

Laptops (Code in R)

```
> library(dplyr)
```

Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

filter, lag

The following objects are masked from 'package:base':

intersect, setdiff, setequal, union

```
> getwd()
```

```
[1] "C:/Users/Admin/Documents"
```

```
> #setwd("C:\\Users\\Admin\\Desktop\\lap")
```

```
> setwd("C:\\Users\\Admin\\Desktop\\lap")
```

```
> getwd()
```

```
[1] "C:/Users/Admin/Desktop/lap"
```

```
> data=read.csv("Laptops.csv")
```

```
> data
```

	Max.Horizontal.Resolution	Memory.Technology	Installed.Memory	Processor.Speed
1	1200	DDR2	512	1830
2	800	DDR2	1000	2000
3	800	DDR2	1000	2000
4	800	DDR2	1000	2160
5	800	DDR2	512	2000
6	800	DDR2	1000	2000
7	800	DDR2	512	1830
8	800	DDR2	1000	2160
9	800	DDR2	512	2000

10	900	DDR2	2000	2200	
11	900	DDR2	2000	2330	
12	768	DDR-SDRAM_(DDRRAM)		256	1000
13	768	SDRAM	250	933	
14	768	DDR-SDRAM_(DDRRAM)		256	1000
15	768	DDR-SDRAM_(DDRRAM)		256	1330
16	768	DDR-SDRAM_(DDRRAM)		256	867
17	768	DDR-SDRAM_(DDRRAM)		256	1000
18	768	DDR-SDRAM_(DDRRAM)		256	1200
19	768	DDR-SDRAM_(DDRRAM)		512	1330
20	854	DDR-SDRAM_(DDRRAM)		256	867
21	768	DDR-SDRAM_(DDRRAM)		256	1330
22	?	DDR-SDRAM_(DDRRAM)		256	1000
23	768	DDR-SDRAM_(DDRRAM)		512	1000
24	768	DDR-SDRAM_(DDRRAM)		512	1500
25	768	DDR-SDRAM_(DDRRAM)		512	1250
26	768	DDR-SDRAM_(DDRRAM)		512	1420
27	960	DDR2	512	1670	
28	900	DDR-SDRAM_(DDRRAM)		512	1330
29	900	DDR-SDRAM_(DDRRAM)		512	1500
30	768	DDR-SDRAM_(DDRRAM)		512	1500
31	900	DDR-SDRAM_(DDRRAM)		512	1670
32	1050	DDR2	512	1670	
33	854	DDR-SDRAM_(DDRRAM)		512	1670
34	854	DDR-SDRAM_(DDRRAM)		512	1670
35	800	DDR2	512	1800	
36	800	DDR2	512	1800	
37	768	DDR2	1000	1600	
38	800	DDR2	512	1600	
39	800	DDR2	1000	1600	
40	800	DDR2	1000	1600	

41	800	DDR2	1000	1800
42	768	DDR2	512	1730
43	800	DDR2	512	1730
44	800	DDR2	1000	1730
45	800	DDR2	2000	1660
46	800	DDR2	1000	1660
47	720	DDR2	1000	2000
48	800	DDR2	1500	2200
49	768	DDR2	1500	1060
50	768	DDR2	1500	2000
51	800	DDR2	2000	2000
52	1200	DDR2	1000	1660
53	900	DDR2	2000	2000
54	800	DDR2	1000	2200
55	768	DDR2	2000	2000
56	768	DDR2	2000	2000
57	800	DDR2	512	1600
58	800	DDR2	1000	1600

	Processor	Manufacturer	Infrared	Bluetooth	Docking.Station
1	Intel Core2 Duo	Apple	NO	YES	NO
2	Intel Core2 Duo	Apple	NO	YES	NO
3	Intel Core2 Duo	Apple	NO	YES	NO
4	Intel Core2 Duo	Apple	NO	YES	NO
5	Intel Core2 Duo	Apple	NO	YES	NO
6	Intel Core2 Duo	Apple	NO	YES	NO
7	Intel Core2 Duo	Apple	NO	YES	NO
8	Intel Core2 Duo	Apple	NO	YES	NO
9	Intel Core2 Duo	Apple	NO	YES	NO
10	Intel Core2 Duo	Apple	NO	NO	NO
11	Intel Core2 Duo	Apple	NO	YES	NO
12	PowerPC	Apple	NO	NO	NO

13	PowerPC	Apple	NO	NO	NO	
14	PowerPC	Apple	NO	NO	NO	
15	PowerPC	Apple	NO	NO	NO	
16	PowerPC	Apple	NO	NO	NO	
17	PowerPC	Apple	NO	NO	NO	
18	PowerPC	Apple	NO	NO	NO	
19	PowerPC	Apple	NO	YES	NO	
20	PowerPC	Apple	NO	NO	NO	
21	PowerPC	Apple	NO	NO	NO	
22	PowerPC	Apple	NO	NO	NO	
23	PowerPC	Apple	NO	NO	NO	
24	PowerPC	Apple	NO	YES	NO	
25	PowerPC	Apple	NO	NO	NO	
26	PowerPC	Apple	NO	YES	NO	
27	PowerPC	Apple	NO	YES	NO	
28	PowerPC	Apple	NO	NO	NO	
29	PowerPC	Apple	NO	NO	NO	
30	PowerPC	Apple	NO	YES	NO	
31	PowerPC	Apple	NO	YES	NO	
32	PowerPC	Apple	NO	YES	NO	
33	PowerPC	Apple	NO	YES	NO	
34	PowerPC	Apple	NO	YES	NO	
35	AMD Mobile Sempron HP_(Hewlett-Packard)		NO	YES	YES	
36	AMD Mobile Sempron HP_(Hewlett-Packard)		NO	YES	YES	
37	AMD Turion 64x2	Fujitsu	NO	NO	NO	
38	AMD Turion 64x2 HP_(Hewlett-Packard)		NO	NO	YES	
39	AMD Turion 64x2 HP_(Hewlett-Packard)		NO	NO	NO	
40	AMD Turion 64x2 HP_(Hewlett-Packard)		NO	NO	YES	
41	AMD Turion 64x2 HP_(Hewlett-Packard)		NO	YES	YES	
42	Intel Celeron	Lenovo	NO	NO	NO	
43	Intel Celeron	Toshiba	NO	NO	YES	

44	Intel Core2 Duo	Acer	NO	NO	NO
45	Intel Core2 Duo	Acer	NO	NO	NO
46	Intel Core2 Duo	Acer	NO	NO	NO
47	Intel Core2 Duo	Asus	NO	YES	NO
48	Intel Core2 Duo	Asus	NO	YES	NO
49	Intel Core2 Duo	Asus	NO	YES	NO
50	Intel Core2 Duo	Asus	NO	YES	NO
51	Intel Core2 Duo	Fujitsu	NO	YES	NO
52	Intel Core2 Duo	Fujitsu	YES	NO	YES
53	Intel Core2 Duo	Fujitsu	NO	NO	NO
54	Intel Core2 Duo	Fujitsu	YES	NO	YES
55	Intel Core2 Duo	Fujitsu	YES	YES	YES
56	Intel Core2 Duo	Fujitsu	YES	YES	YES
57	Intel Core2 Duo HP_(Hewlett-Packard)		NO	NO	NO
58	Intel Core2 Duo HP_(Hewlett-Packard)		NO	NO	NO

Port.Replicator Fingerprint Subwoofer External.Battery CDMA Operating.System

1	NO	NO	NO	NO	NO	Mac_OS
2	NO	NO	NO	NO	NO	Mac_OS
3	NO	NO	NO	NO	NO	Mac_OS
4	NO	NO	NO	NO	NO	Mac_OS
5	NO	NO	NO	NO	NO	Mac_OS
6	NO	NO	NO	NO	NO	Mac_OS
7	NO	NO	NO	NO	NO	Mac_OS
8	NO	NO	NO	NO	NO	Mac_OS
9	NO	NO	NO	NO	NO	Mac_OS
10	NO	NO	NO	NO	NO	Mac_OS
11	NO	NO	NO	NO	NO	Mac_OS
12	NO	NO	NO	NO	NO	Mac_OS
13	NO	NO	NO	NO	NO	Mac_OS
14	NO	NO	NO	NO	NO	Mac_OS
15	NO	NO	NO	NO	NO	Mac_OS

16	NO	NO	NO	NO	NO	Mac_OS
17	NO	NO	NO	NO	NO	Mac_OS
18	NO	NO	NO	NO	NO	Mac_OS
19	NO	NO	NO	NO	NO	Mac_OS
20	NO	NO	NO	NO	NO	Mac_OS
21	NO	NO	NO	NO	NO	Mac_OS
22	NO	NO	NO	NO	NO	Mac_OS
23	NO	NO	NO	NO	NO	Mac_OS
24	NO	NO	NO	NO	NO	Mac_OS
25	NO	NO	NO	NO	NO	Mac_OS
26	NO	NO	NO	NO	NO	Mac_OS
27	NO	NO	NO	NO	NO	Mac_OS
28	NO	NO	NO	NO	NO	Mac_OS
29	NO	NO	NO	NO	NO	Mac_OS
30	NO	NO	NO	NO	NO	Mac_OS
31	NO	NO	NO	NO	NO	Mac_OS
32	NO	NO	NO	NO	NO	Mac_OS
33	NO	NO	NO	NO	NO	Mac_OS
34	NO	NO	NO	NO	NO	Mac_OS
35	YES	YES	NO	NO	NO	Vista_Business
36	YES	YES	NO	NO	NO	Vista_Business
37	NO	YES	NO	NO	NO	Vista_Business
38	YES	YES	NO	NO	NO	Vista_Business
39	NO	YES	NO	NO	NO	Vista_Business
40	YES	YES	NO	NO	NO	Vista_Business
41	YES	NO	NO	NO	NO	Vista_Business
42	NO	NO	NO	NO	NO	Vista_Business
43	YES	YES	NO	NO	NO	Vista_Business
44	NO	NO	NO	NO	NO	Vista_Business
45	NO	NO	NO	NO	NO	Vista_Business
46	NO	NO	NO	NO	NO	Vista_Business

47	NO	NO	NO	NO	NO	Vista_Business
48	NO	NO	NO	NO	NO	Vista_Business
49	NO	YES	NO	NO	NO	Vista_Business
50	NO	NO	NO	NO	NO	Vista_Business
51	NO	YES	NO	NO	NO	Vista_Business
52	YES	NO	NO	NO	NO	Vista_Business
53	NO	YES	NO	NO	NO	Vista_Business
54	YES	NO	NO	NO	NO	Vista_Business
55	YES	YES	NO	NO	NO	Vista_Business
56	YES	YES	NO	NO	NO	Vista_Business
57	NO	NO	NO	NO	NO	Vista_Business
58	NO	NO	NO	NO	NO	Vista_Business

	Warranty.Days	Price
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1	365	949.99
2	365	999.95
3	365	1085.80
4	365	1089.99
5	365	1199.99
6	365	1249.99
7	365	1299.99
8	365	1349.95
9	365	1549.99
10	365	1883.99
11	365	1899.00
12	365	539.00
13	365	559.00
14	365	569.00
15	365	579.00
16	365	579.00
17	365	599.00
18	365	649.00

19	365 659.00
20	365 679.00
21	365 729.99
22	365 749.00
23	365 749.95
24	365 779.00
25	365 799.00
26	365 799.00
27	365 949.00
28	365 1029.00
29	365 1075.00
30	365 1129.99
31	365 1295.00
32	365 1399.00
33	365 1893.36
34	365 1893.36
35	365 642.61
36	365 652.59
37	365 1674.00
38	365 688.99
39	365 757.98
40	365 767.84
41	1095 904.99
42	365 599.99
43	365 730.00
44	365 794.00
45	365 992.73
46	365 1178.22
47	720 1281.99
48	720 1518.32
49	720 1848.99


```

50      720 1893.22
51      365 1149.00
52      365 1339.00
53      365 1624.00
54      365 1699.00
55      365 1719.00
56      365 1719.00
57      365  599.00
58      365  781.49

```

```
[ reached 'max' / getOption("max.print") -- omitted 778 rows ]
```

```
> Laptops=data
```

```
> Laptops
```

```

Max.Horizontal.Resolution Memory.Technology Installed.Memory Processor.Speed
1          1200          DDR2          512          1830
2           800          DDR2         1000          2000
3           800          DDR2         1000          2000
4           800          DDR2         1000          2160
5           800          DDR2          512          2000
6           800          DDR2         1000          2000
7           800          DDR2          512          1830
8           800          DDR2         1000          2160
9           800          DDR2          512          2000
10          900          DDR2         2000          2200
11          900          DDR2         2000          2330
12          768 DDR-SDRAM_(DDRDRAM)          256          1000
13          768          SDRAM          250          933
14          768 DDR-SDRAM_(DDRDRAM)          256          1000
15          768 DDR-SDRAM_(DDRDRAM)          256          1330
16          768 DDR-SDRAM_(DDRDRAM)          256          867
17          768 DDR-SDRAM_(DDRDRAM)          256          1000
18          768 DDR-SDRAM_(DDRDRAM)          256          1200

```

19	768	DDR-SDRAM_(DDRRAM)	512	1330
20	854	DDR-SDRAM_(DDRRAM)	256	867
21	768	DDR-SDRAM_(DDRRAM)	256	1330
22	?	DDR-SDRAM_(DDRRAM)	256	1000
23	768	DDR-SDRAM_(DDRRAM)	512	1000
24	768	DDR-SDRAM_(DDRRAM)	512	1500
25	768	DDR-SDRAM_(DDRRAM)	512	1250
26	768	DDR-SDRAM_(DDRRAM)	512	1420
27	960	DDR2	512	1670
28	900	DDR-SDRAM_(DDRRAM)	512	1330
29	900	DDR-SDRAM_(DDRRAM)	512	1500
30	768	DDR-SDRAM_(DDRRAM)	512	1500
31	900	DDR-SDRAM_(DDRRAM)	512	1670
32	1050	DDR2	512	1670
33	854	DDR-SDRAM_(DDRRAM)	512	1670
34	854	DDR-SDRAM_(DDRRAM)	512	1670
35	800	DDR2	512	1800
36	800	DDR2	512	1800
37	768	DDR2	1000	1600
38	800	DDR2	512	1600
39	800	DDR2	1000	1600
40	800	DDR2	1000	1600
41	800	DDR2	1000	1800
42	768	DDR2	512	1730
43	800	DDR2	512	1730
44	800	DDR2	1000	1730
45	800	DDR2	2000	1660
46	800	DDR2	1000	1660
47	720	DDR2	1000	2000
48	800	DDR2	1500	2200
49	768	DDR2	1500	1060

50	768	DDR2	1500	2000
51	800	DDR2	2000	2000
52	1200	DDR2	1000	1660
53	900	DDR2	2000	2000
54	800	DDR2	1000	2200
55	768	DDR2	2000	2000
56	768	DDR2	2000	2000
57	800	DDR2	512	1600
58	800	DDR2	1000	1600

	Processor	Manufacturer	Infrared	Bluetooth	Docking.Station
1	Intel Core2 Duo	Apple	NO	YES	NO
2	Intel Core2 Duo	Apple	NO	YES	NO
3	Intel Core2 Duo	Apple	NO	YES	NO
4	Intel Core2 Duo	Apple	NO	YES	NO
5	Intel Core2 Duo	Apple	NO	YES	NO
6	Intel Core2 Duo	Apple	NO	YES	NO
7	Intel Core2 Duo	Apple	NO	YES	NO
8	Intel Core2 Duo	Apple	NO	YES	NO
9	Intel Core2 Duo	Apple	NO	YES	NO
10	Intel Core2 Duo	Apple	NO	NO	NO
11	Intel Core2 Duo	Apple	NO	YES	NO
12	PowerPC	Apple	NO	NO	NO
13	PowerPC	Apple	NO	NO	NO
14	PowerPC	Apple	NO	NO	NO
15	PowerPC	Apple	NO	NO	NO
16	PowerPC	Apple	NO	NO	NO
17	PowerPC	Apple	NO	NO	NO
18	PowerPC	Apple	NO	NO	NO
19	PowerPC	Apple	NO	YES	NO
20	PowerPC	Apple	NO	NO	NO
21	PowerPC	Apple	NO	NO	NO

22	PowerPC	Apple	NO	NO	NO	
23	PowerPC	Apple	NO	NO	NO	
24	PowerPC	Apple	NO	YES	NO	
25	PowerPC	Apple	NO	NO	NO	
26	PowerPC	Apple	NO	YES	NO	
27	PowerPC	Apple	NO	YES	NO	
28	PowerPC	Apple	NO	NO	NO	
29	PowerPC	Apple	NO	NO	NO	
30	PowerPC	Apple	NO	YES	NO	
31	PowerPC	Apple	NO	YES	NO	
32	PowerPC	Apple	NO	YES	NO	
33	PowerPC	Apple	NO	YES	NO	
34	PowerPC	Apple	NO	YES	NO	
35	AMD Mobile Sempron HP_(Hewlett-Packard)		NO	YES	YES	
36	AMD Mobile Sempron HP_(Hewlett-Packard)		NO	YES	YES	
37	AMD Turion 64x2	Fujitsu	NO	NO	NO	
38	AMD Turion 64x2	HP_(Hewlett-Packard)	NO	NO	YES	
39	AMD Turion 64x2	HP_(Hewlett-Packard)	NO	NO	NO	
40	AMD Turion 64x2	HP_(Hewlett-Packard)	NO	NO	YES	
41	AMD Turion 64x2	HP_(Hewlett-Packard)	NO	YES	YES	
42	Intel Celeron	Lenovo	NO	NO	NO	
43	Intel Celeron	Toshiba	NO	NO	YES	
44	Intel Core2 Duo	Acer	NO	NO	NO	
45	Intel Core2 Duo	Acer	NO	NO	NO	
46	Intel Core2 Duo	Acer	NO	NO	NO	
47	Intel Core2 Duo	Asus	NO	YES	NO	
48	Intel Core2 Duo	Asus	NO	YES	NO	
49	Intel Core2 Duo	Asus	NO	YES	NO	
50	Intel Core2 Duo	Asus	NO	YES	NO	
51	Intel Core2 Duo	Fujitsu	NO	YES	NO	
52	Intel Core2 Duo	Fujitsu	YES	NO	YES	

53	Intel Core2 Duo	Fujitsu	NO	NO	NO
54	Intel Core2 Duo	Fujitsu	YES	NO	YES
55	Intel Core2 Duo	Fujitsu	YES	YES	YES
56	Intel Core2 Duo	Fujitsu	YES	YES	YES
57	Intel Core2 Duo HP_(Hewlett-Packard)		NO	NO	NO
58	Intel Core2 Duo HP_(Hewlett-Packard)		NO	NO	NO

Port.Replicator Fingerprint Subwoofer External.Battery CDMA Operating.System

1	NO	NO	NO	NO	NO	Mac_OS
2	NO	NO	NO	NO	NO	Mac_OS
3	NO	NO	NO	NO	NO	Mac_OS
4	NO	NO	NO	NO	NO	Mac_OS
5	NO	NO	NO	NO	NO	Mac_OS
6	NO	NO	NO	NO	NO	Mac_OS
7	NO	NO	NO	NO	NO	Mac_OS
8	NO	NO	NO	NO	NO	Mac_OS
9	NO	NO	NO	NO	NO	Mac_OS
10	NO	NO	NO	NO	NO	Mac_OS
11	NO	NO	NO	NO	NO	Mac_OS
12	NO	NO	NO	NO	NO	Mac_OS
13	NO	NO	NO	NO	NO	Mac_OS
14	NO	NO	NO	NO	NO	Mac_OS
15	NO	NO	NO	NO	NO	Mac_OS
16	NO	NO	NO	NO	NO	Mac_OS
17	NO	NO	NO	NO	NO	Mac_OS
18	NO	NO	NO	NO	NO	Mac_OS
19	NO	NO	NO	NO	NO	Mac_OS
20	NO	NO	NO	NO	NO	Mac_OS
21	NO	NO	NO	NO	NO	Mac_OS
22	NO	NO	NO	NO	NO	Mac_OS
23	NO	NO	NO	NO	NO	Mac_OS
24	NO	NO	NO	NO	NO	Mac_OS

25	NO	NO	NO	NO	NO	Mac_OS
26	NO	NO	NO	NO	NO	Mac_OS
27	NO	NO	NO	NO	NO	Mac_OS
28	NO	NO	NO	NO	NO	Mac_OS
29	NO	NO	NO	NO	NO	Mac_OS
30	NO	NO	NO	NO	NO	Mac_OS
31	NO	NO	NO	NO	NO	Mac_OS
32	NO	NO	NO	NO	NO	Mac_OS
33	NO	NO	NO	NO	NO	Mac_OS
34	NO	NO	NO	NO	NO	Mac_OS
35	YES	YES	NO	NO	NO	Vista_Business
36	YES	YES	NO	NO	NO	Vista_Business
37	NO	YES	NO	NO	NO	Vista_Business
38	YES	YES	NO	NO	NO	Vista_Business
39	NO	YES	NO	NO	NO	Vista_Business
40	YES	YES	NO	NO	NO	Vista_Business
41	YES	NO	NO	NO	NO	Vista_Business
42	NO	NO	NO	NO	NO	Vista_Business
43	YES	YES	NO	NO	NO	Vista_Business
44	NO	NO	NO	NO	NO	Vista_Business
45	NO	NO	NO	NO	NO	Vista_Business
46	NO	NO	NO	NO	NO	Vista_Business
47	NO	NO	NO	NO	NO	Vista_Business
48	NO	NO	NO	NO	NO	Vista_Business
49	NO	YES	NO	NO	NO	Vista_Business
50	NO	NO	NO	NO	NO	Vista_Business
51	NO	YES	NO	NO	NO	Vista_Business
52	YES	NO	NO	NO	NO	Vista_Business
53	NO	YES	NO	NO	NO	Vista_Business
54	YES	NO	NO	NO	NO	Vista_Business
55	YES	YES	NO	NO	NO	Vista_Business

56	YES	YES	NO	NO	NO	Vista_Business
57	NO	NO	NO	NO	NO	Vista_Business
58	NO	NO	NO	NO	NO	Vista_Business

	Warranty.Days	Price
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1	365	949.99
2	365	999.95
3	365	1085.80
4	365	1089.99
5	365	1199.99
6	365	1249.99
7	365	1299.99
8	365	1349.95
9	365	1549.99
10	365	1883.99
11	365	1899.00
12	365	539.00
13	365	559.00
14	365	569.00
15	365	579.00
16	365	579.00
17	365	599.00
18	365	649.00
19	365	659.00
20	365	679.00
21	365	729.99
22	365	749.00
23	365	749.95
24	365	779.00
25	365	799.00
26	365	799.00
27	365	949.00

28	365 1029.00
29	365 1075.00
30	365 1129.99
31	365 1295.00
32	365 1399.00
33	365 1893.36
34	365 1893.36
35	365 642.61
36	365 652.59
37	365 1674.00
38	365 688.99
39	365 757.98
40	365 767.84
41	1095 904.99
42	365 599.99
43	365 730.00
44	365 794.00
45	365 992.73
46	365 1178.22
47	720 1281.99
48	720 1518.32
49	720 1848.99
50	720 1893.22
51	365 1149.00
52	365 1339.00
53	365 1624.00
54	365 1699.00
55	365 1719.00
56	365 1719.00
57	365 599.00
58	365 781.49


```

[ reached 'max' /getOption("max.print") -- omitted 778 rows ]

836 obs. Of 17 variables

> nrow(Laptops)

[1] 836

> ncol(Laptops)

[1] 17

> Laptops%>%select(1,2)->Laptops_1_2

> View(Laptops_1_2)

836 obs. Of 2 variables

> Laptops%>%select("Product","Company","Price")->Laptops_cpp

> View(Laptops_cpp)

836 obs. Of 3 variables

> Laptops%>%select(starts_with("P"))->Laptops_P

> View(Laptops_P)

836 obs. Of 4 variables

> Laptops%>%select(starts_with("s"))->Laptops_s

> View(Laptops_s)

836 obs. Of 1 variable

> Laptops%>%filter(Company=="PowerPC")->Laptops_powerPC

> View(Laptops_powerPC)

23 obs. Of 17 variables

> Laptops%>%filter(Inches>800)->Laptops_800_inch

> View(Laptops_800_inch)

89 obs. Of 17 variables

> Laptops%>%filter(Company=="PowerPC"&Inches>800)->Laptops_powerPC_800_inch

> View(Laptops_powerPC_800_inch)

7 obs. Of 17 variables

> Laptops%>%select("Company","Product","Price")%>%filter(Company=="PowerPC")->Laptops_final

> View(Laptops_final)

23 obs. Of 3 variables

```

