2
## 81	78	3
## 82	32	4
## 83	168	4
## 84	191	3
## 85	142	2
## 86	162	6
## 87	120	9
## 88	0	0
## 89	89	3
## 90	109	15
## 91	36	2
## 92	176	6

## 93	73	5
## 94	82	5
## 95	144	9
## 96	145	2
## 97	50	3
## 98	54	4
## 99	214	3
## 100	54	3
## 101	212	3
## 102	36	2
## 103	249	3
## 104	75	4
## 105	65	4
## 106	103	6
## 107	258	2
## 108	89	13
## 109	76	10
## 110	81	14
## 111	216	3
## 112	237	4
## 113	0	0
## 114	115	6
##	Tiempo.en.proximidad.con.la.pareja..d. Proximidad.con.la.pareja.f.	
## 1	12	1
## 2	6	3
## 3	18	2
## 4	20	3
## 5	68	12
## 6	24	4
## 7	8	2
## 8	18	5
## 9	70	10
## 10	166	2
## 11	26	3
## 12	34	12
## 13	28	5
## 14	13	2
## 15	18	5
## 16	33	7
## 17	34	6
## 18	20	5
## 19	7	2
## 20	51	6
## 21	74	5
## 22	12	1
## 23	19	5
## 24	32	5
## 25	58	4
## 26	0	0
## 27	14	3
## 28	32	5
## 29	77	4

## 30	87	8
## 31	86	13
## 32	9	3
## 33	7	2
## 34	32	3
## 35	26	3
## 36	36	4
## 37	3	1
## 38	1	1
## 39	25	3
## 40	17	3
## 41	52	7
## 42	11	1
## 43	53	14
## 44	13	2
## 45	47	3
## 46	19	1
## 47	33	8
## 48	29	3
## 49	45	3
## 50	33	7
## 51	36	6
## 52	14	2
## 53	22	3
## 54	42	5
## 55	11	3
## 56	1	1
## 57	43	8
## 58	3	1
## 59	0	0
## 60	97	7
## 61	41	5
## 62	41	6
## 63	6	3
## 64	27	4
## 65	13	3
## 66	34	9
## 67	39	6
## 68	54	6
## 69	4	3
## 70	11	5
## 71	14	5
## 72	7	1
## 73	62	5
## 74	79	7
## 75	19	5
## 76	45	4
## 77	0	0
## 78	10	4
## 79	40	8
## 80	21	5
## 81	27	5

## 82	10	5
## 83	7	3
## 84	13	3
## 85	8	3
## 86	26	4
## 87	9	3
## 88	0	0
## 89	22	22
## 90	9	5
## 91	52	5
## 92	27	8
## 93	22	3
## 94	31	6
## 95	22	4
## 96	0	0
## 97	1	1
## 98	5	1
## 99	63	5
## 100	2	2
## 101	3	2
## 102	116	4
## 103	24	2
## 104	24	2
## 105	11	3
## 106	27	6
## 107	0	0
## 108	0	0
## 109	7	2
## 110	16	5
## 111	22	5
## 112	8	2
## 113	16	1
## 114	51	12
##	Sujeto.se.alej.a.de.su.pareja..f. Movimiento...d. Movimiento..f.	
## 1	2	20
## 2	3	19
## 3	1	23
## 4	1	13
## 5	11	28
## 6	3	24
## 7	1	29
## 8	6	32
## 9	7	24
## 10	0	3
## 11	3	25
## 12	6	27
## 13	2	21
## 14	3	17
## 15	2	19
## 16	1	26
## 17	2	19
## 18	4	12



## 19	3	2	13
## 20	4	66	13
## 21	2	77	18
## 22	1	15	5
## 23	4	70	22
## 24	7	88	24
## 25	4	105	29
## 26	NA	54	18
## 27	1	55	19
## 28	4	77	23
## 29	1	61	17
## 30	0	20	6
## 31	6	87	27
## 32	1	86	18
## 33	0	63	19
## 34	2	76	24
## 35	0	42	13
## 36	1	55	17
## 37	0	46	16
## 38	0	26	9
## 39	3	69	17
## 40	0	57	21
## 41	4	92	30
## 42	0	48	17
## 43	11	155	40
## 44	2	95	30
## 45	1	16	6
## 46	1	62	20
## 47	3	74	27
## 48	3	61	19
## 49	2	39	15
## 50	8	145	31
## 51	8	15	5
## 52	2	111	29
## 53	3	38	13
## 54	4	15	5
## 55	1	51	15
## 56	1	25	8
## 57	NA	83	23
## 58	2	82	19
## 59	0	94	19
## 60	7	114	27
## 61	1	21	11
## 62	1	26	10
## 63	0	64	27
## 64	2	32	17
## 65	0	47	11
## 66	4	56	25
## 67	5	34	15
## 68	2	37	24
## 69	1	39	12
## 70	3	21	11

## 71	1	60	25
## 72	1	4	3
## 73	5	76	15
## 74	3	33	17
## 75	2	27	13
## 76	1	21	10
## 77	0	9	4
## 78	3	90	24
## 79	0	44	16
## 80	2	26	12
## 81	2	48	18
## 82	1	69	27
## 83	1	24	9
## 84	2	16	9
## 85	4	56	15
## 86	1	36	19
## 87	6	51	29
## 88	0	1	1
## 89	2	39	13
## 90	7	121	45
## 91	1	21	8
## 92	1	45	21
## 93	3	70	21
## 94	3	59	24
## 95	2	83	22
## 96	1	17	6
## 97	2	40	21
## 98	2	56	17
## 99	1	36	11
## 100	2	37	16
## 101	2	23	10
## 102	3	40	17
## 103	0	22	12
## 104	2	45	19
## 105	2	40	19
## 106	3	58	22
## 107	0	11	5
## 108	2	103	36
## 109	5	251	31
## 110	3	85	38
## 111	1	16	10
## 112	3	20	10
## 113	0	0	0
## 114	5	64	27

```
AMM=prueba_del_espejo
```

Mostramos titulos, dimensiones

```
head(AMM)
```

```
## Sujeto Sexo Tratamiento Condición Tiempo.post.emparejamiento
## 1 Nala F OXITOCINA reflejo 1 semana
## 2 Nala F OXITOCINA control 1 semana
## 3 Nala F OXITOCINA control 4 meses
## 4 Nala F OXITOCINA reflejo 4 meses
## 5 Willow F SALINA reflejo 1 semana
## 6 Willow F SALINA control 1 semana
## Tiempo.en.Proximidad.con.el.espejo..d. Proximidad.con.el.espejo..f.
## 1 122 3
## 2 75 4
## 3 116 5
## 4 136 3
## 5 140 9
## 6 99 9
## Tiempo.en.proximidad.con.la.pareja..d. Proximidad.con.la.pareja.f.
## 1 12 1
## 2 6 3
## 3 18 2
## 4 20 3
## 5 68 12
## 6 24 4
## Sujeto.se.aleja.de.su.pareja..f. Movimiento..d. Movimiento..f.
## 1 2 62 20
## 2 3 52 19
## 3 1 80 23
## 4 1 43 13
## 5 11 81 28
## 6 3 94 24
```

```
dim(AMM)
```

```
## [1] 114 12
```

```
str(AMM)
```

```
## 'data.frame': 114 obs. of 12 variables:
## $ Sujeto : chr "Nala" "Nala" "Nala" "Nala" ...
## $ Sexo : chr "F" "F" "F" "F" ...
## $ Tratamiento : chr "OXITOCINA" "OXITOCINA" "OXITOCINA" "OXITOCIN
A" ...
## $ Condición : chr "reflejo" "control" "control" "reflejo" ...
## $ Tiempo.post.emparejamiento : chr "1 semana" "1 semana" "4 meses" "4 meses" ...
## $ Tiempo.en.Proximidad.con.el.espejo..d.: int 122 75 116 136 140 99 111 119 138 104 ...
## $ Proximidad.con.el.espejo..f. : int 3 4 5 3 9 9 13 15 8 2 ...
## $ Tiempo.en.proximidad.con.la.pareja..d.: int 12 6 18 20 68 24 8 18 70 166 ...
## $ Proximidad.con.la.pareja.f. : int 1 3 2 3 12 4 2 5 10 2 ...
## $ Sujeto.se.aleja.de.su.pareja..f. : int 2 3 1 1 11 3 1 6 7 0 ...
## $ Movimiento..d. : int 62 52 80 43 81 94 109 125 86 10 ...
## $ Movimiento..f. : int 20 19 23 13 28 24 29 32 24 3 ...
```

```
anyNA(AMM)
```

```
## [1] TRUE
```

Calculo de la matriz distancia de mahalonobis

```
dist.AMM<-dist(AMM[,1:6])
```

```
## Warning in dist(AMM[, 1:6]): NAs introducidos por coerción
```

```
dist.AMM
```

##	1	2	3	4	5	6
## 2	115.126018					
## 3	14.696938	100.429079				
## 4	34.292856	149.418874	48.989795			
## 5	44.090815	159.216833	58.787754	9.797959		
## 6	56.338264	58.787754	41.641326	90.631120	100.429079	
## 7	26.944387	88.181631	12.247449	61.237244	71.035203	29.393877
## 8	7.348469	107.777549	7.348469	41.641326	51.439285	48.989795
## 9	39.191836	154.317854	53.888774	4.898979	4.898979	95.530100
## 10	44.090815	71.035203	29.393877	78.383672	88.181631	12.247449
## 11	139.620915	24.494897	124.923977	173.913772	183.711731	83.282651
## 12	132.272446	17.146428	117.575508	166.565303	176.363261	75.934182
## 13	36.742346	78.383672	22.045408	71.035203	80.833162	19.595918
## 14	107.777549	222.903567	122.474487	73.484692	63.686733	164.115813
## 15	112.676528	227.802546	127.373467	78.383672	68.585713	169.014792
## 16	100.429079	215.555097	115.126018	66.136223	56.338264	156.767344
## 17	279.241831	164.115813	264.544892	313.534687	323.332646	222.903567
## 18	17.146428	97.979590	2.449490	51.439285	61.237244	39.191836
## 19	171.464282	286.590300	186.161220	137.171426	127.373467	227.802546
## 20	181.262241	66.136223	166.565303	215.555097	225.353056	124.923977
## 21	154.317854	269.443872	169.014792	120.024997	110.227038	210.656118
## 22	394.367849	509.493866	409.064787	360.074992	350.277033	450.706113
## 23	36.742346	78.383672	22.045408	71.035203	80.833162	19.595918
## 24	151.868364	36.742346	137.171426	186.161220	195.959179	95.530100
## 25	12.247449	127.373467	26.944387	22.045408	31.843367	68.585713
## 26	100.429079	14.696938	85.732141	134.721936	144.519895	44.090815
## 27	22.045408	93.080610	7.348469	56.338264	66.136223	34.292856
## 28	53.888774	61.237244	39.191836	88.181631	97.979590	2.449490
## 29	142.070405	257.196423	156.767344	107.777549	97.979590	198.408669
## 30	188.610710	303.736728	203.307649	154.317854	144.519895	244.948974
## 31	14.696938	100.429079	0.000000	48.989795	58.787754	41.641326
## 32	181.262241	66.136223	166.565303	215.555097	225.353056	124.923977
## 33	66.136223	48.989795	51.439285	100.429079	110.227038	9.797959
## 34	222.903567	107.777549	208.206628	257.196423	266.994382	166.565303
## 35	26.944387	88.181631	12.247449	61.237244	71.035203	29.393877
## 36	31.843367	146.969385	46.540305	2.449490	12.247449	88.181631
## 37	188.610710	303.736728	203.307649	154.317854	144.519895	244.948974
## 38	161.666323	276.792341	176.363261	127.373467	117.575508	218.004587
## 39	264.544892	149.418874	249.847954	298.837749	308.635708	208.206628
## 40	68.585713	46.540305	53.888774	102.878569	112.676528	12.247449
## 41	44.090815	71.035203	29.393877	78.383672	88.181631	12.247449
## 42	159.216833	44.090815	144.519895	193.509690	203.307649	102.878569
## 43	112.676528	2.449490	97.979590	146.969385	156.767344	56.338264
## 44	213.105608	97.979590	198.408669	247.398464	257.196423	156.767344
## 45	279.241831	394.367849	293.938769	244.948974	235.151015	335.580095
## 46	169.014792	53.888774	154.317854	203.307649	213.105608	112.676528
## 47	149.418874	34.292856	134.721936	183.711731	193.509690	93.080610
## 48	26.944387	88.181631	12.247449	61.237244	71.035203	29.393877
## 49	198.408669	83.282651	183.711731	232.701526	242.499485	142.070405
## 50	93.080610	22.045408	78.383672	127.373467	137.171426	36.742346
## 51	95.530100	19.595918	80.833162	129.822956	139.620915	39.191836
## 52	151.868364	36.742346	137.171426	186.161220	195.959179	95.530100

## 53	48.989795	164.115813	63.686733	14.696938	4.898979	105.328059
## 54	323.332646	438.458664	338.029585	289.039790	279.241831	379.670910
## 55	83.282651	31.843367	68.585713	117.575508	127.373467	26.944387
## 56	142.070405	26.944387	127.373467	176.363261	186.161220	85.732141
## 57	56.338264	171.464282	71.035203	22.045408	12.247449	112.676528
## 58	2.449490	112.676528	12.247449	36.742346	46.540305	53.888774
## 59	254.746933	139.620915	240.049995	289.039790	298.837749	198.408669
## 60	7.348469	122.474487	22.045408	26.944387	36.742346	63.686733
## 61	31.843367	83.282651	17.146428	66.136223	75.934182	24.494897
## 62	112.676528	227.802546	127.373467	78.383672	68.585713	169.014792
## 63	90.631120	205.757138	105.328059	56.338264	46.540305	146.969385
## 64	29.393877	85.732141	14.696938	63.686733	73.484692	26.944387
## 65	24.494897	90.631120	9.797959	58.787754	68.585713	31.843367
## 66	105.328059	220.454077	120.024997	71.035203	61.237244	161.666323
## 67	85.732141	29.393877	71.035203	120.024997	129.822956	29.393877
## 68	95.530100	19.595918	80.833162	129.822956	139.620915	39.191836
## 69	173.913772	289.039790	188.610710	139.620915	129.822956	230.252036
## 70	149.418874	264.544892	164.115813	115.126018	105.328059	205.757138
## 71	100.429079	14.696938	85.732141	134.721936	144.519895	44.090815
## 72	411.514277	526.640295	426.211215	377.221420	367.423461	467.852541
## 73	193.509690	308.635708	208.206628	159.216833	149.418874	249.847954
## 74	12.247449	102.878569	2.449490	46.540305	56.338264	44.090815
## 75	195.959179	80.833162	181.262241	230.252036	240.049995	139.620915
## 76	34.292856	149.418874	48.989795	0.000000	9.797959	90.631120
## 77	330.681115	445.807133	345.378054	296.388259	286.590300	387.019379
## 78	95.530100	210.656118	110.227038	61.237244	51.439285	151.868364
## 79	48.989795	66.136223	34.292856	83.282651	93.080610	7.348469
## 80	78.383672	36.742346	63.686733	112.676528	122.474487	22.045408
## 81	107.777549	7.348469	93.080610	142.070405	151.868364	51.439285
## 82	220.454077	105.328059	205.757138	254.746933	264.544892	164.115813
## 83	112.676528	227.802546	127.373467	78.383672	68.585713	169.014792
## 84	169.014792	284.140810	183.711731	134.721936	124.923977	225.353056
## 85	48.989795	164.115813	63.686733	14.696938	4.898979	105.328059
## 86	97.979590	213.105608	112.676528	63.686733	53.888774	154.317854
## 87	4.898979	110.227038	9.797959	39.191836	48.989795	51.439285
## 88	298.837749	183.711731	284.140810	333.130605	342.928564	242.499485
## 89	80.833162	34.292856	66.136223	115.126018	124.923977	24.494897
## 90	31.843367	83.282651	17.146428	66.136223	75.934182	24.494897
## 91	210.656118	95.530100	195.959179	244.948974	254.746933	154.317854
## 92	132.272446	247.398464	146.969385	97.979590	88.181631	188.610710
## 93	120.024997	4.898979	105.328059	154.317854	164.115813	63.686733
## 94	97.979590	17.146428	83.282651	132.272446	142.070405	41.641326
## 95	53.888774	169.014792	68.585713	19.595918	9.797959	110.227038
## 96	56.338264	171.464282	71.035203	22.045408	12.247449	112.676528
## 97	176.363261	61.237244	161.666323	210.656118	220.454077	120.024997
## 98	166.565303	51.439285	151.868364	200.858159	210.656118	110.227038
## 99	225.353056	340.479074	240.049995	191.060200	181.262241	281.691320
## 100	166.565303	51.439285	151.868364	200.858159	210.656118	110.227038
## 101	220.454077	335.580095	235.151015	186.161220	176.363261	276.792341
## 102	210.656118	95.530100	195.959179	244.948974	254.746933	154.317854
## 103	311.085197	426.211215	325.782136	276.792341	266.994382	367.423461
## 104	115.126018	0.000000	100.429079	149.418874	159.216833	58.787754

## 105	139.620915	24.494897	124.923977	173.913772	183.711731	83.282651
## 106	46.540305	68.585713	31.843367	80.833162	90.631120	9.797959
## 107	333.130605	448.256623	347.827543	298.837749	289.039790	389.468869
## 108	80.833162	34.292856	66.136223	115.126018	124.923977	24.494897
## 109	112.676528	2.449490	97.979590	146.969385	156.767344	56.338264
## 110	100.429079	14.696938	85.732141	134.721936	144.519895	44.090815
## 111	230.252036	345.378054	244.948974	195.959179	186.161220	286.590300
## 112	281.691320	396.817338	296.388259	247.398464	237.600505	338.029585
## 113	298.837749	183.711731	284.140810	333.130605	342.928564	242.499485
## 114	17.146428	97.979590	2.449490	51.439285	61.237244	39.191836
##	7	8	9	10	11	12
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## 8	19.595918					
## 9	66.136223	46.540305				
## 10	17.146428	36.742346	83.282651			
## 11	112.676528	132.272446	178.812751	95.530100		
## 12	105.328059	124.923977	171.464282	88.181631	7.348469	
## 13	9.797959	29.393877	75.934182	7.348469	102.878569	95.530100
## 14	134.721936	115.126018	68.585713	151.868364	247.398464	240.049995
## 15	139.620915	120.024997	73.484692	156.767344	252.297444	244.948974
## 16	127.373467	107.777549	61.237244	144.519895	240.049995	232.701526
## 17	252.297444	271.893361	318.433667	235.151015	139.620915	146.969385
## 18	9.797959	9.797959	56.338264	26.944387	122.474487	115.126018
## 19	198.408669	178.812751	132.272446	215.555097	311.085197	303.736728
## 20	154.317854	173.913772	220.454077	137.171426	41.641326	48.989795
## 21	181.262241	161.666323	115.126018	198.408669	293.938769	286.590300
## 22	421.312236	401.716318	355.176013	438.458664	533.988764	526.640295
## 23	9.797959	29.393877	75.934182	7.348469	102.878569	95.530100
## 24	124.923977	144.519895	191.060200	107.777549	12.247449	19.595918
## 25	39.191836	19.595918	26.944387	56.338264	151.868364	144.519895
## 26	73.484692	93.080610	139.620915	56.338264	39.191836	31.843367
## 27	4.898979	14.696938	61.237244	22.045408	117.575508	110.227038
## 28	26.944387	46.540305	93.080610	9.797959	85.732141	78.383672
## 29	169.014792	149.418874	102.878569	186.161220	281.691320	274.342851
## 30	215.555097	195.959179	149.418874	232.701526	328.231626	320.883156
## 31	12.247449	7.348469	53.888774	29.393877	124.923977	117.575508
## 32	154.317854	173.913772	220.454077	137.171426	41.641326	48.989795
## 33	39.191836	58.787754	105.328059	22.045408	73.484692	66.136223
## 34	195.959179	215.555097	262.095402	178.812751	83.282651	90.631120
## 35	0.000000	19.595918	66.136223	17.146428	112.676528	105.328059
## 36	58.787754	39.191836	7.348469	75.934182	171.464282	164.115813
## 37	215.555097	195.959179	149.418874	232.701526	328.231626	320.883156
## 38	188.610710	169.014792	122.474487	205.757138	301.287238	293.938769
## 39	237.600505	257.196423	303.736728	220.454077	124.923977	132.272446
## 40	41.641326	61.237244	107.777549	24.494897	71.035203	63.686733
## 41	17.146428	36.742346	83.282651	0.000000	95.530100	88.181631
## 42	132.272446	151.868364	198.408669	115.126018	19.595918	26.944387

## 43	85.732141	105.328059	151.868364	68.585713	26.944387	19.595918
## 44	186.161220	205.757138	252.297444	169.014792	73.484692	80.833162
## 45	306.186218	286.590300	240.049995	323.332646	418.862746	411.514277
## 46	142.070405	161.666323	208.206628	124.923977	29.393877	36.742346
## 47	122.474487	142.070405	188.610710	105.328059	9.797959	17.146428
## 48	0.000000	19.595918	66.136223	17.146428	112.676528	105.328059
## 49	171.464282	191.060200	237.600505	154.317854	58.787754	66.136223
## 50	66.136223	85.732141	132.272446	48.989795	46.540305	39.191836
## 51	68.585713	88.181631	134.721936	51.439285	44.090815	36.742346
## 52	124.923977	144.519895	191.060200	107.777549	12.247449	19.595918
## 53	75.934182	56.338264	9.797959	93.080610	188.610710	181.262241
## 54	350.277033	330.681115	284.140810	367.423461	462.953561	455.605092
## 55	56.338264	75.934182	122.474487	39.191836	56.338264	48.989795
## 56	115.126018	134.721936	181.262241	97.979590	2.449490	9.797959
## 57	83.282651	63.686733	17.146428	100.429079	195.959179	188.610710
## 58	24.494897	4.898979	41.641326	41.641326	137.171426	129.822956
## 59	227.802546	247.398464	293.938769	210.656118	115.126018	122.474487
## 60	34.292856	14.696938	31.843367	51.439285	146.969385	139.620915
## 61	4.898979	24.494897	71.035203	12.247449	107.777549	100.429079
## 62	139.620915	120.024997	73.484692	156.767344	252.297444	244.948974
## 63	117.575508	97.979590	51.439285	134.721936	230.252036	222.903567
## 64	2.449490	22.045408	68.585713	14.696938	110.227038	102.878569
## 65	2.449490	17.146428	63.686733	19.595918	115.126018	107.777549
## 66	132.272446	112.676528	66.136223	149.418874	244.948974	237.600505
## 67	58.787754	78.383672	124.923977	41.641326	53.888774	46.540305
## 68	68.585713	88.181631	134.721936	51.439285	44.090815	36.742346
## 69	200.858159	181.262241	134.721936	218.004587	313.534687	306.186218
## 70	176.363261	156.767344	110.227038	193.509690	289.039790	281.691320
## 71	73.484692	93.080610	139.620915	56.338264	39.191836	31.843367
## 72	438.458664	418.862746	372.322441	455.605092	551.135192	543.786723
## 73	220.454077	200.858159	154.317854	237.600505	333.130605	325.782136
## 74	14.696938	4.898979	51.439285	31.843367	127.373467	120.024997
## 75	169.014792	188.610710	235.151015	151.868364	56.338264	63.686733
## 76	61.237244	41.641326	4.898979	78.383672	173.913772	166.565303
## 77	357.625502	338.029585	291.489279	374.771931	470.302031	462.953561
## 78	122.474487	102.878569	56.338264	139.620915	235.151015	227.802546
## 79	22.045408	41.641326	88.181631	4.898979	90.631120	83.282651
## 80	51.439285	71.035203	117.575508	34.292856	61.237244	53.888774
## 81	80.833162	100.429079	146.969385	63.686733	31.843367	24.494897
## 82	193.509690	213.105608	259.645913	176.363261	80.833162	88.181631
## 83	139.620915	120.024997	73.484692	156.767344	252.297444	244.948974
## 84	195.959179	176.363261	129.822956	213.105608	308.635708	301.287238
## 85	75.934182	56.338264	9.797959	93.080610	188.610710	181.262241
## 86	124.923977	105.328059	58.787754	142.070405	237.600505	230.252036
## 87	22.045408	2.449490	44.090815	39.191836	134.721936	127.373467
## 88	271.893361	291.489279	338.029585	254.746933	159.216833	166.565303
## 89	53.888774	73.484692	120.024997	36.742346	58.787754	51.439285
## 90	4.898979	24.494897	71.035203	12.247449	107.777549	100.429079
## 91	183.711731	203.307649	249.847954	166.565303	71.035203	78.383672
## 92	159.216833	139.620915	93.080610	176.363261	271.893361	264.544892
## 93	93.080610	112.676528	159.216833	75.934182	19.595918	12.247449
## 94	71.035203	90.631120	137.171426	53.888774	41.641326	34.292856



## 95	80.833162	61.237244	14.696938	97.979590	193.509690	186.161220
## 96	83.282651	63.686733	17.146428	100.429079	195.959179	188.610710
## 97	149.418874	169.014792	215.555097	132.272446	36.742346	44.090815
## 98	139.620915	159.216833	205.757138	122.474487	26.944387	34.292856
## 99	252.297444	232.701526	186.161220	269.443872	364.973972	357.625502
## 100	139.620915	159.216833	205.757138	122.474487	26.944387	34.292856
## 101	247.398464	227.802546	181.262241	264.544892	360.074992	352.726523
## 102	183.711731	203.307649	249.847954	166.565303	71.035203	78.383672
## 103	338.029585	318.433667	271.893361	355.176013	450.706113	443.357643
## 104	88.181631	107.777549	154.317854	71.035203	24.494897	17.146428
## 105	112.676528	132.272446	178.812751	95.530100	0.000000	7.348469
## 106	19.595918	39.191836	85.732141	2.449490	93.080610	85.732141
## 107	360.074992	340.479074	293.938769	377.221420	472.751520	465.403051
## 108	53.888774	73.484692	120.024997	36.742346	58.787754	51.439285
## 109	85.732141	105.328059	151.868364	68.585713	26.944387	19.595918
## 110	73.484692	93.080610	139.620915	56.338264	39.191836	31.843367
## 111	257.196423	237.600505	191.060200	274.342851	369.872951	362.524482
## 112	308.635708	289.039790	242.499485	325.782136	421.312236	413.963767
## 113	271.893361	291.489279	338.029585	254.746933	159.216833	166.565303
## 114	9.797959	9.797959	56.338264	26.944387	122.474487	115.126018
##	13	14	15	16	17	18
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## 13						
## 14	144.519895					
## 15	149.418874	4.898979				
## 16	137.171426	7.348469	12.247449			
## 17	242.499485	387.019379	391.918359	379.670910		
## 18	19.595918	124.923977	129.822956	117.575508	262.095402	
## 19	208.206628	63.686733	58.787754	71.035203	450.706113	188.610710
## 20	144.519895	289.039790	293.938769	281.691320	97.979590	164.115813
## 21	191.060200	46.540305	41.641326	53.888774	433.559684	171.464282
## 22	431.110195	286.590300	281.691320	293.938769	673.609679	411.514277
## 23	0.000000	144.519895	149.418874	137.171426	242.499485	19.595918
## 24	115.126018	259.645913	264.544892	252.297444	127.373467	134.721936
## 25	48.989795	95.530100	100.429079	88.181631	291.489279	29.393877
## 26	63.686733	208.206628	213.105608	200.858159	178.812751	83.282651
## 27	14.696938	129.822956	134.721936	122.474487	257.196423	4.898979
## 28	17.146428	161.666323	166.565303	154.317854	225.353056	36.742346
## 29	178.812751	34.292856	29.393877	41.641326	421.312236	159.216833
## 30	225.353056	80.833162	75.934182	88.181631	467.852541	205.757138
## 31	22.045408	122.474487	127.373467	115.126018	264.544892	2.449490
## 32	144.519895	289.039790	293.938769	281.691320	97.979590	164.115813

## 33	29.393877	173.913772	178.812751	166.565303	213.105608	48.989795
## 34	186.161220	330.681115	335.580095	323.332646	56.338264	205.757138
## 35	9.797959	134.721936	139.620915	127.373467	252.297444	9.797959
## 36	68.585713	75.934182	80.833162	68.585713	311.085197	48.989795
## 37	225.353056	80.833162	75.934182	88.181631	467.852541	205.757138
## 38	198.408669	53.888774	48.989795	61.237244	440.908154	178.812751
## 39	227.802546	372.322441	377.221420	364.973972	14.696938	247.398464
## 40	31.843367	176.363261	181.262241	169.014792	210.656118	51.439285
## 41	7.348469	151.868364	156.767344	144.519895	235.151015	26.944387
## 42	122.474487	266.994382	271.893361	259.645913	120.024997	142.070405
## 43	75.934182	220.454077	225.353056	213.105608	166.565303	95.530100
## 44	176.363261	320.883156	325.782136	313.534687	66.136223	195.959179
## 45	315.984177	171.464282	166.565303	178.812751	558.483661	296.388259
## 46	132.272446	276.792341	281.691320	269.443872	110.227038	151.868364
## 47	112.676528	257.196423	262.095402	249.847954	129.822956	132.272446
## 48	9.797959	134.721936	139.620915	127.373467	252.297444	9.797959
## 49	161.666323	306.186218	311.085197	298.837749	80.833162	181.262241
## 50	56.338264	200.858159	205.757138	193.509690	186.161220	75.934182
## 51	58.787754	203.307649	208.206628	195.959179	183.711731	78.383672
## 52	115.126018	259.645913	264.544892	252.297444	127.373467	134.721936
## 53	85.732141	58.787754	63.686733	51.439285	328.231626	66.136223
## 54	360.074992	215.555097	210.656118	222.903567	602.574477	340.479074
## 55	46.540305	191.060200	195.959179	183.711731	195.959179	66.136223
## 56	105.328059	249.847954	254.746933	242.499485	137.171426	124.923977
## 57	93.080610	51.439285	56.338264	44.090815	335.580095	73.484692
## 58	34.292856	110.227038	115.126018	102.878569	276.792341	14.696938
## 59	218.004587	362.524482	367.423461	355.176013	24.494897	237.600505
## 60	44.090815	100.429079	105.328059	93.080610	286.590300	24.494897
## 61	4.898979	139.620915	144.519895	132.272446	247.398464	14.696938
## 62	149.418874	4.898979	0.000000	12.247449	391.918359	129.822956
## 63	127.373467	17.146428	22.045408	9.797959	369.872951	107.777549
## 64	7.348469	137.171426	142.070405	129.822956	249.847954	12.247449
## 65	12.247449	132.272446	137.171426	124.923977	254.746933	7.348469
## 66	142.070405	2.449490	7.348469	4.898979	384.569890	122.474487
## 67	48.989795	193.509690	198.408669	186.161220	193.509690	68.585713
## 68	58.787754	203.307649	208.206628	195.959179	183.711731	78.383672
## 69	210.656118	66.136223	61.237244	73.484692	453.155602	191.060200
## 70	186.161220	41.641326	36.742346	48.989795	428.660705	166.565303
## 71	63.686733	208.206628	213.105608	200.858159	178.812751	83.282651
## 72	448.256623	303.736728	298.837749	311.085197	690.756107	428.660705
## 73	230.252036	85.732141	80.833162	93.080610	472.751520	210.656118
## 74	24.494897	120.024997	124.923977	112.676528	266.994382	4.898979
## 75	159.216833	303.736728	308.635708	296.388259	83.282651	178.812751
## 76	71.035203	73.484692	78.383672	66.136223	313.534687	51.439285
## 77	367.423461	222.903567	218.004587	230.252036	609.922946	347.827543
## 78	132.272446	12.247449	17.146428	4.898979	374.771931	112.676528
## 79	12.247449	156.767344	161.666323	149.418874	230.252036	31.843367
## 80	41.641326	186.161220	191.060200	178.812751	200.858159	61.237244
## 81	71.035203	215.555097	220.454077	208.206628	171.464282	90.631120
## 82	183.711731	328.231626	333.130605	320.883156	58.787754	203.307649
## 83	149.418874	4.898979	0.000000	12.247449	391.918359	129.822956
## 84	205.757138	61.237244	56.338264	68.585713	448.256623	186.161220

## 85	85.732141	58.787754	63.686733	51.439285	328.231626	66.136223
## 86	134.721936	9.797959	14.696938	2.449490	377.221420	115.126018
## 87	31.843367	112.676528	117.575508	105.328059	274.342851	12.247449
## 88	262.095402	406.615297	411.514277	399.266828	19.595918	281.691320
## 89	44.090815	188.610710	193.509690	181.262241	198.408669	63.686733
## 90	4.898979	139.620915	144.519895	132.272446	247.398464	14.696938
## 91	173.913772	318.433667	323.332646	311.085197	68.585713	193.509690
## 92	169.014792	24.494897	19.595918	31.843367	411.514277	149.418874
## 93	83.282651	227.802546	232.701526	220.454077	159.216833	102.878569
## 94	61.237244	205.757138	210.656118	198.408669	181.262241	80.833162
## 95	90.631120	53.888774	58.787754	46.540305	333.130605	71.035203
## 96	93.080610	51.439285	56.338264	44.090815	335.580095	73.484692
## 97	139.620915	284.140810	289.039790	276.792341	102.878569	159.216833
## 98	129.822956	274.342851	279.241831	266.994382	112.676528	149.418874
## 99	262.095402	117.575508	112.676528	124.923977	504.594887	242.499485
## 100	129.822956	274.342851	279.241831	266.994382	112.676528	149.418874
## 101	257.196423	112.676528	107.777549	120.024997	499.695908	237.600505
## 102	173.913772	318.433667	323.332646	311.085197	68.585713	193.509690
## 103	347.827543	203.307649	198.408669	210.656118	590.327028	328.231626
## 104	78.383672	222.903567	227.802546	215.555097	164.115813	97.979590
## 105	102.878569	247.398464	252.297444	240.049995	139.620915	122.474487
## 106	9.797959	154.317854	159.216833	146.969385	232.701526	29.393877
## 107	369.872951	225.353056	220.454077	232.701526	612.372436	350.277033
## 108	44.090815	188.610710	193.509690	181.262241	198.408669	63.686733
## 109	75.934182	220.454077	225.353056	213.105608	166.565303	95.530100
## 110	63.686733	208.206628	213.105608	200.858159	178.812751	83.282651
## 111	266.994382	122.474487	117.575508	129.822956	509.493866	247.398464
## 112	318.433667	173.913772	169.014792	181.262241	560.933151	298.837749
## 113	262.095402	406.615297	411.514277	399.266828	19.595918	281.691320
## 114	19.595918	124.923977	129.822956	117.575508	262.095402	0.000000
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## 20	352.726523					
## 21	17.146428	335.580095				
## 22	222.903567	575.630090	240.049995			

## 23 208.206628 144.519895 191.060200 431.110195  
## 24 323.332646 29.393877 306.186218 546.236213 115.126018  
## 25 159.216833 193.509690 142.070405 382.120400 48.989795 164.115813  
## 26 271.893361 80.833162 254.746933 494.796928 63.686733 51.439285  
## 27 193.509690 159.216833 176.363261 416.413256 14.696938 129.822956  
## 28 225.353056 127.373467 208.206628 448.256623 17.146428 97.979590  
## 29 29.393877 323.332646 12.247449 252.297444 178.812751 293.938769  
## 30 17.146428 369.872951 34.292856 205.757138 225.353056 340.479074  
## 31 186.161220 166.565303 169.014792 409.064787 22.045408 137.171426  
## 32 352.726523 0.000000 335.580095 575.630090 144.519895 29.393877  
## 33 237.600505 115.126018 220.454077 460.504072 29.393877 85.732141  
## 34 394.367849 41.641326 377.221420 617.271415 186.161220 71.035203  
## 35 198.408669 154.317854 181.262241 421.312236 9.797959 124.923977  
## 36 139.620915 213.105608 122.474487 362.524482 68.585713 183.711731  
## 37 17.146428 369.872951 34.292856 205.757138 225.353056 340.479074  
## 38 9.797959 342.928564 7.348469 232.701526 198.408669 313.534687  
## 39 436.009174 83.282651 418.862746 658.912741 227.802546 112.676528  
## 40 240.049995 112.676528 222.903567 462.953561 31.843367 83.282651  
## 41 215.555097 137.171426 198.408669 438.458664 7.348469 107.777549  
## 42 330.681115 22.045408 313.534687 553.584682 122.474487 7.348469  
## 43 284.140810 68.585713 266.994382 507.044377 75.934182 39.191836  
## 44 384.569890 31.843367 367.423461 607.473456 176.363261 61.237244  
## 45 107.777549 460.504072 124.923977 115.126018 315.984177 431.110195  
## 46 340.479074 12.247449 323.332646 563.382641 132.272446 17.146428  
## 47 320.883156 31.843367 303.736728 543.786723 112.676528 2.449490  
## 48 198.408669 154.317854 181.262241 421.312236 9.797959 124.923977  
## 49 369.872951 17.146428 352.726523 592.776518 161.666323 46.540305  
## 50 264.544892 88.181631 247.398464 487.448459 56.338264 58.787754  
## 51 266.994382 85.732141 249.847954 489.897949 58.787754 56.338264  
## 52 323.332646 29.393877 306.186218 546.236213 115.126018 0.000000  
## 53 122.474487 230.252036 105.328059 345.378054 85.732141 200.858159  
## 54 151.868364 504.594887 169.014792 71.035203 360.074992 475.201010  
## 55 254.746933 97.979590 237.600505 477.650500 46.540305 68.585713  
## 56 313.534687 39.191836 296.388259 536.438254 105.328059 9.797959  
## 57 115.126018 237.600505 97.979590 338.029585 93.080610 208.206628  
## 58 173.913772 178.812751 156.767344 396.817338 34.292856 149.418874  
## 59 426.211215 73.484692 409.064787 649.114782 218.004587 102.878569  
## 60 164.115813 188.610710 146.969385 387.019379 44.090815 159.216833  
## 61 203.307649 149.418874 186.161220 426.211215 4.898979 120.024997  
## 62 58.787754 293.938769 41.641326 281.691320 149.418874 264.544892  
## 63 80.833162 271.893361 63.686733 303.736728 127.373467 242.499485  
## 64 200.858159 151.868364 183.711731 423.761726 7.348469 122.474487  
## 65 195.959179 156.767344 178.812751 418.862746 12.247449 127.373467  
## 66 66.136223 286.590300 48.989795 289.039790 142.070405 257.196423  
## 67 257.196423 95.530100 240.049995 480.099990 48.989795 66.136223  
## 68 266.994382 85.732141 249.847954 489.897949 58.787754 56.338264  
## 69 2.449490 355.176013 19.595918 220.454077 210.656118 325.782136  
## 70 22.045408 330.681115 4.898979 244.948974 186.161220 301.287238  
## 71 271.893361 80.833162 254.746933 494.796928 63.686733 51.439285  
## 72 240.049995 592.776518 257.196423 17.146428 448.256623 563.382641  
## 73 22.045408 374.771931 39.191836 200.858159 230.252036 345.378054  
## 74 183.711731 169.014792 166.565303 406.615297 24.494897 139.620915

## 75	367.423461	14.696938	350.277033	590.327028	159.216833	44.090815
## 76	137.171426	215.555097	120.024997	360.074992	71.035203	186.161220
## 77	159.216833	511.943356	176.363261	63.686733	367.423461	482.549479
## 78	75.934182	276.792341	58.787754	298.837749	132.272446	247.398464
## 79	220.454077	132.272446	203.307649	443.357643	12.247449	102.878569
## 80	249.847954	102.878569	232.701526	472.751520	41.641326	73.484692
## 81	279.241831	73.484692	262.095402	502.145397	71.035203	44.090815
## 82	391.918359	39.191836	374.771931	614.821925	183.711731	68.585713
## 83	58.787754	293.938769	41.641326	281.691320	149.418874	264.544892
## 84	2.449490	350.277033	14.696938	225.353056	205.757138	320.883156
## 85	122.474487	230.252036	105.328059	345.378054	85.732141	200.858159
## 86	73.484692	279.241831	56.338264	296.388259	134.721936	249.847954
## 87	176.363261	176.363261	159.216833	399.266828	31.843367	146.969385
## 88	470.302031	117.575508	453.155602	693.205597	262.095402	146.969385
## 89	252.297444	100.429079	235.151015	475.201010	44.090815	71.035203
## 90	203.307649	149.418874	186.161220	426.211215	4.898979	120.024997
## 91	382.120400	29.393877	364.973972	605.023966	173.913772	58.787754
## 92	39.191836	313.534687	22.045408	262.095402	169.014792	284.140810
## 93	291.489279	61.237244	274.342851	514.392846	83.282651	31.843367
## 94	269.443872	83.282651	252.297444	492.347438	61.237244	53.888774
## 95	117.575508	235.151015	100.429079	340.479074	90.631120	205.757138
## 96	115.126018	237.600505	97.979590	338.029585	93.080610	208.206628
## 97	347.827543	4.898979	330.681115	570.731110	139.620915	24.494897
## 98	338.029585	14.696938	320.883156	560.933151	129.822956	14.696938
## 99	53.888774	406.615297	71.035203	169.014792	262.095402	377.221420
## 100	338.029585	14.696938	320.883156	560.933151	129.822956	14.696938
## 101	48.989795	401.716318	66.136223	173.913772	257.196423	372.322441
## 102	382.120400	29.393877	364.973972	605.023966	173.913772	58.787754
## 103	139.620915	492.347438	156.767344	83.282651	347.827543	462.953561
## 104	286.590300	66.136223	269.443872	509.493866	78.383672	36.742346
## 105	311.085197	41.641326	293.938769	533.988764	102.878569	12.247449
## 106	218.004587	134.721936	200.858159	440.908154	9.797959	105.328059
## 107	161.666323	514.392846	178.812751	61.237244	369.872951	484.998969
## 108	252.297444	100.429079	235.151015	475.201010	44.090815	71.035203
## 109	284.140810	68.585713	266.994382	507.044377	75.934182	39.191836
## 110	271.893361	80.833162	254.746933	494.796928	63.686733	51.439285
## 111	58.787754	411.514277	75.934182	164.115813	266.994382	382.120400
## 112	110.227038	462.953561	127.373467	112.676528	318.433667	433.559684
## 113	470.302031	117.575508	453.155602	693.205597	262.095402	146.969385
## 114	188.610710	164.115813	171.464282	411.514277	19.595918	134.721936
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## 26 112.676528  
## 27 34.292856 78.383672  
## 28 66.136223 46.540305 31.843367  
## 29 129.822956 242.499485 164.115813 195.959179  
## 30 176.363261 289.039790 210.656118 242.499485 46.540305  
## 31 26.944387 85.732141 7.348469 39.191836 156.767344 203.307649  
## 32 193.509690 80.833162 159.216833 127.373467 323.332646 369.872951  
## 33 78.383672 34.292856 44.090815 12.247449 208.206628 254.746933  
## 34 235.151015 122.474487 200.858159 169.014792 364.973972 411.514277  
## 35 39.191836 73.484692 4.898979 26.944387 169.014792 215.555097  
## 36 19.595918 132.272446 53.888774 85.732141 110.227038 156.767344  
## 37 176.363261 289.039790 210.656118 242.499485 46.540305 0.000000  
## 38 149.418874 262.095402 183.711731 215.555097 19.595918 26.944387  
## 39 276.792341 164.115813 242.499485 210.656118 406.615297 453.155602  
## 40 80.833162 31.843367 46.540305 14.696938 210.656118 257.196423  
## 41 56.338264 56.338264 22.045408 9.797959 186.161220 232.701526  
## 42 171.464282 58.787754 137.171426 105.328059 301.287238 347.827543  
## 43 124.923977 12.247449 90.631120 58.787754 254.746933 301.287238  
## 44 225.353056 112.676528 191.060200 159.216833 355.176013 401.716318  
## 45 266.994382 379.670910 301.287238 333.130605 137.171426 90.631120  
## 46 181.262241 68.585713 146.969385 115.126018 311.085197 357.625502  
## 47 161.666323 48.989795 127.373467 95.530100 291.489279 338.029585  
## 48 39.191836 73.484692 4.898979 26.944387 169.014792 215.555097  
## 49 210.656118 97.979590 176.363261 144.519895 340.479074 387.019379  
## 50 105.328059 7.348469 71.035203 39.191836 235.151015 281.691320  
## 51 107.777549 4.898979 73.484692 41.641326 237.600505 284.140810  
## 52 164.115813 51.439285 129.822956 97.979590 293.938769 340.479074  
## 53 36.742346 149.418874 71.035203 102.878569 93.080610 139.620915  
## 54 311.085197 423.761726 345.378054 377.221420 181.262241 134.721936  
## 55 95.530100 17.146428 61.237244 29.393877 225.353056 271.893361  
## 56 154.317854 41.641326 120.024997 88.181631 284.140810 330.681115  
## 57 44.090815 156.767344 78.383672 110.227038 85.732141 132.272446  
## 58 14.696938 97.979590 19.595918 51.439285 144.519895 191.060200  
## 59 266.994382 154.317854 232.701526 200.858159 396.817338 443.357643  
## 60 4.898979 107.777549 29.393877 61.237244 134.721936 181.262241  
## 61 44.090815 68.585713 9.797959 22.045408 173.913772 220.454077  
## 62 100.429079 213.105608 134.721936 166.565303 29.393877 75.934182  
## 63 78.383672 191.060200 112.676528 144.519895 51.439285 97.979590  
## 64 41.641326 71.035203 7.348469 24.494897 171.464282 218.004587

## 65	36.742346	75.934182	2.449490	29.393877	166.565303	213.105608
## 66	93.080610	205.757138	127.373467	159.216833	36.742346	83.282651
## 67	97.979590	14.696938	63.686733	31.843367	227.802546	274.342851
## 68	107.777549	4.898979	73.484692	41.641326	237.600505	284.140810
## 69	161.666323	274.342851	195.959179	227.802546	31.843367	14.696938
## 70	137.171426	249.847954	171.464282	203.307649	7.348469	39.191836
## 71	112.676528	0.000000	78.383672	46.540305	242.499485	289.039790
## 72	399.266828	511.943356	433.559684	465.403051	269.443872	222.903567
## 73	181.262241	293.938769	215.555097	247.398464	51.439285	4.898979
## 74	24.494897	88.181631	9.797959	41.641326	154.317854	200.858159
## 75	208.206628	95.530100	173.913772	142.070405	338.029585	384.569890
## 76	22.045408	134.721936	56.338264	88.181631	107.777549	154.317854
## 77	318.433667	431.110195	352.726523	384.569890	188.610710	142.070405
## 78	83.282651	195.959179	117.575508	149.418874	46.540305	93.080610
## 79	61.237244	51.439285	26.944387	4.898979	191.060200	237.600505
## 80	90.631120	22.045408	56.338264	24.494897	220.454077	266.994382
## 81	120.024997	7.348469	85.732141	53.888774	249.847954	296.388259
## 82	232.701526	120.024997	198.408669	166.565303	362.524482	409.064787
## 83	100.429079	213.105608	134.721936	166.565303	29.393877	75.934182
## 84	156.767344	269.443872	191.060200	222.903567	26.944387	19.595918
## 85	36.742346	149.418874	71.035203	102.878569	93.080610	139.620915
## 86	85.732141	198.408669	120.024997	151.868364	44.090815	90.631120
## 87	17.146428	95.530100	17.146428	48.989795	146.969385	193.509690
## 88	311.085197	198.408669	276.792341	244.948974	440.908154	487.448459
## 89	93.080610	19.595918	58.787754	26.944387	222.903567	269.443872
## 90	44.090815	68.585713	9.797959	22.045408	173.913772	220.454077
## 91	222.903567	110.227038	188.610710	156.767344	352.726523	399.266828
## 92	120.024997	232.701526	154.317854	186.161220	9.797959	56.338264
## 93	132.272446	19.595918	97.979590	66.136223	262.095402	308.635708
## 94	110.227038	2.449490	75.934182	44.090815	240.049995	286.590300
## 95	41.641326	154.317854	75.934182	107.777549	88.181631	134.721936
## 96	44.090815	156.767344	78.383672	110.227038	85.732141	132.272446
## 97	188.610710	75.934182	154.317854	122.474487	318.433667	364.973972
## 98	178.812751	66.136223	144.519895	112.676528	308.635708	355.176013
## 99	213.105608	325.782136	247.398464	279.241831	83.282651	36.742346
## 100	178.812751	66.136223	144.519895	112.676528	308.635708	355.176013
## 101	208.206628	320.883156	242.499485	274.342851	78.383672	31.843367
## 102	222.903567	110.227038	188.610710	156.767344	352.726523	399.266828
## 103	298.837749	411.514277	333.130605	364.973972	169.014792	122.474487
## 104	127.373467	14.696938	93.080610	61.237244	257.196423	303.736728
## 105	151.868364	39.191836	117.575508	85.732141	281.691320	328.231626
## 106	58.787754	53.888774	24.494897	7.348469	188.610710	235.151015
## 107	320.883156	433.559684	355.176013	387.019379	191.060200	144.519895
## 108	93.080610	19.595918	58.787754	26.944387	222.903567	269.443872
## 109	124.923977	12.247449	90.631120	58.787754	254.746933	301.287238
## 110	112.676528	0.000000	78.383672	46.540305	242.499485	289.039790
## 111	218.004587	330.681115	252.297444	284.140810	88.181631	41.641326
## 112	269.443872	382.120400	303.736728	335.580095	139.620915	93.080610
## 113	311.085197	198.408669	276.792341	244.948974	440.908154	487.448459
## 114	29.393877	83.282651	4.898979	36.742346	159.216833	205.757138
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## 34 208.206628 41.641326 156.767344  
## 35 12.247449 154.317854 39.191836 195.959179  
## 36 46.540305 213.105608 97.979590 254.746933 58.787754  
## 37 203.307649 369.872951 254.746933 411.514277 215.555097 156.767344  
## 38 176.363261 342.928564 227.802546 384.569890 188.610710 129.822956  
## 39 249.847954 83.282651 198.408669 41.641326 237.600505 296.388259  
## 40 53.888774 112.676528 2.449490 154.317854 41.641326 100.429079  
## 41 29.393877 137.171426 22.045408 178.812751 17.146428 75.934182  
## 42 144.519895 22.045408 93.080610 63.686733 132.272446 191.060200  
## 43 97.979590 68.585713 46.540305 110.227038 85.732141 144.519895  
## 44 198.408669 31.843367 146.969385 9.797959 186.161220 244.948974  
## 45 293.938769 460.504072 345.378054 502.145397 306.186218 247.398464  
## 46 154.317854 12.247449 102.878569 53.888774 142.070405 200.858159  
## 47 134.721936 31.843367 83.282651 73.484692 122.474487 181.262241  
## 48 12.247449 154.317854 39.191836 195.959179 0.000000 58.787754  
## 49 183.711731 17.146428 132.272446 24.494897 171.464282 230.252036  
## 50 78.383672 88.181631 26.944387 129.822956 66.136223 124.923977  
## 51 80.833162 85.732141 29.393877 127.373467 68.585713 127.373467  
## 52 137.171426 29.393877 85.732141 71.035203 124.923977 183.711731  
## 53 63.686733 230.252036 115.126018 271.893361 75.934182 17.146428  
## 54 338.029585 504.594887 389.468869 546.236213 350.277033 291.489279



## 55	68.585713	97.979590	17.146428	139.620915	56.338264	115.126018
## 56	127.373467	39.191836	75.934182	80.833162	115.126018	173.913772
## 57	71.035203	237.600505	122.474487	279.241831	83.282651	24.494897
## 58	12.247449	178.812751	63.686733	220.454077	24.494897	34.292856
## 59	240.049995	73.484692	188.610710	31.843367	227.802546	286.590300
## 60	22.045408	188.610710	73.484692	230.252036	34.292856	24.494897
## 61	17.146428	149.418874	34.292856	191.060200	4.898979	63.686733
## 62	127.373467	293.938769	178.812751	335.580095	139.620915	80.833162
## 63	105.328059	271.893361	156.767344	313.534687	117.575508	58.787754
## 64	14.696938	151.868364	36.742346	193.509690	2.449490	61.237244
## 65	9.797959	156.767344	41.641326	198.408669	2.449490	56.338264
## 66	120.024997	286.590300	171.464282	328.231626	132.272446	73.484692
## 67	71.035203	95.530100	19.595918	137.171426	58.787754	117.575508
## 68	80.833162	85.732141	29.393877	127.373467	68.585713	127.373467
## 69	188.610710	355.176013	240.049995	396.817338	200.858159	142.070405
## 70	164.115813	330.681115	215.555097	372.322441	176.363261	117.575508
## 71	85.732141	80.833162	34.292856	122.474487	73.484692	132.272446
## 72	426.211215	592.776518	477.650500	634.417843	438.458664	379.670910
## 73	208.206628	374.771931	259.645913	416.413256	220.454077	161.666323
## 74	2.449490	169.014792	53.888774	210.656118	14.696938	44.090815
## 75	181.262241	14.696938	129.822956	26.944387	169.014792	227.802546
## 76	48.989795	215.555097	100.429079	257.196423	61.237244	2.449490
## 77	345.378054	511.943356	396.817338	553.584682	357.625502	298.837749
## 78	110.227038	276.792341	161.666323	318.433667	122.474487	63.686733
## 79	34.292856	132.272446	17.146428	173.913772	22.045408	80.833162
## 80	63.686733	102.878569	12.247449	144.519895	51.439285	110.227038
## 81	93.080610	73.484692	41.641326	115.126018	80.833162	139.620915
## 82	205.757138	39.191836	154.317854	2.449490	193.509690	252.297444
## 83	127.373467	293.938769	178.812751	335.580095	139.620915	80.833162
## 84	183.711731	350.277033	235.151015	391.918359	195.959179	137.171426
## 85	63.686733	230.252036	115.126018	271.893361	75.934182	17.146428
## 86	112.676528	279.241831	164.115813	320.883156	124.923977	66.136223
## 87	9.797959	176.363261	61.237244	218.004587	22.045408	36.742346
## 88	284.140810	117.575508	232.701526	75.934182	271.893361	330.681115
## 89	66.136223	100.429079	14.696938	142.070405	53.888774	112.676528
## 90	17.146428	149.418874	34.292856	191.060200	4.898979	63.686733
## 91	195.959179	29.393877	144.519895	12.247449	183.711731	242.499485
## 92	146.969385	313.534687	198.408669	355.176013	159.216833	100.429079
## 93	105.328059	61.237244	53.888774	102.878569	93.080610	151.868364
## 94	83.282651	83.282651	31.843367	124.923977	71.035203	129.822956
## 95	68.585713	235.151015	120.024997	276.792341	80.833162	22.045408
## 96	71.035203	237.600505	122.474487	279.241831	83.282651	24.494897
## 97	161.666323	4.898979	110.227038	46.540305	149.418874	208.206628
## 98	151.868364	14.696938	100.429079	56.338264	139.620915	198.408669
## 99	240.049995	406.615297	291.489279	448.256623	252.297444	193.509690
## 100	151.868364	14.696938	100.429079	56.338264	139.620915	198.408669
## 101	235.151015	401.716318	286.590300	443.357643	247.398464	188.610710
## 102	195.959179	29.393877	144.519895	12.247449	183.711731	242.499485
## 103	325.782136	492.347438	377.221420	533.988764	338.029585	279.241831
## 104	100.429079	66.136223	48.989795	107.777549	88.181631	146.969385
## 105	124.923977	41.641326	73.484692	83.282651	112.676528	171.464282
## 106	31.843367	134.721936	19.595918	176.363261	19.595918	78.383672

## 107	347.827543	514.392846	399.266828	556.034172	360.074992	301.287238
## 108	66.136223	100.429079	14.696938	142.070405	53.888774	112.676528
## 109	97.979590	68.585713	46.540305	110.227038	85.732141	144.519895
## 110	85.732141	80.833162	34.292856	122.474487	73.484692	132.272446
## 111	244.948974	411.514277	296.388259	453.155602	257.196423	198.408669
## 112	296.388259	462.953561	347.827543	504.594887	308.635708	249.847954
## 113	284.140810	117.575508	232.701526	75.934182	271.893361	330.681115
## 114	2.449490	164.115813	48.989795	205.757138	9.797959	48.989795
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## 38	26.944387					
## 39	453.155602	426.211215				
## 40	257.196423	230.252036	195.959179			
## 41	232.701526	205.757138	220.454077	24.494897		
## 42	347.827543	320.883156	105.328059	90.631120	115.126018	
## 43	301.287238	274.342851	151.868364	44.090815	68.585713	46.540305
## 44	401.716318	374.771931	51.439285	144.519895	169.014792	53.888774

## 45	90.631120	117.575508	543.786723	347.827543	323.332646	438.458664
## 46	357.625502	330.681115	95.530100	100.429079	124.923977	9.797959
## 47	338.029585	311.085197	115.126018	80.833162	105.328059	9.797959
## 48	215.555097	188.610710	237.600505	41.641326	17.146428	132.272446
## 49	387.019379	360.074992	66.136223	129.822956	154.317854	39.191836
## 50	281.691320	254.746933	171.464282	24.494897	48.989795	66.136223
## 51	284.140810	257.196423	169.014792	26.944387	51.439285	63.686733
## 52	340.479074	313.534687	112.676528	83.282651	107.777549	7.348469
## 53	139.620915	112.676528	313.534687	117.575508	93.080610	208.206628
## 54	134.721936	161.666323	587.877538	391.918359	367.423461	482.549479
## 55	271.893361	244.948974	181.262241	14.696938	39.191836	75.934182
## 56	330.681115	303.736728	122.474487	73.484692	97.979590	17.146428
## 57	132.272446	105.328059	320.883156	124.923977	100.429079	215.555097
## 58	191.060200	164.115813	262.095402	66.136223	41.641326	156.767344
## 59	443.357643	416.413256	9.797959	186.161220	210.656118	95.530100
## 60	181.262241	154.317854	271.893361	75.934182	51.439285	166.565303
## 61	220.454077	193.509690	232.701526	36.742346	12.247449	127.373467
## 62	75.934182	48.989795	377.221420	181.262241	156.767344	271.893361
## 63	97.979590	71.035203	355.176013	159.216833	134.721936	249.847954
## 64	218.004587	191.060200	235.151015	39.191836	14.696938	129.822956
## 65	213.105608	186.161220	240.049995	44.090815	19.595918	134.721936
## 66	83.282651	56.338264	369.872951	173.913772	149.418874	264.544892
## 67	274.342851	247.398464	178.812751	17.146428	41.641326	73.484692
## 68	284.140810	257.196423	169.014792	26.944387	51.439285	63.686733
## 69	14.696938	12.247449	438.458664	242.499485	218.004587	333.130605
## 70	39.191836	12.247449	413.963767	218.004587	193.509690	308.635708
## 71	289.039790	262.095402	164.115813	31.843367	56.338264	58.787754
## 72	222.903567	249.847954	676.059169	480.099990	455.605092	570.731110
## 73	4.898979	31.843367	458.054582	262.095402	237.600505	352.726523
## 74	200.858159	173.913772	252.297444	56.338264	31.843367	146.969385
## 75	384.569890	357.625502	68.585713	127.373467	151.868364	36.742346
## 76	154.317854	127.373467	298.837749	102.878569	78.383672	193.509690
## 77	142.070405	169.014792	595.226007	399.266828	374.771931	489.897949
## 78	93.080610	66.136223	360.074992	164.115813	139.620915	254.746933
## 79	237.600505	210.656118	215.555097	19.595918	4.898979	110.227038
## 80	266.994382	240.049995	186.161220	9.797959	34.292856	80.833162
## 81	296.388259	269.443872	156.767344	39.191836	63.686733	51.439285
## 82	409.064787	382.120400	44.090815	151.868364	176.363261	61.237244
## 83	75.934182	48.989795	377.221420	181.262241	156.767344	271.893361
## 84	19.595918	7.348469	433.559684	237.600505	213.105608	328.231626
## 85	139.620915	112.676528	313.534687	117.575508	93.080610	208.206628
## 86	90.631120	63.686733	362.524482	166.565303	142.070405	257.196423
## 87	193.509690	166.565303	259.645913	63.686733	39.191836	154.317854
## 88	487.448459	460.504072	34.292856	230.252036	254.746933	139.620915
## 89	269.443872	242.499485	183.711731	12.247449	36.742346	78.383672
## 90	220.454077	193.509690	232.701526	36.742346	12.247449	127.373467
## 91	399.266828	372.322441	53.888774	142.070405	166.565303	51.439285
## 92	56.338264	29.393877	396.817338	200.858159	176.363261	291.489279
## 93	308.635708	281.691320	144.519895	51.439285	75.934182	39.191836
## 94	286.590300	259.645913	166.565303	29.393877	53.888774	61.237244
## 95	134.721936	107.777549	318.433667	122.474487	97.979590	213.105608
## 96	132.272446	105.328059	320.883156	124.923977	100.429079	215.555097

## 97	364.973972	338.029585	88.181631	107.777549	132.272446	17.146428
## 98	355.176013	328.231626	97.979590	97.979590	122.474487	7.348469
## 99	36.742346	63.686733	489.897949	293.938769	269.443872	384.569890
## 100	355.176013	328.231626	97.979590	97.979590	122.474487	7.348469
## 101	31.843367	58.787754	484.998969	289.039790	264.544892	379.670910
## 102	399.266828	372.322441	53.888774	142.070405	166.565303	51.439285
## 103	122.474487	149.418874	575.630090	379.670910	355.176013	470.302031
## 104	303.736728	276.792341	149.418874	46.540305	71.035203	44.090815
## 105	328.231626	301.287238	124.923977	71.035203	95.530100	19.595918
## 106	235.151015	208.206628	218.004587	22.045408	2.449490	112.676528
## 107	144.519895	171.464282	597.675497	401.716318	377.221420	492.347438
## 108	269.443872	242.499485	183.711731	12.247449	36.742346	78.383672
## 109	301.287238	274.342851	151.868364	44.090815	68.585713	46.540305
## 110	289.039790	262.095402	164.115813	31.843367	56.338264	58.787754
## 111	41.641326	68.585713	494.796928	298.837749	274.342851	389.468869
## 112	93.080610	120.024997	546.236213	350.277033	325.782136	440.908154
## 113	487.448459	460.504072	34.292856	230.252036	254.746933	139.620915
## 114	205.757138	178.812751	247.398464	51.439285	26.944387	142.070405
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## 51 17.146428 117.575508 374.771931 73.484692 53.888774 68.585713  
## 52 39.191836 61.237244 431.110195 17.146428 2.449490 124.923977  
## 53 161.666323 262.095402 230.252036 218.004587 198.408669 75.934182  
## 54 436.009174 536.438254 44.090815 492.347438 472.751520 350.277033  
## 55 29.393877 129.822956 362.524482 85.732141 66.136223 56.338264  
## 56 29.393877 71.035203 421.312236 26.944387 7.348469 115.126018  
## 57 169.014792 269.443872 222.903567 225.353056 205.757138 83.282651  
## 58 110.227038 210.656118 281.691320 166.565303 146.969385 24.494897  
## 59 142.070405 41.641326 533.988764 85.732141 105.328059 227.802546  
## 60 120.024997 220.454077 271.893361 176.363261 156.767344 34.292856  
## 61 80.833162 181.262241 311.085197 137.171426 117.575508 4.898979  
## 62 225.353056 325.782136 166.565303 281.691320 262.095402 139.620915  
## 63 203.307649 303.736728 188.610710 259.645913 240.049995 117.575508  
## 64 83.282651 183.711731 308.635708 139.620915 120.024997 2.449490  
## 65 88.181631 188.610710 303.736728 144.519895 124.923977 2.449490  
## 66 218.004587 318.433667 173.913772 274.342851 254.746933 132.272446  
## 67 26.944387 127.373467 364.973972 83.282651 63.686733 58.787754  
## 68 17.146428 117.575508 374.771931 73.484692 53.888774 68.585713  
## 69 286.590300 387.019379 105.328059 342.928564 323.332646 200.858159  
## 70 262.095402 362.524482 129.822956 318.433667 298.837749 176.363261  
## 71 12.247449 112.676528 379.670910 68.585713 48.989795 73.484692  
## 72 524.190805 624.619884 132.272446 580.529069 560.933151 438.458664  
## 73 306.186218 406.615297 85.732141 362.524482 342.928564 220.454077  
## 74 100.429079 200.858159 291.489279 156.767344 137.171426 14.696938  
## 75 83.282651 17.146428 475.201010 26.944387 46.540305 169.014792  
## 76 146.969385 247.398464 244.948974 203.307649 183.711731 61.237244  
## 77 443.357643 543.786723 51.439285 499.695908 480.099990 357.625502  
## 78 208.206628 308.635708 183.711731 264.544892 244.948974 122.474487  
## 79 63.686733 164.115813 328.231626 120.024997 100.429079 22.045408  
## 80 34.292856 134.721936 357.625502 90.631120 71.035203 51.439285  
## 81 4.898979 105.328059 387.019379 61.237244 41.641326 80.833162  
## 82 107.777549 7.348469 499.695908 51.439285 71.035203 193.509690  
## 83 225.353056 325.782136 166.565303 281.691320 262.095402 139.620915  
## 84 281.691320 382.120400 110.227038 338.029585 318.433667 195.959179  
## 85 161.666323 262.095402 230.252036 218.004587 198.408669 75.934182  
## 86 210.656118 311.085197 181.262241 266.994382 247.398464 124.923977

## 87	107.777549	208.206628	284.140810	164.115813	144.519895	22.045408
## 88	186.161220	85.732141	578.079579	129.822956	149.418874	271.893361
## 89	31.843367	132.272446	360.074992	88.181631	68.585713	53.888774
## 90	80.833162	181.262241	311.085197	137.171426	117.575508	4.898979
## 91	97.979590	2.449490	489.897949	41.641326	61.237244	183.711731
## 92	244.948974	345.378054	146.969385	301.287238	281.691320	159.216833
## 93	7.348469	93.080610	399.266828	48.989795	29.393877	93.080610
## 94	14.696938	115.126018	377.221420	71.035203	51.439285	71.035203
## 95	166.565303	266.994382	225.353056	222.903567	203.307649	80.833162
## 96	169.014792	269.443872	222.903567	225.353056	205.757138	83.282651
## 97	63.686733	36.742346	455.605092	7.348469	26.944387	149.418874
## 98	53.888774	46.540305	445.807133	2.449490	17.146428	139.620915
## 99	338.029585	438.458664	53.888774	394.367849	374.771931	252.297444
## 100	53.888774	46.540305	445.807133	2.449490	17.146428	139.620915
## 101	333.130605	433.559684	58.787754	389.468869	369.872951	247.398464
## 102	97.979590	2.449490	489.897949	41.641326	61.237244	183.711731
## 103	423.761726	524.190805	31.843367	480.099990	460.504072	338.029585
## 104	2.449490	97.979590	394.367849	53.888774	34.292856	88.181631
## 105	26.944387	73.484692	418.862746	29.393877	9.797959	112.676528
## 106	66.136223	166.565303	325.782136	122.474487	102.878569	19.595918
## 107	445.807133	546.236213	53.888774	502.145397	482.549479	360.074992
## 108	31.843367	132.272446	360.074992	88.181631	68.585713	53.888774
## 109	0.000000	100.429079	391.918359	56.338264	36.742346	85.732141
## 110	12.247449	112.676528	379.670910	68.585713	48.989795	73.484692
## 111	342.928564	443.357643	48.989795	399.266828	379.670910	257.196423
## 112	394.367849	494.796928	2.449490	450.706113	431.110195	308.635708
## 113	186.161220	85.732141	578.079579	129.822956	149.418874	271.893361
## 114	95.530100	195.959179	296.388259	151.868364	132.272446	9.797959
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## 53 247.398464 142.070405 144.519895 200.858159  
## 54 521.741315 416.413256 418.862746 475.201010 274.342851  
## 55 115.126018 9.797959 12.247449 68.585713 132.272446 406.615297  
## 56 56.338264 48.989795 46.540305 9.797959 191.060200 465.403051  
## 57 254.746933 149.418874 151.868364 208.206628 7.348469 266.994382  
## 58 195.959179 90.631120 93.080610 149.418874 51.439285 325.782136  
## 59 56.338264 161.666323 159.216833 102.878569 303.736728 578.079579  
## 60 205.757138 100.429079 102.878569 159.216833 41.641326 315.984177  
## 61 166.565303 61.237244 63.686733 120.024997 80.833162 355.176013  
## 62 311.085197 205.757138 208.206628 264.544892 63.686733 210.656118  
## 63 289.039790 183.711731 186.161220 242.499485 41.641326 232.701526  
## 64 169.014792 63.686733 66.136223 122.474487 78.383672 352.726523  
## 65 173.913772 68.585713 71.035203 127.373467 73.484692 347.827543  
## 66 303.736728 198.408669 200.858159 257.196423 56.338264 218.004587  
## 67 112.676528 7.348469 9.797959 66.136223 134.721936 409.064787  
## 68 102.878569 2.449490 0.000000 56.338264 144.519895 418.862746  
## 69 372.322441 266.994382 269.443872 325.782136 124.923977 149.418874  
## 70 347.827543 242.499485 244.948974 301.287238 100.429079 173.913772  
## 71 97.979590 7.348469 4.898979 51.439285 149.418874 423.761726  
## 72 609.922946 504.594887 507.044377 563.382641 362.524482 88.181631  
## 73 391.918359 286.590300 289.039790 345.378054 144.519895 129.822956  
## 74 186.161220 80.833162 83.282651 139.620915 61.237244 335.580095  
## 75 2.449490 102.878569 100.429079 44.090815 244.948974 519.291825  
## 76 232.701526 127.373467 129.822956 186.161220 14.696938 289.039790

## 77	529.089784	423.761726	426.211215	482.549479	281.691320	7.348469
## 78	293.938769	188.610710	191.060200	247.398464	46.540305	227.802546
## 79	149.418874	44.090815	46.540305	102.878569	97.979590	372.322441
## 80	120.024997	14.696938	17.146428	73.484692	127.373467	401.716318
## 81	90.631120	14.696938	12.247449	44.090815	156.767344	431.110195
## 82	22.045408	127.373467	124.923977	68.585713	269.443872	543.786723
## 83	311.085197	205.757138	208.206628	264.544892	63.686733	210.656118
## 84	367.423461	262.095402	264.544892	320.883156	120.024997	154.317854
## 85	247.398464	142.070405	144.519895	200.858159	0.000000	274.342851
## 86	296.388259	191.060200	193.509690	249.847954	48.989795	225.353056
## 87	193.509690	88.181631	90.631120	146.969385	53.888774	328.231626
## 88	100.429079	205.757138	203.307649	146.969385	347.827543	622.170395
## 89	117.575508	12.247449	14.696938	71.035203	129.822956	404.165808
## 90	166.565303	61.237244	63.686733	120.024997	80.833162	355.176013
## 91	12.247449	117.575508	115.126018	58.787754	259.645913	533.988764
## 92	330.681115	225.353056	227.802546	284.140810	83.282651	191.060200
## 93	78.383672	26.944387	24.494897	31.843367	169.014792	443.357643
## 94	100.429079	4.898979	2.449490	53.888774	146.969385	421.312236
## 95	252.297444	146.969385	149.418874	205.757138	4.898979	269.443872
## 96	254.746933	149.418874	151.868364	208.206628	7.348469	266.994382
## 97	22.045408	83.282651	80.833162	24.494897	225.353056	499.695908
## 98	31.843367	73.484692	71.035203	14.696938	215.555097	489.897949
## 99	423.761726	318.433667	320.883156	377.221420	176.363261	97.979590
## 100	31.843367	73.484692	71.035203	14.696938	215.555097	489.897949
## 101	418.862746	313.534687	315.984177	372.322441	171.464282	102.878569
## 102	12.247449	117.575508	115.126018	58.787754	259.645913	533.988764
## 103	509.493866	404.165808	406.615297	462.953561	262.095402	12.247449
## 104	83.282651	22.045408	19.595918	36.742346	164.115813	438.458664
## 105	58.787754	46.540305	44.090815	12.247449	188.610710	462.953561
## 106	151.868364	46.540305	48.989795	105.328059	95.530100	369.872951
## 107	531.539274	426.211215	428.660705	484.998969	284.140810	9.797959
## 108	117.575508	12.247449	14.696938	71.035203	129.822956	404.165808
## 109	85.732141	19.595918	17.146428	39.191836	161.666323	436.009174
## 110	97.979590	7.348469	4.898979	51.439285	149.418874	423.761726
## 111	428.660705	323.332646	325.782136	382.120400	181.262241	93.080610
## 112	480.099990	374.771931	377.221420	433.559684	232.701526	41.641326
## 113	100.429079	205.757138	203.307649	146.969385	347.827543	622.170395
## 114	181.262241	75.934182	78.383672	134.721936	66.136223	340.479074
##	55	56	57	58	59	60

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## 59 171.464282 112.676528 311.085197 252.297444
## 60 90.631120 149.418874 48.989795 9.797959 262.095402
## 61 51.439285 110.227038 88.181631 29.393877 222.903567 39.191836
## 62 195.959179 254.746933 56.338264 115.126018 367.423461 105.328059
## 63 173.913772 232.701526 34.292856 93.080610 345.378054 83.282651
## 64 53.888774 112.676528 85.732141 26.944387 225.353056 36.742346
## 65 58.787754 117.575508 80.833162 22.045408 230.252036 31.843367
## 66 188.610710 247.398464 48.989795 107.777549 360.074992 97.979590
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## 67	2.449490	56.338264	142.070405	83.282651	169.014792	93.080610
## 68	12.247449	46.540305	151.868364	93.080610	159.216833	102.878569
## 69	257.196423	315.984177	117.575508	176.363261	428.660705	166.565303
## 70	232.701526	291.489279	93.080610	151.868364	404.165808	142.070405
## 71	17.146428	41.641326	156.767344	97.979590	154.317854	107.777549
## 72	494.796928	553.584682	355.176013	413.963767	666.261210	404.165808
## 73	276.792341	335.580095	137.171426	195.959179	448.256623	186.161220
## 74	71.035203	129.822956	68.585713	9.797959	242.499485	19.595918
## 75	112.676528	53.888774	252.297444	193.509690	58.787754	203.307649
## 76	117.575508	176.363261	22.045408	36.742346	289.039790	26.944387
## 77	413.963767	472.751520	274.342851	333.130605	585.428049	323.332646
## 78	178.812751	237.600505	39.191836	97.979590	350.277033	88.181631
## 79	34.292856	93.080610	105.328059	46.540305	205.757138	56.338264
## 80	4.898979	63.686733	134.721936	75.934182	176.363261	85.732141
## 81	24.494897	34.292856	164.115813	105.328059	146.969385	115.126018
## 82	137.171426	78.383672	276.792341	218.004587	34.292856	227.802546
## 83	195.959179	254.746933	56.338264	115.126018	367.423461	105.328059
## 84	252.297444	311.085197	112.676528	171.464282	423.761726	161.666323
## 85	132.272446	191.060200	7.348469	51.439285	303.736728	41.641326
## 86	181.262241	240.049995	41.641326	100.429079	352.726523	90.631120
## 87	78.383672	137.171426	61.237244	2.449490	249.847954	12.247449
## 88	215.555097	156.767344	355.176013	296.388259	44.090815	306.186218
## 89	2.449490	61.237244	137.171426	78.383672	173.913772	88.181631
## 90	51.439285	110.227038	88.181631	29.393877	222.903567	39.191836
## 91	127.373467	68.585713	266.994382	208.206628	44.090815	218.004587
## 92	215.555097	274.342851	75.934182	134.721936	387.019379	124.923977
## 93	36.742346	22.045408	176.363261	117.575508	134.721936	127.373467
## 94	14.696938	44.090815	154.317854	95.530100	156.767344	105.328059
## 95	137.171426	195.959179	2.449490	56.338264	308.635708	46.540305
## 96	139.620915	198.408669	0.000000	58.787754	311.085197	48.989795
## 97	93.080610	34.292856	232.701526	173.913772	78.383672	183.711731
## 98	83.282651	24.494897	222.903567	164.115813	88.181631	173.913772
## 99	308.635708	367.423461	169.014792	227.802546	480.099990	218.004587
## 100	83.282651	24.494897	222.903567	164.115813	88.181631	173.913772
## 101	303.736728	362.524482	164.115813	222.903567	475.201010	213.105608
## 102	127.373467	68.585713	266.994382	208.206628	44.090815	218.004587
## 103	394.367849	453.155602	254.746933	313.534687	565.832131	303.736728
## 104	31.843367	26.944387	171.464282	112.676528	139.620915	122.474487
## 105	56.338264	2.449490	195.959179	137.171426	115.126018	146.969385
## 106	36.742346	95.530100	102.878569	44.090815	208.206628	53.888774
## 107	416.413256	475.201010	276.792341	335.580095	587.877538	325.782136
## 108	2.449490	61.237244	137.171426	78.383672	173.913772	88.181631
## 109	29.393877	29.393877	169.014792	110.227038	142.070405	120.024997
## 110	17.146428	41.641326	156.767344	97.979590	154.317854	107.777549
## 111	313.534687	372.322441	173.913772	232.701526	484.998969	222.903567
## 112	364.973972	423.761726	225.353056	284.140810	536.438254	274.342851
## 113	215.555097	156.767344	355.176013	296.388259	44.090815	306.186218
## 114	66.136223	124.923977	73.484692	14.696938	237.600505	24.494897
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## 67 53.888774 198.408669 176.363261 56.338264 61.237244 191.060200  
## 68 63.686733 208.206628 186.161220 66.136223 71.035203 200.858159  
## 69 205.757138 61.237244 83.282651 203.307649 198.408669 68.585713  
## 70 181.262241 36.742346 58.787754 178.812751 173.913772 44.090815  
## 71 68.585713 213.105608 191.060200 71.035203 75.934182 205.757138  
## 72 443.357643 298.837749 320.883156 440.908154 436.009174 306.186218  
## 73 225.353056 80.833162 102.878569 222.903567 218.004587 88.181631  
## 74 19.595918 124.923977 102.878569 17.146428 12.247449 117.575508  
## 75 164.115813 308.635708 286.590300 166.565303 171.464282 301.287238  
## 76 66.136223 78.383672 56.338264 63.686733 58.787754 71.035203  
## 77 362.524482 218.004587 240.049995 360.074992 355.176013 225.353056  
## 78 127.373467 17.146428 4.898979 124.923977 120.024997 9.797959  
## 79 17.146428 161.666323 139.620915 19.595918 24.494897 154.317854  
## 80 46.540305 191.060200 169.014792 48.989795 53.888774 183.711731  
## 81 75.934182 220.454077 198.408669 78.383672 83.282651 213.105608  
## 82 188.610710 333.130605 311.085197 191.060200 195.959179 325.782136  
## 83 144.519895 0.000000 22.045408 142.070405 137.171426 7.348469  
## 84 200.858159 56.338264 78.383672 198.408669 193.509690 63.686733  
## 85 80.833162 63.686733 41.641326 78.383672 73.484692 56.338264  
## 86 129.822956 14.696938 7.348469 127.373467 122.474487 7.348469  
## 87 26.944387 117.575508 95.530100 24.494897 19.595918 110.227038  
## 88 266.994382 411.514277 389.468869 269.443872 274.342851 404.165808  
## 89 48.989795 193.509690 171.464282 51.439285 56.338264 186.161220  
## 90 0.000000 144.519895 122.474487 2.449490 7.348469 137.171426  
## 91 178.812751 323.332646 301.287238 181.262241 186.161220 315.984177  
## 92 164.115813 19.595918 41.641326 161.666323 156.767344 26.944387  
## 93 88.181631 232.701526 210.656118 90.631120 95.530100 225.353056  
## 94 66.136223 210.656118 188.610710 68.585713 73.484692 203.307649  
## 95 85.732141 58.787754 36.742346 83.282651 78.383672 51.439285  
## 96 88.181631 56.338264 34.292856 85.732141 80.833162 48.989795  
## 97 144.519895 289.039790 266.994382 146.969385 151.868364 281.691320  
## 98 134.721936 279.241831 257.196423 137.171426 142.070405 271.893361  
## 99 257.196423 112.676528 134.721936 254.746933 249.847954 120.024997  
## 100 134.721936 279.241831 257.196423 137.171426 142.070405 271.893361  
## 101 252.297444 107.777549 129.822956 249.847954 244.948974 115.126018  
## 102 178.812751 323.332646 301.287238 181.262241 186.161220 315.984177  
## 103 342.928564 198.408669 220.454077 340.479074 335.580095 205.757138  
## 104 83.282651 227.802546 205.757138 85.732141 90.631120 220.454077  
## 105 107.777549 252.297444 230.252036 110.227038 115.126018 244.948974  
## 106 14.696938 159.216833 137.171426 17.146428 22.045408 151.868364  
## 107 364.973972 220.454077 242.499485 362.524482 357.625502 227.802546  
## 108 48.989795 193.509690 171.464282 51.439285 56.338264 186.161220

## 109	80.833162	225.353056	203.307649	83.282651	88.181631	218.004587
## 110	68.585713	213.105608	191.060200	71.035203	75.934182	205.757138
## 111	262.095402	117.575508	139.620915	259.645913	254.746933	124.923977
## 112	313.534687	169.014792	191.060200	311.085197	306.186218	176.363261
## 113	266.994382	411.514277	389.468869	269.443872	274.342851	404.165808
## 114	14.696938	129.822956	107.777549	12.247449	7.348469	122.474487
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## 71 14.696938 4.898979 274.342851 249.847954  
## 72 497.246418 507.044377 237.600505 262.095402 511.943356  
## 73 279.241831 289.039790 19.595918 44.090815 293.938769 218.004587  
## 74 73.484692 83.282651 186.161220 161.666323 88.181631 423.761726  
## 75 110.227038 100.429079 369.872951 345.378054 95.530100 607.473456  
## 76 120.024997 129.822956 139.620915 115.126018 134.721936 377.221420  
## 77 416.413256 426.211215 156.767344 181.262241 431.110195 80.833162  
## 78 181.262241 191.060200 78.383672 53.888774 195.959179 315.984177  
## 79 36.742346 46.540305 222.903567 198.408669 51.439285 460.504072  
## 80 7.348469 17.146428 252.297444 227.802546 22.045408 489.897949  
## 81 22.045408 12.247449 281.691320 257.196423 7.348469 519.291825  
## 82 134.721936 124.923977 394.367849 369.872951 120.024997 631.968354  
## 83 198.408669 208.206628 61.237244 36.742346 213.105608 298.837749  
## 84 254.746933 264.544892 4.898979 19.595918 269.443872 242.499485  
## 85 134.721936 144.519895 124.923977 100.429079 149.418874 362.524482  
## 86 183.711731 193.509690 75.934182 51.439285 198.408669 313.534687  
## 87 80.833162 90.631120 178.812751 154.317854 95.530100 416.413256  
## 88 213.105608 203.307649 472.751520 448.256623 198.408669 710.352025  
## 89 4.898979 14.696938 254.746933 230.252036 19.595918 492.347438  
## 90 53.888774 63.686733 205.757138 181.262241 68.585713 443.357643  
## 91 124.923977 115.126018 384.569890 360.074992 110.227038 622.170395  
## 92 218.004587 227.802546 41.641326 17.146428 232.701526 279.241831  
## 93 34.292856 24.494897 293.938769 269.443872 19.595918 531.539274  
## 94 12.247449 2.449490 271.893361 247.398464 2.449490 509.493866  
## 95 139.620915 149.418874 120.024997 95.530100 154.317854 357.625502  
## 96 142.070405 151.868364 117.575508 93.080610 156.767344 355.176013  
## 97 90.631120 80.833162 350.277033 325.782136 75.934182 587.877538  
## 98 80.833162 71.035203 340.479074 315.984177 66.136223 578.079579

## 99	311.085197	320.883156	51.439285	75.934182	325.782136	186.161220
## 100	80.833162	71.035203	340.479074	315.984177	66.136223	578.079579
## 101	306.186218	315.984177	46.540305	71.035203	320.883156	191.060200
## 102	124.923977	115.126018	384.569890	360.074992	110.227038	622.170395
## 103	396.817338	406.615297	137.171426	161.666323	411.514277	100.429079
## 104	29.393877	19.595918	289.039790	264.544892	14.696938	526.640295
## 105	53.888774	44.090815	313.534687	289.039790	39.191836	551.135192
## 106	39.191836	48.989795	220.454077	195.959179	53.888774	458.054582
## 107	418.862746	428.660705	159.216833	183.711731	433.559684	78.383672
## 108	4.898979	14.696938	254.746933	230.252036	19.595918	492.347438
## 109	26.944387	17.146428	286.590300	262.095402	12.247449	524.190805
## 110	14.696938	4.898979	274.342851	249.847954	0.000000	511.943356
## 111	315.984177	325.782136	56.338264	80.833162	330.681115	181.262241
## 112	367.423461	377.221420	107.777549	132.272446	382.120400	129.822956
## 113	213.105608	203.307649	472.751520	448.256623	198.408669	710.352025
## 114	68.585713	78.383672	191.060200	166.565303	83.282651	428.660705
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## 75 389.468869 183.711731  
## 76 159.216833 46.540305 230.252036  
## 77 137.171426 342.928564 526.640295 296.388259  
## 78 97.979590 107.777549 291.489279 61.237244 235.151015  
## 79 242.499485 36.742346 146.969385 83.282651 379.670910 144.519895  
## 80 271.893361 66.136223 117.575508 112.676528 409.064787 173.913772  
## 81 301.287238 95.530100 88.181631 142.070405 438.458664 203.307649  
## 82 413.963767 208.206628 24.494897 254.746933 551.135192 315.984177  
## 83 80.833162 124.923977 308.635708 78.383672 218.004587 17.146428  
## 84 24.494897 181.262241 364.973972 134.721936 161.666323 73.484692  
## 85 144.519895 61.237244 244.948974 14.696938 281.691320 46.540305  
## 86 95.530100 110.227038 293.938769 63.686733 232.701526 2.449490  
## 87 198.408669 7.348469 191.060200 39.191836 335.580095 100.429079  
## 88 492.347438 286.590300 102.878569 333.130605 629.518864 394.367849



## 89	274.342851	68.585713	115.126018	115.126018	411.514277	176.363261
## 90	225.353056	19.595918	164.115813	66.136223	362.524482	127.373467
## 91	404.165808	198.408669	14.696938	244.948974	541.337233	306.186218
## 92	61.237244	144.519895	328.231626	97.979590	198.408669	36.742346
## 93	313.534687	107.777549	75.934182	154.317854	450.706113	215.555097
## 94	291.489279	85.732141	97.979590	132.272446	428.660705	193.509690
## 95	139.620915	66.136223	249.847954	19.595918	276.792341	41.641326
## 96	137.171426	68.585713	252.297444	22.045408	274.342851	39.191836
## 97	369.872951	164.115813	19.595918	210.656118	507.044377	271.893361
## 98	360.074992	154.317854	29.393877	200.858159	497.246418	262.095402
## 99	31.843367	237.600505	421.312236	191.060200	105.328059	129.822956
## 100	360.074992	154.317854	29.393877	200.858159	497.246418	262.095402
## 101	26.944387	232.701526	416.413256	186.161220	110.227038	124.923977
## 102	404.165808	198.408669	14.696938	244.948974	541.337233	306.186218
## 103	117.575508	323.332646	507.044377	276.792341	19.595918	215.555097
## 104	308.635708	102.878569	80.833162	149.418874	445.807133	210.656118
## 105	333.130605	127.373467	56.338264	173.913772	470.302031	235.151015
## 106	240.049995	34.292856	149.418874	80.833162	377.221420	142.070405
## 107	139.620915	345.378054	529.089784	298.837749	2.449490	237.600505
## 108	274.342851	68.585713	115.126018	115.126018	411.514277	176.363261
## 109	306.186218	100.429079	83.282651	146.969385	443.357643	208.206628
## 110	293.938769	88.181631	95.530100	134.721936	431.110195	195.959179
## 111	36.742346	242.499485	426.211215	195.959179	100.429079	134.721936
## 112	88.181631	293.938769	477.650500	247.398464	48.989795	186.161220
## 113	492.347438	286.590300	102.878569	333.130605	629.518864	394.367849
## 114	210.656118	4.898979	178.812751	51.439285	347.827543	112.676528
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## 84 218.004587 247.398464 276.792341 389.468869 56.338264  
## 85 97.979590 127.373467 156.767344 269.443872 63.686733 120.024997  
## 86 146.969385 176.363261 205.757138 318.433667 14.696938 71.035203  
## 87 44.090815 73.484692 102.878569 215.555097 117.575508 173.913772  
## 88 249.847954 220.454077 191.060200 78.383672 411.514277 467.852541  
## 89 31.843367 2.449490 26.944387 139.620915 193.509690 249.847954  
## 90 17.146428 46.540305 75.934182 188.610710 144.519895 200.858159  
## 91 161.666323 132.272446 102.878569 9.797959 323.332646 379.670910  
## 92 181.262241 210.656118 240.049995 352.726523 19.595918 36.742346  
## 93 71.035203 41.641326 12.247449 100.429079 232.701526 289.039790  
## 94 48.989795 19.595918 9.797959 122.474487 210.656118 266.994382  
## 95 102.878569 132.272446 161.666323 274.342851 58.787754 115.126018  
## 96 105.328059 134.721936 164.115813 276.792341 56.338264 112.676528  
## 97 127.373467 97.979590 68.585713 44.090815 289.039790 345.378054  
## 98 117.575508 88.181631 58.787754 53.888774 279.241831 335.580095  
## 99 274.342851 303.736728 333.130605 445.807133 112.676528 56.338264  
## 100 117.575508 88.181631 58.787754 53.888774 279.241831 335.580095  
## 101 269.443872 298.837749 328.231626 440.908154 107.777549 51.439285  
## 102 161.666323 132.272446 102.878569 9.797959 323.332646 379.670910  
## 103 360.074992 389.468869 418.862746 531.539274 198.408669 142.070405  
## 104 66.136223 36.742346 7.348469 105.328059 227.802546 284.140810  
## 105 90.631120 61.237244 31.843367 80.833162 252.297444 308.635708  
## 106 2.449490 31.843367 61.237244 173.913772 159.216833 215.555097  
## 107 382.120400 411.514277 440.908154 553.584682 220.454077 164.115813  
## 108 31.843367 2.449490 26.944387 139.620915 193.509690 249.847954  
## 109 63.686733 34.292856 4.898979 107.777549 225.353056 281.691320  
## 110 51.439285 22.045408 7.348469 120.024997 213.105608 269.443872  
## 111 279.241831 308.635708 338.029585 450.706113 117.575508 61.237244  
## 112 330.681115 360.074992 389.468869 502.145397 169.014792 112.676528  
## 113 249.847954 220.454077 191.060200 78.383672 411.514277 467.852541  
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## 90 80.833162 129.822956 26.944387 266.994382 48.989795
## 91 259.645913 308.635708 205.757138 88.181631 129.822956 178.812751
## 92 83.282651 34.292856 137.171426 431.110195 213.105608 164.115813
## 93 169.014792 218.004587 115.126018 178.812751 39.191836 88.181631
## 94 146.969385 195.959179 93.080610 200.858159 17.146428 66.136223
## 95 4.898979 44.090815 58.787754 352.726523 134.721936 85.732141
## 96 7.348469 41.641326 61.237244 355.176013 137.171426 88.181631
## 97 225.353056 274.342851 171.464282 122.474487 95.530100 144.519895
## 98 215.555097 264.544892 161.666323 132.272446 85.732141 134.721936
## 99 176.363261 127.373467 230.252036 524.190805 306.186218 257.196423
## 100 215.555097 264.544892 161.666323 132.272446 85.732141 134.721936
## 101 171.464282 122.474487 225.353056 519.291825 301.287238 252.297444
## 102 259.645913 308.635708 205.757138 88.181631 129.822956 178.812751
## 103 262.095402 213.105608 315.984177 609.922946 391.918359 342.928564
## 104 164.115813 213.105608 110.227038 183.711731 34.292856 83.282651
## 105 188.610710 237.600505 134.721936 159.216833 58.787754 107.777549
## 106 95.530100 144.519895 41.641326 252.297444 34.292856 14.696938
## 107 284.140810 235.151015 338.029585 631.968354 413.963767 364.973972
## 108 129.822956 178.812751 75.934182 218.004587 0.000000 48.989795
## 109 161.666323 210.656118 107.777549 186.161220 31.843367 80.833162
## 110 149.418874 198.408669 95.530100 198.408669 19.595918 68.585713
## 111 181.262241 132.272446 235.151015 529.089784 311.085197 262.095402
## 112 232.701526 183.711731 286.590300 580.529069 362.524482 313.534687
## 113 347.827543 396.817338 293.938769 0.000000 218.004587 266.994382
## 114 66.136223 115.126018 12.247449 281.691320 63.686733 14.696938
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## 96 266.994382 75.934182 176.363261 154.317854 2.449490  
## 97 34.292856 308.635708 56.338264 78.383672 230.252036 232.701526  
## 98 44.090815 298.837749 46.540305 68.585713 220.454077 222.903567  
## 99 436.009174 93.080610 345.378054 323.332646 171.464282 169.014792  
## 100 44.090815 298.837749 46.540305 68.585713 220.454077 222.903567  
## 101 431.110195 88.181631 340.479074 318.433667 166.565303 164.115813  
## 102 0.000000 342.928564 90.631120 112.676528 264.544892 266.994382  
## 103 521.741315 178.812751 431.110195 409.064787 257.196423 254.746933  
## 104 95.530100 247.398464 4.898979 17.146428 169.014792 171.464282  
## 105 71.035203 271.893361 19.595918 41.641326 193.509690 195.959179  
## 106 164.115813 178.812751 73.484692 51.439285 100.429079 102.878569  
## 107 543.786723 200.858159 453.155602 431.110195 279.241831 276.792341  
## 108 129.822956 213.105608 39.191836 17.146428 134.721936 137.171426  
## 109 97.979590 244.948974 7.348469 14.696938 166.565303 169.014792  
## 110 110.227038 232.701526 19.595918 2.449490 154.317854 156.767344

## 111	440.908154	97.979590	350.277033	328.231626	176.363261	173.913772
## 112	492.347438	149.418874	401.716318	379.670910	227.802546	225.353056
## 113	88.181631	431.110195	178.812751	200.858159	352.726523	355.176013
## 114	193.509690	149.418874	102.878569	80.833162	71.035203	73.484692
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## 101 396.817338 387.019379 4.898979 387.019379  
## 102 34.292856 44.090815 436.009174 44.090815 431.110195  
## 103 487.448459 477.650500 85.732141 477.650500 90.631120 521.741315  
## 104 61.237244 51.439285 340.479074 51.439285 335.580095 95.530100  
## 105 36.742346 26.944387 364.973972 26.944387 360.074992 71.035203  
## 106 129.822956 120.024997 271.893361 120.024997 266.994382 164.115813  
## 107 509.493866 499.695908 107.777549 499.695908 112.676528 543.786723  
## 108 95.530100 85.732141 306.186218 85.732141 301.287238 129.822956  
## 109 63.686733 53.888774 338.029585 53.888774 333.130605 97.979590  
## 110 75.934182 66.136223 325.782136 66.136223 320.883156 110.227038  
## 111 406.615297 396.817338 4.898979 396.817338 9.797959 440.908154  
## 112 458.054582 448.256623 56.338264 448.256623 61.237244 492.347438  
## 113 122.474487 132.272446 524.190805 132.272446 519.291825 88.181631  
## 114 159.216833 149.418874 242.499485 149.418874 237.600505 193.509690  
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## 105 450.706113 24.494897
## 106 357.625502 68.585713 93.080610
## 107 22.045408 448.256623 472.751520 379.670910
## 108 391.918359 34.292856 58.787754 34.292856 413.963767
## 109 423.761726 2.449490 26.944387 66.136223 445.807133 31.843367
## 110 411.514277 14.696938 39.191836 53.888774 433.559684 19.595918
## 111 80.833162 345.378054 369.872951 276.792341 102.878569 311.085197
## 112 29.393877 396.817338 421.312236 328.231626 51.439285 362.524482
## 113 609.922946 183.711731 159.216833 252.297444 631.968354 218.004587
## 114 328.231626 97.979590 122.474487 29.393877 350.277033 63.686733
##          109          110          111          112          113
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## 110 12.247449
## 111 342.928564 330.681115
## 112 394.367849 382.120400 51.439285
## 113 186.161220 198.408669 529.089784 580.529069
## 114 95.530100 83.282651 247.398464 298.837749 281.691320
```

Convertir los resultados del calculo de la distancia a una matriz de datos y me indique 3 digitos.

```
round(as.matrix(dist.AMM)[1:6, 1:6],3)
```

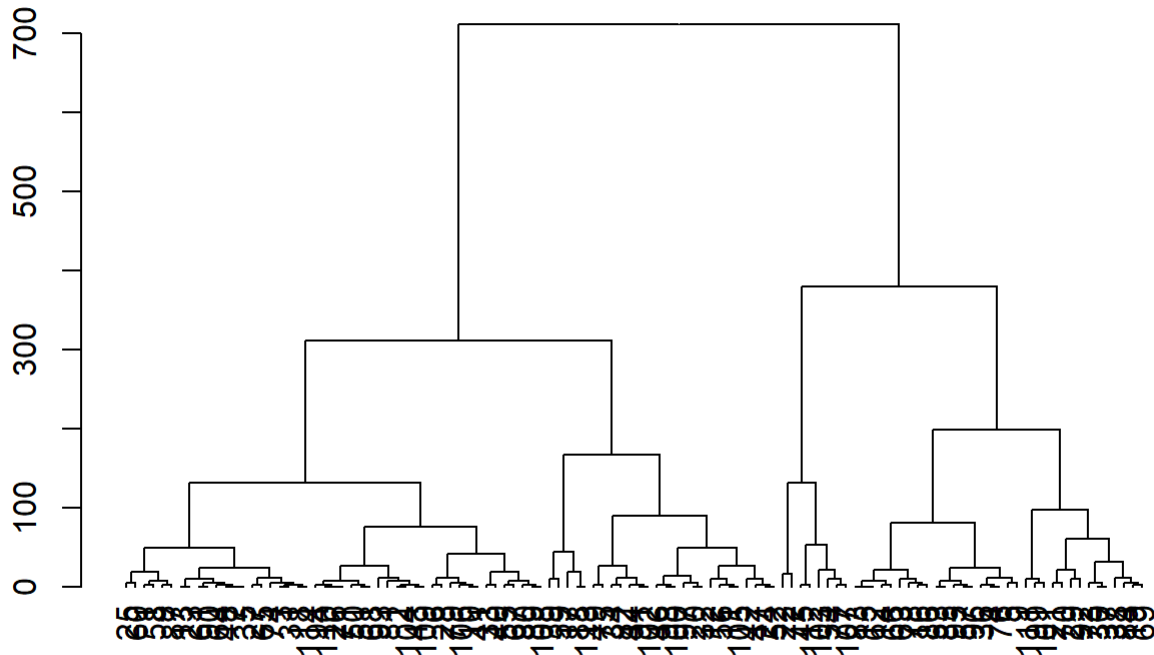
```
##      1      2      3      4      5      6
## 1  0.000 115.126 14.697 34.293 44.091 56.338
## 2 115.126  0.000 100.429 149.419 159.217 58.788
## 3 14.697 100.429  0.000 48.990 58.788 41.641
## 4 34.293 149.419 48.990  0.000  9.798 90.631
## 5 44.091 159.217 58.788  9.798  0.000 100.429
## 6 56.338 58.788 41.641 90.631 100.429  0.000
```

Calculo del dendrograma

```
dend.AMM<-as.dendrogram(hclust(dist.AMM))
```

## Generación del dendrograma

```
plot(dend.AMM)
```



```
AMM.nombres=AMM  
rownames(AMM.nombres)= AMM.nombres$obs  
AMM.nombres=AMM.nombres[, -1]
```

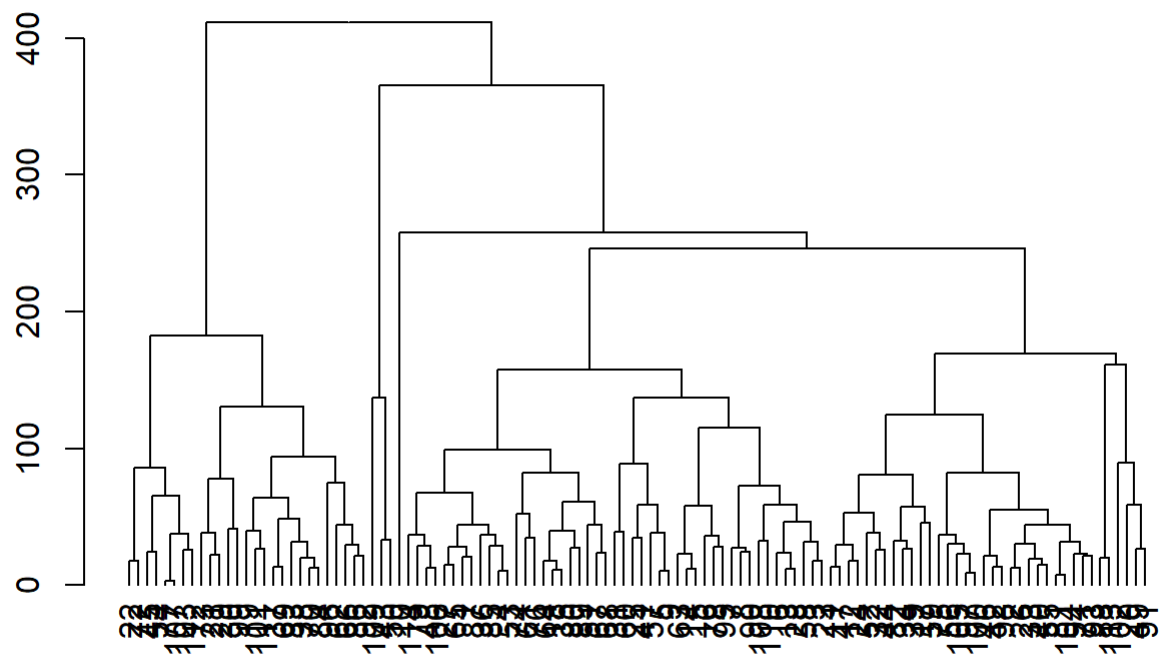
## Agregar etiquetas al grafico

```
AMM.nombres=AMM  
rownames(AMM.nombres)= AMM.nombres$name  
AMM.nombres=AMM.nombres[, -1]
```

## Construimos de nuevo el grafico

```
plot(as.dendrogram(hclust(dist(AMM.nombres))))
```

```
## Warning in dist(AMM.nombres): NAs introducidos por coerción
```



```
summary(AMM)
```



```
##      Sujeto          Sexo      Tratamiento      Condición
## Length:114      Length:114      Length:114      Length:114
## Class :character Class :character Class :character Class :character
## Mode  :character Mode  :character Mode  :character Mode  :character
##
##
##
##
## Tiempo.post.emparejamiento Tiempo.en.Proximidad.con.el.espejo..d.
## Length:114      Min.   : 0.00
## Class :character 1st Qu.: 75.25
## Mode  :character Median :110.50
##                  Mean   :118.08
##                  3rd Qu.:161.75
##                  Max.   :290.00
##
## Proximidad.con.el.espejo..f. Tiempo.en.proximidad.con.la.pareja..d.
## Min.   : 0.00      Min.   : 0.00
## 1st Qu.: 3.00      1st Qu.: 9.25
## Median : 4.00      Median : 22.00
## Mean   : 5.07      Mean   : 27.83
## 3rd Qu.: 6.75      3rd Qu.: 36.00
## Max.   :15.00      Max.   :166.00
##
## Proximidad.con.la.pareja.f. Sujeto.se.aleja.de.su.pareja..f. Movimiento..d.
## Min.   : 0.000      Min.   : 0.000      Min.   : 0.00
## 1st Qu.: 2.000      1st Qu.: 1.000      1st Qu.: 32.25
## Median : 4.000      Median : 2.000      Median : 55.00
## Mean   : 4.263      Mean   : 2.473      Mean   : 57.51
## 3rd Qu.: 5.000      3rd Qu.: 3.000      3rd Qu.: 79.50
## Max.   :22.000      Max.   :11.000      Max.   :251.00
##                  NA's   :2
## Movimiento..f.
## Min.   : 0.00
## 1st Qu.:12.00
## Median :18.00
## Mean   :18.22
## 3rd Qu.:24.00
## Max.   :45.00
##
```

Modificar el dendrograma

```
library(dendextend)
```

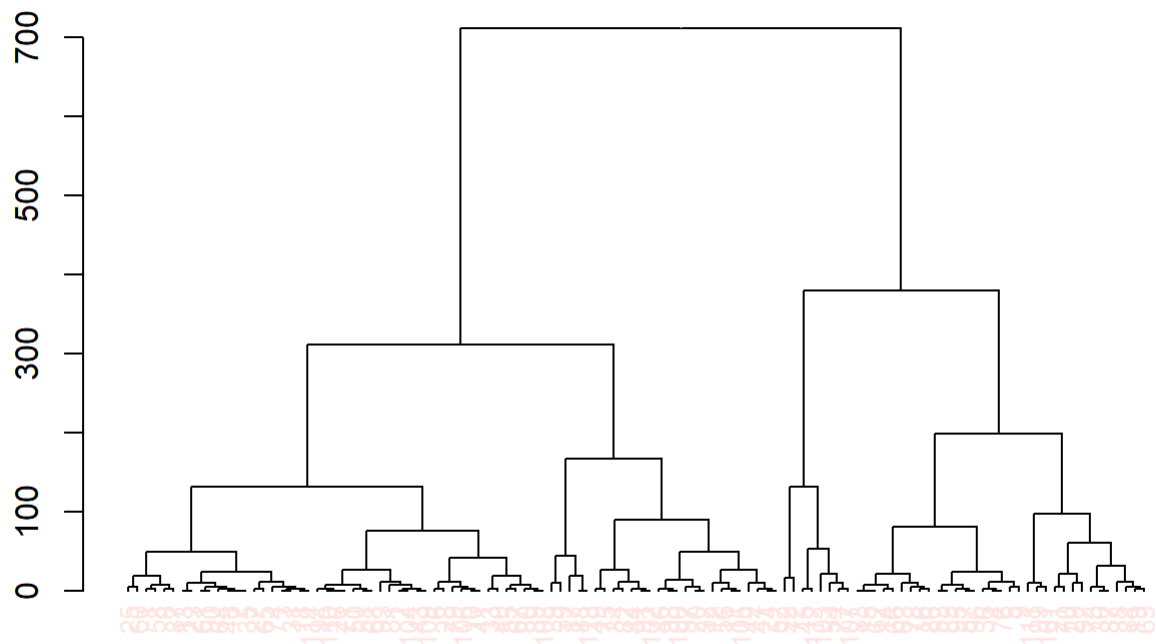
Guardar las etiquetas en el objeto "L"

```
L=labels(dend.AMM)
```

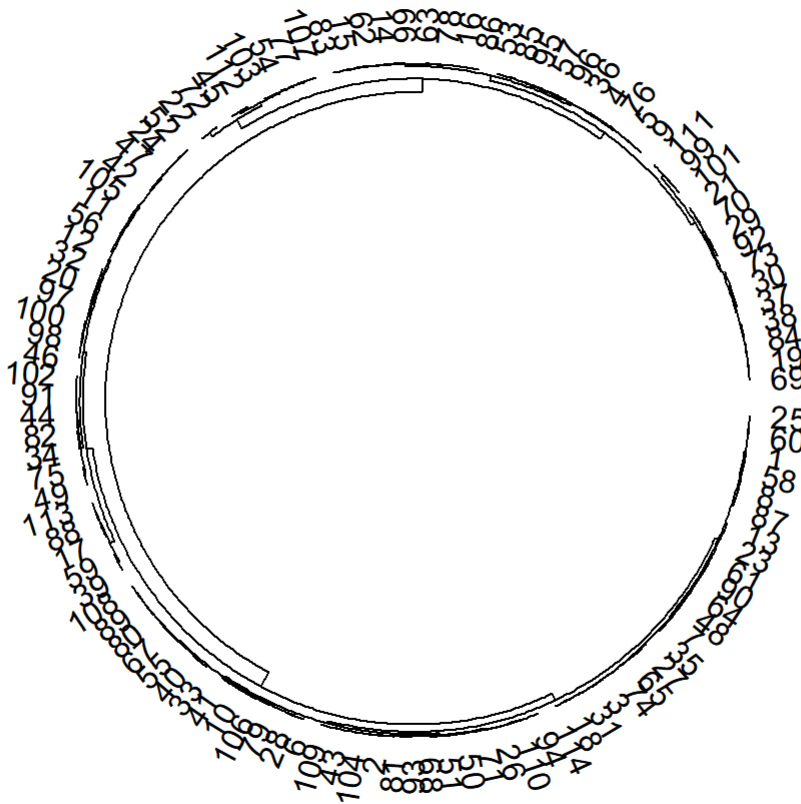
Cambiar el tamaño de las etiquetas

```
dend.AMM %>%
  set(what="labels_col", "mistyrose") %>% # Colores etiqueta
  set(what="labels_cex", 0.8) %>% # Tamaño de la etiqueta
  plot(main="Dendrograma de efecto del espejo") # Titulo
```

## Dendrograma de efecto del espejo



```
circlize_dendrogram(dend.AMM, labels_track_height = NA,
  dend_track_height = 0.1)
```



AI

observar la gráfica podemos llegar a concluir que los meses durante el año 2017 en la prueba espejo de taratamientos en cantidad de semanas, tienen una semejanza en comparación a otras semanas. Debido a esto, nos damos cuenta que tienen similaridad en distintas semanas del año.