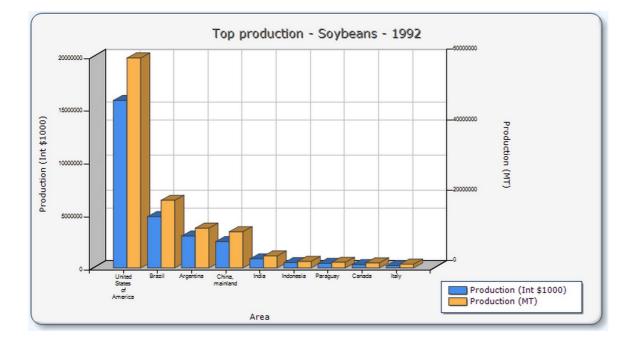
## Designing Associativity. Visualization of data.

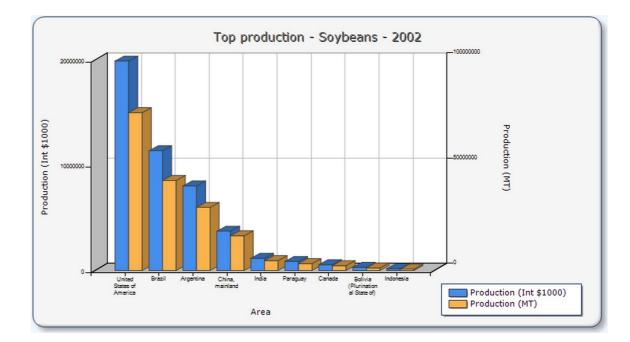
For my Design Studio researching I need to visualize a gradually increasing amounts of soya beans growing around the world. Using this information it is possible to see a global scale and, at the same time, details of soya beans market, which is necessary for my further researching of Metabolic Design theme and development of particularly my topic about mutation and GMO products.

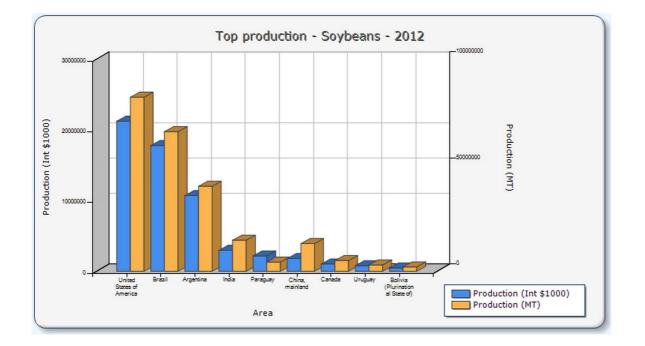


## Data.

Data were taken from a website of UN Food and Agriculture Organization (FAO). I took a data of Production (MT) or Production in metric tonnes (1000kg) for the 1992, 2002, 2012 years.







## Data.

The data were input into 3 different .txt files to make 3 databases. The thing is that all these databases have different «Top 20» countries. So I need to make a short list of common countries for all of these years and extract the data about Production (MT) only from these countries.

	soja_2002.txt	• • •	soja_1992.txt
Rank	Area Production (Int \$1000) Flag Production (MT) Flag	Rank	Area Production (Int \$1000) Flag Production (MT) Flag
1	United States of America 19903811 * 75008541	1	United States of America 15856387 * 59612000
2	Brazil 11379031 * 42769000 *	2	Brazil 4857663 * 19214704
3	Argentina 8038630 * 3000000	3	Argentina 3022011 * 11310000
4	China, mainland 3737854 * 16505000	4	China, mainland 2499180 * 10304000
5	India 1168881 * 4654700	5	India 857928 * 3390000
6	Paraguay 859174 * 3300000	6	Indonesia 495844 * 1869713
7	Canada 550595 * 2335700	7	Paraguay 422605 * 1617940
8	Bolivia (Plurinational State of) 299045 * 1246495	8	Canada 321641 * 1455300
9	Indonesia 172271 * 673056	9	Italy 216905 * 1064777
10	Nigeria 110254 * 464000	10	Thailand 128849 * 480148
11	Democratic People's Republic of Korea 89266 * 350000 *	11	Mexico 120677 * 593540
12	Russian Federation 78329 * 422780	12	Russian Federation 118198 * 505360
13 14	Thailand 70171 * 259863 Serbia and Montenegro 65566 * 244293	13	Democratic People's Republic of Korea 102783 * 400000 *
15	South Africa 58697 * 223000	14	Bolivia (Plurinational State of) 80036 * 342463
16	Iran (Islamic Republic of) 50579 * 190000 *	15	Republic of Korea 43910 * 175925
17	Uganda 42998 * 166000	16	Ecuador 36239 * 137420
18	Japan 41198 * 270200	18	Nigeria 33815 * 154000 Romania 31102 * 126159
19	Romania 34320 * 145900	19	Iran (Islamic Republic of) 26040 * 100000 *
20	Croatia 33091 * 129470	20	Ukraine 25986 * 120000 *
		20	

Rank       Area       Production (Int \$1000)       Flag       Production (MT)       Flag         1       United States of America       21230300       *       82054800         2       Brazil       17787069       *       65848857         3       Argentina       10714080       *       40100197         4       India       2976638 *       14666000         5       Paraguay       2184444 *       4344960         6       China, mainland       1807940 *       13050000         7       Canada       1027806 *       5086400         8       Uruguay 807384 *       3000000 *         9       Bolivia (Plurinational State of)       477512 *       2061430         10       Ukraine 409601 *       2410200       1806203         11       Russian Federation       230675 *       1806203         12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria       138803 *       580000 *         15       Italy       93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         <					soja_20	012.txt		
2       Brazil 17787069       *       65848857         3       Argentina       10714080       *       40100197         4       India       2976638 *       14666000         5       Paraguay       2184444 *       4344960         6       China, mainland       1807940 *       13050000         7       Canada       1027806 *       5086400         8       Uruguay       807384 *       3000000 *         9       Bolivia (Plurinational State of)       477512 *       2061430         10       Ukraine 409601 *       2410200       2061430         11       Russian Federation       230675 *       1806203         12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria 138803 *       580000 *       15         15       Italy       93835 *       422100       16         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia       62848 *       280638       18         18       Zambia       54063 *       203038       16	Rank	Area Product:	ion (Int				ion (MT)	Flag
8       Uruguay 807384 *       3000000 *         9       Bolivia (Plurinational State of)       477512 *       2061430         10       Ukraine 409601 *       2410200         11       Russian Federation       230675 *       1806203         12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria 138803 *       580000 *         15       Italy 93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia 62848 *       280638         18       Zambia 54063 *       203038	1	United States o	f America	а	21230300	)	*	82054800
8       Uruguay 807384 *       3000000 *         9       Bolivia (Plurinational State of)       477512 *       2061430         10       Ukraine 409601 *       2410200         11       Russian Federation       230675 *       1806203         12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria 138803 *       580000 *         15       Italy 93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia 62848 *       280638         18       Zambia 54063 *       203038	2	Brazil 1778706	9	*	65848857	7		
8       Uruguay 807384 *       3000000 *         9       Bolivia (Plurinational State of)       477512 *       2061430         10       Ukraine 409601 *       2410200         11       Russian Federation       230675 *       1806203         12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria 138803 *       580000 *         15       Italy 93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia 62848 *       280638         18       Zambia 54063 *       203038	3	Argentina	10714080	0	*	40100197	7	
8       Uruguay 807384 *       3000000 *         9       Bolivia (Plurinational State of)       477512 *       2061430         10       Ukraine 409601 *       2410200         11       Russian Federation       230675 *       1806203         12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria 138803 *       580000 *         15       Italy 93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia 62848 *       280638         18       Zambia 54063 *       203038	4	India 2976638	*	14666000	)			
8       Uruguay 807384 *       3000000 *         9       Bolivia (Plurinational State of)       477512 *       2061430         10       Ukraine 409601 *       2410200         11       Russian Federation       230675 *       1806203         12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria 138803 *       580000 *         15       Italy 93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia 62848 *       280638         18       Zambia 54063 *       203038	5	Paraguay	2184444	*	4344960			
8       Uruguay 807384 *       3000000 *         9       Bolivia (Plurinational State of)       477512 *       2061430         10       Ukraine 409601 *       2410200         11       Russian Federation       230675 *       1806203         12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria 138803 *       580000 *         15       Italy 93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia 62848 *       280638         18       Zambia 54063 *       203038	6	China, mainland	1807940	*	13050000	)		
10       Ukraine 409601 *       2410200         11       Russian Federation       230675 *       1806203         12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria       138803 *       580000 *         15       Italy       93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia       62848 *       280638         18       Zambia       54063 *       203038	7	Canada 1027806	*	5086400				
10       Ukraine 409601 *       2410200         11       Russian Federation       230675 *       1806203         12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria       138803 *       580000 *         15       Italy       93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia       62848 *       280638         18       Zambia       54063 *       203038	8	Uruguay 807384	*	3000000	*			
11       Russian Federation       230675 *       1806203         12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria       138803 *       580000 *         15       Italy       93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia       62848 *       280638         18       Zambia       54063 *       203038	9	Bolivia (Plurina	ational 9	State of)		477512	*	2061430
12       Indonesia       219612 *       843153         13       South Africa       170545 *       650000         14       Nigeria       138803 *       580000 *         15       Italy       93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia       62848 *       280638         18       Zambia       54063 *       203038	10	Ukraine 409601	*	2410200				
13       South Africa       170545 *       650000         14       Nigeria       138803 *       580000 *         15       Italy       93835 *       422100         16       Democratic People's Republic of Korea       89419 *       350000 *         17       Serbia       62848 *       280638         18       Zambia       54063 *       203038	11	Russian Federat:	ion	230675	*	1806203		
14         Nigeria         138803         *         580000         *           15         Italy         93835         *         422100           16         Democratic People's Republic of Korea         89419         *         350000           17         Serbia         62848         *         280638           18         Zambia         54063         *         203038	12	Indonesia	219612	*	843153			
15 Italy 93835 * 422100 16 Democratic People's Republic of Korea 89419 * 350000 * 17 Serbia 62848 * 280638 18 Zambia 54063 * 203038	13	South Africa	170545	*	650000			
16 Democratic People's Republic of Korea 89419 * 350000 * 17 Serbia 62848 * 280638 18 Zambia 54063 * 203038	14	Nigeria 138803	*	580000	*			
17 Serbia 62848 * 280638 18 Zambia 54063 * 203038	15	Italy 93835	*	422100				
18 Zambia 54063 * 203038	16	Democratic Peop	le's Repu	ublic of	Korea	89419	*	350000 *
	17	Serbia 62848	*	280638				
19 Myanmar 53432 * 205000 *	18	Zambia 54063	*	203038				
	19	Myanmar 53432	*	205000	*			
20 Iran (Islamic Republic of) 53322 * 174000 *	20			of)	53322	*	174000	*

## Data.

After processing of 3 different databases I joined an information by «set intersection» and get 13 common for all of these years countries. Then using «expression» and working with lists, I figured out that USA is the leader of this Top chart. The scale of their production can hardly be compared with any of the countries from the rest of the obtained lists.

