

FreeProductsExtendedProfile

July 16, 2018

Group : $C_2 * C_3$

Searching up to index : 2500

How many normal groups are found : 527

Total Time in s : 507.5

Total Magma-Time in s : 402.63

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
1706	0.0	0.0	426.1	0.0	NextPrimeInt
5720	0.5	0.0	115289.8	399.1	GroupHomomorphismByImagesNC
35124	0.6	0.0	76630.6	0.0	GModuleByMats
863	1.1	0.0	302526.3	0.0	NaturalHomomorphismBySubspace
509862	1.2	0.0	208581.7	558.1	Index
1706	1.4	0.2	426032.6	96124.2	EpimorphismQuotientSystem
2382723	2.3	0.1	32753.3	0.0	GeneratorsOfMagmaWithInverses
3412	3.1	0.0	1271927.9	213.6	PQuotient
2	5.2	0.0	1506900.6	589.0	LowIndexSubgroupsFpGroup
367184	5.7	0.3	1364693.5	14308.0	Intersection
5032	7.4	5.5	1924308.3	1350632.0	Core
526	7.7	7.4	4146563.6	4118288.1	FindIntersections
313377	7.8	0.0	4404500.1	0.0	ExponentSum
189576	12.0	0.1	6256687.4	169.3	PreImagesRepresentative
1	13.4	13.4	3585251.2	3585248.5	FindTQuotients
501344	19.2	0.2	10947935.8	310.5	Image
863	21.8	4.4	10453876.1	2447787.9	PullBackH
1095	30.1	0.2	13426871.1	5334.8	IsomorphismFpGroup
11316	34.4	0.7	28872554.2	125739.7	PreImage
863	34.5	34.4	28877839.1	28870426.3	Kernel
994	61.6	0.1	17410553.1	24406.8	SMTX_BasesMaximalSubmodules

11757	299.7	0.8	244515346.6	8082.0	IsSubgroup
1059	300.8	300.2	244671368.2	244582041.4	AddGroup
527	486.2	482.2	332517169.7	331835351.7	FindPQuotients
1	507.5	507.5	340248984.8	340248984.6	LowIndexNormal

Group : $C_2 * C_{12}$

Searching up to index : 150

How many normal groups are found : 355

Total Time in s : 53.9

Total Magma-Time in s : 270.79

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
494	0.0	0.0	71.7	0.0	NextPrimeInt
22	0.0	0.0	1037.6	585.7	Core
2	0.0	0.0	883.0	4.5	LowIndexSubgroupsFpGroup
1	0.0	0.0	8503.5	8503.1	FindTQuotients
8884	0.1	0.0	15068.3	0.0	GModuleByMats
3536	0.1	0.0	25903.0	230.6	GroupHomomorphismByImagesNC
119610	0.2	0.0	12333.8	261.6	Intersection
494	0.2	0.0	59887.6	11310.9	EpimorphismQuotientSystem
674	0.2	0.0	43578.2	0.0	NaturalHomomorphismBySubspace
49960	0.4	0.0	189120.3	0.0	ExponentSum
241234	0.5	0.0	61617.3	438.1	Index
35168	0.8	0.0	297715.9	70.5	PreImagesRepresentative
988	1.0	0.0	351013.1	64.2	PQuotient
1191496	1.1	0.0	14556.0	0.0	GeneratorsOfMagmaWithInverses
674	1.3	0.2	528607.6	111495.1	PullBackH
136128	1.8	0.0	459150.0	205.0	Image
1392	2.8	0.3	807319.9	49097.3	PreImage
674	2.9	2.8	813232.3	807410.8	Kernel
354	3.5	3.3	1137355.7	1113756.3	FindIntersections
711	3.7	0.0	1168534.0	2924.2	IsomorphismFpGroup
387	4.0	0.1	787423.9	7862.6	SMTX_BasesMaximalSubmodules
18825	35.7	1.0	13645577.2	12840.0	IsSubgroup
748	36.4	36.0	13708846.8	13669267.9	AddGroup
355	50.3	49.5	17276994.0	17195149.2	FindPQuotients
1	53.9	53.9	18422853.4	18422853.3	LowIndexNormal

Group : $C_2 * C_4$

Searching up to index : 500

How many normal groups are found : 688

Total Time in s : 231.0

Total Magma-Time in s : 470.73

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
1182	0.0	0.0	197.4	0.0	NextPrimeInt
2	0.0	0.0	4819.9	16.2	LowIndexSubgroupsFpGroup
199	0.0	0.0	14176.5	9245.3	Core
1	0.1	0.1	43159.9	43158.6	FindTQuotients
22438	0.2	0.0	39347.9	0.0	GModuleByMats
7311	0.5	0.0	78232.8	484.2	GroupHomomorphismByImagesNC
1182	0.6	0.1	199884.0	49582.5	EpimorphismQuotientSystem
459746	0.6	0.0	45650.6	534.1	Intersection
1362	0.7	0.0	191286.0	0.0	NaturalHomomorphismBySubspace
892357	1.4	0.0	189589.2	871.4	Index
2268212	2.2	0.0	21833.2	0.0	GeneratorsOfMagmaWithInverses
210644	3.0	0.0	1541181.9	0.0	ExponentSum
2364	3.1	0.0	1058971.1	157.3	PQuotient
114726	4.4	0.0	2147666.1	166.6	PreImagesRepresentative
687	8.9	8.3	3439239.7	3348405.1	FindIntersections
374430	9.5	0.2	4238627.6	427.4	Image
1362	10.3	1.8	4598231.3	916525.2	PullBackH
2940	14.4	0.9	7186761.1	128796.1	PreImage
1362	14.6	14.4	7198450.6	7186801.8	Kernel
1377	15.9	0.1	6772276.2	6003.4	IsomorphismFpGroup
955	31.5	0.0	12714020.2	17374.1	SMTX_BasesMaximalSubmodules
24645	132.6	1.7	78009164.3	17147.5	IsSubgroup
1522	134.8	133.5	78268576.3	78089909.3	AddGroup
688	221.8	219.2	114980202.2	114703338.2	FindPQuotients
1	231.0	231.0	118462602.0	118462601.9	LowIndexNormal

Group : $C_2 * C_5$

Searching up to index : 2000

How many normal groups are found : 205

Total Time in s : 539.9

Total Magma-Time in s : 266.68

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
894	0.0	0.0	228.2	0.0	NextPrimeInt
204	0.2	0.1	72515.7	69891.9	FindIntersections
2018	0.2	0.0	57023.9	151.9	GroupHomomorphismByImagesNC
18352	0.2	0.0	31316.4	0.0	GModuleByMats
231	0.5	0.0	167220.6	0.0	NaturalHomomorphismBySubspace
295110	0.7	0.0	71298.7	140.9	Index
894	0.7	0.1	243963.2	51229.2	EpimorphismQuotientSystem
992288	0.9	0.0	14605.9	0.0	GeneratorsOfMagmaWithInverses
2	1.0	0.0	284383.3	254.1	LowIndexSubgroupsFpGroup
1788	1.9	0.0	669175.4	112.3	PQuotient
84342	2.0	0.1	443968.4	6341.3	Intersection
3194	2.8	2.1	636672.0	444508.3	Core
1	5.1	5.1	1260459.3	1260456.8	FindTQuotients
133540	5.2	0.0	2822319.3	0.0	ExponentSum
4566	8.8	0.2	4943321.0	40817.8	PreImage
231	8.8	8.8	4944445.3	4942431.3	Kernel
97152	8.9	0.0	4254163.0	57.8	PreImagesRepresentative
244642	10.7	0.1	4474409.7	97.3	Image
231	14.1	2.6	6837097.7	1462107.5	PullBackH
411	23.1	0.1	10695943.8	2215.9	IsomorphismFpGroup
5799	99.2	0.3	66914483.7	3866.0	IsSubgroup
369	99.3	99.3	66930992.9	66918953.7	AddGroup
349	295.3	0.1	84454128.6	12921.2	SMTX_BasesMaximalSubmodules
205	534.5	465.8	211439395.5	184674606.1	FindPQuotients
1	539.9	539.9	212772370.7	212772370.6	LowIndexNormal

Group : $C_2 * C_6$

Searching up to index : 500

How many normal groups are found : 862

Total Time in s : 363.8

Total Magma-Time in s : 917.5

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
1344	0.0	0.0	220.6	0.0	NextPrimeInt
2	0.0	0.0	10428.7	44.8	LowIndexSubgroupsFpGroup
400	0.1	0.1	34834.8	23137.9	Core
31718	0.3	0.0	51709.9	0.0	GModuleByMats
1	0.5	0.5	128841.8	128840.3	FindTQuotients
8857	0.7	0.0	102772.6	603.3	GroupHomomorphismByImagesNC
1344	0.8	0.2	239374.4	67379.2	EpimorphismQuotientSystem
1665	0.8	0.0	224337.3	0.0	NaturalHomomorphismBySubspace
728852	1.0	0.0	78010.7	959.4	Intersection
1387327	2.1	0.1	265595.3	1099.6	Index
278083	3.7	0.0	1945318.3	0.0	ExponentSum
3856753	3.8	0.2	36083.2	0.0	GeneratorsOfMagmaWithInverses
2688	4.1	0.0	1850045.7	176.8	PQuotient
135018	5.5	0.1	2452338.7	188.0	PreImagesRepresentative
489954	10.6	0.2	3956821.8	518.8	Image
1665	13.7	2.3	5882006.0	1246782.6	PullBackH
861	17.1	16.2	6736384.8	6608010.2	FindIntersections
3742	18.0	1.1	8902826.7	164198.4	PreImage
1665	18.1	18.0	8917078.6	8902824.8	Kernel
1725	24.1	0.3	9749862.0	7685.9	IsomorphismFpGroup
1090	30.6	0.1	8627660.3	25357.0	SMTX_BasesMaximalSubmodules
45608	242.7	3.0	136528888.6	30911.1	IsSubgroup
1896	246.0	244.0	136913274.1	136652804.2	AddGroup
862	346.1	340.8	174319179.2	172907966.1	FindPQuotients
1	363.8	363.8	181184406.0	181184405.9	LowIndexNormal

Group : $C_2 * C_7$

Searching up to index : 1000

How many normal groups are found : 63

Total Time in s : 19.4

Total Magma-Time in s : 46.2

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
385	0.0	0.0	98.6	0.0	NextPrimeInt
62	0.0	0.0	5533.0	5321.3	FindIntersections

2716	0.0	0.0	4362.0	0.0	GModuleByMats
10756	0.0	0.0	8558.0	36.0	Index
679	0.0	0.0	10704.9	45.2	GroupHomomorphismByImagesNC
59	0.0	0.0	18937.6	0.0	NaturalHomomorphismBySubspace
2	0.0	0.0	24208.1	45.4	LowIndexSubgroupsFpGroup
385	0.1	0.0	50835.8	9234.0	EpimorphismQuotientSystem
142460	0.1	0.0	2130.5	0.0	GeneratorsOfMagmaWithInverses
9180	0.2	0.0	49611.0	819.4	Intersection
518	0.3	0.2	71723.4	49721.6	Core
19748	0.4	0.0	256103.1	0.0	ExponentSum
1	0.4	0.4	116428.0	116427.4	FindTQuotients
770	0.6	0.0	290743.7	48.5	PQuotient
13316	0.6	0.0	373814.7	15.6	PreImagesRepresentative
34834	0.9	0.0	422848.8	24.3	Image
634	1.0	0.0	431411.3	7143.1	PreImage
59	1.0	1.0	431869.2	431322.5	Kernel
59	1.2	0.2	660923.6	140346.1	PullBackH
127	2.8	0.0	1232825.5	601.5	IsomorphismFpGroup
92	3.6	0.0	1211464.4	1846.6	SMTX_BasesMaximalSubmodules
736	6.4	0.0	4507444.0	501.6	IsSubgroup
83	6.4	6.4	4508574.1	4507899.3	AddGroup
63	18.9	17.9	9666852.6	9297793.0	FindPQuotients
1	19.4	19.4	9788813.9	9788813.8	LowIndexNormal

Group : $C_2 * C_8$

Searching up to index : 500

How many normal groups are found : 1187

Total Time in s : 1119.2

Total Magma-Time in s : 2765.47

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
1581	0.0	0.0	248.7	0.0	NextPrimeInt
2	0.0	0.0	11835.2	34.2	LowIndexSubgroupsFpGroup
415	0.1	0.1	36064.6	23605.9	Core
1	0.6	0.6	148939.8	148938.0	FindTQuotients
57544	0.8	0.0	110932.6	0.0	GModuleByMats

1581	1.1	0.2	350441.2	97218.3	EpimorphismQuotientSystem
12697	1.2	0.0	152071.0	853.7	GroupHomomorphismByImagesNC
1380292	1.8	0.0	132691.7	1271.2	Intersection
2484	2.2	0.0	598305.8	0.0	NaturalHomomorphismBySubspace
3162	3.5	0.0	1432424.9	208.6	PQuotient
2896544	3.9	0.1	499492.9	1581.4	Index
511527	10.3	0.0	5344888.4	0.0	ExponentSum
11258618	11.0	0.4	84318.2	0.0	GeneratorsOfMagmaWithInverses
319824	15.8	0.2	7320063.6	239.6	PreImagesRepresentative
1131466	28.1	0.6	11066554.0	755.8	Image
2484	34.3	6.2	15886036.5	3281385.0	PullBackH
5400	40.9	2.0	17879460.7	280774.9	PreImage
2484	41.1	40.9	17900647.9	17879456.4	Kernel
1186	45.0	42.7	19501318.3	19134786.3	FindIntersections
2375	83.3	0.5	28461207.3	10706.6	IsomorphismFpGroup
1337	115.1	0.3	45286249.7	52491.9	SMTX_BasesMaximalSubmodules
119200	759.0	9.5	389231368.3	80578.5	IsSubgroup
2779	765.5	761.5	390079038.6	389482294.5	AddGroup
1187	1073.6	1053.4	508280416.8	501387161.0	FindPQuotients
1	1119.2	1119.2	527930675.0	527930674.9	LowIndexNormal

Group : $C_2 * C_{10}$

Searching up to index : 500

How many normal groups are found : 469

Total Time in s : 120.7

Total Magma-Time in s : 243.42

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
951	0.0	0.0	165.4	0.0	NextPrimeInt
2	0.0	0.0	6170.5	21.4	LowIndexSubgroupsFpGroup
188	0.0	0.0	19267.0	12899.7	Core
1	0.1	0.1	34251.1	34250.4	FindTQuotients
13428	0.1	0.0	24113.8	0.0	GModuleByMats
877	0.3	0.0	93109.8	0.0	NaturalHomomorphismBySubspace
4919	0.3	0.0	68193.8	311.6	GroupHomomorphismByImagesNC
214366	0.3	0.0	28335.0	389.6	Intersection

951	0.5	0.1	160649.5	49389.8	EpimorphismQuotientSystem
384279	0.8	0.0	110325.8	555.3	Index
1056580	1.0	0.0	11245.1	0.0	GeneratorsOfMagmaWithInverses
160569	2.0	0.0	976603.2	0.0	ExponentSum
468	2.5	2.3	780868.9	751592.6	FindIntersections
68040	3.8	0.0	1431612.0	124.8	PreImagesRepresentative
1902	4.0	0.0	1694035.7	125.4	PQuotient
228110	5.9	0.1	2219205.4	271.4	Image
877	7.5	1.2	3184451.6	578731.6	PullBackH
1946	9.8	0.6	5285114.9	88822.1	PreImage
877	9.9	9.8	5292715.1	5285165.0	Kernel
718	12.8	0.0	3366443.2	10319.6	SMTX_BasesMaximalSubmodules
939	17.1	0.1	7122878.7	4180.0	IsomorphismFpGroup
11124	53.6	0.6	32156674.6	7718.0	IsSubgroup
944	54.6	54.0	32259845.8	32190417.7	AddGroup
469	118.0	115.8	56929561.3	56495869.8	FindPQuotients
1	120.7	120.7	57744681.6	57744681.4	LowIndexNormal

Group : $C_2 * C_{11}$

Searching up to index : 1000

How many normal groups are found : 21

Total Time in s : 10.3

Total Magma-Time in s : 58.27

Count	AbsT/s	ChildT/s	AbsS/mb	ChildS/mb	Function
20	0.0	0.0	36.4	17.5	FindIntersections
317	0.0	0.0	87.6	0.0	NextPrimeInt
378	0.0	0.0	673.9	0.0	GModuleByMats
17	0.0	0.0	790.5	0.0	NaturalHomomorphismBySubspace
3602	0.0	0.0	15714.5	0.0	ExponentSum
401	0.0	0.0	4242.8	22.6	GroupHomomorphismByImagesNC
1980	0.0	0.0	31304.7	5.3	PreImagesRepresentative
17	0.0	0.0	33413.7	33224.8	Kernel
17	0.0	0.0	26593.0	6561.7	PullBackH
30108	0.0	0.0	18862.1	9.5	Index
6526	0.0	0.0	34704.4	1119.0	PreImage

317	0.1	0.0	28925.8	3833.9	EpimorphismQuotientSystem
5462	0.1	0.0	32266.4	6.9	Image
606942	0.5	0.0	19025.2	0.0	GeneratorsOfMagmaWithInverses
634	0.5	0.0	242476.4	39.6	PQuotient
34	0.7	0.0	205247.6	235.5	SMTX_BasesMaximalSubmodules
43	0.7	0.0	335813.9	191.6	IsomorphismFpGroup
188	0.9	0.0	641991.7	129.4	IsSubgroup
29	0.9	0.9	642132.6	642028.8	AddGroup
2	1.6	0.0	335388.8	468.1	LowIndexSubgroupsFpGroup
21	3.3	3.3	1585818.5	1580498.2	FindPQuotients
85746	3.6	0.2	830238.4	12159.4	Intersection
6494	5.2	3.8	1201089.8	836343.2	Core
1	7.0	6.9	1564089.4	1564088.9	FindTQuotients
1	10.3	10.3	3149944.5	3149944.4	LowIndexNormal