FreeProductsExtendedProfile

September 24, 2018

Group : $C_2 * C_3$

Searching up to index : 2500

How many normal groups are found : 527

Total Time (in s) in GAP: 103.6

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	1771	0.0	0.0	0.0	0.0
NextPrimeInt	1706	0.0	0.0	0.0	0.0
MustCheckP	1706	0.0	0.0	0.0	0.0
MinSubgroupSizes	1706	0.0	0.0	0.0	0.0
GroupHomomorphismByImagesNC	2696	0.1	0.0	0.0	0.0
GModuleByMats	18252	0.2	0.0	0.0	0.0
NaturalHomomorphismBySubspace	404	0.5	0.0	0.0	0.0
EpimorphismQuotientSystem	915	0.5	0.1	0.1	0.0
GeneratorsOfMagmaWithInverses	985521	0.6	0.0	0.0	0.0
Index	251771	1.2	0.0	0.4	0.0
IsomorphismFpGroup	1086	1.4	0.0	0.1	0.0
PQuotient	1830	2.3	0.0	0.2	0.0
ExponentSum	124472	3.8	0.0	0.3	0.0
PreImagesRepresentative	46544	3.9	0.0	0.2	0.0
Intersection	156126	5.7	0.2	1.1	0.0
Image	138872	6.5	0.0	1.2	0.0
LowIndexSubgroupsFpGroup	2	6.6	0.0	1.4	0.0
FindIntersections	246	7.6	7.5	3.6	3.5
Core	5032	7.8	5.7	1.7	1.1
PullBackH	404	13.0	2.5	1.6	0.2
SMTX_BasesMaximalSubmodules	272	13.1	0.1	2.0	0.0

IsSubgroupFp	7868	13.6	0.0	4.1	0.0
AddGroup	724	14.9	14.5	4.6	4.5
FindTQuotients	1	16.2	16.1	3.3	3.3
PreImage	10398	29.4	0.3	18.6	0.0
Kernel	404	29.4	29.4	18.6	18.6
FindPModules	932	79.7	78.6	25.5	25.4
FindPQuotients	247	79.8	79.8	25.5	25.5
LowIndexNormal	1	103.6	103.6	32.5	32.5

Group : $C_2 * C_4$
Searching up to index : 500
How many normal groups are found : 688
Total Time (in s) in GAP: 45.9

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	1637	0.0	0.0	0.0	0.0
NextPrimeInt	1182	0.0	0.0	0.0	0.0
MustCheckP	1182	0.0	0.0	0.0	0.0
MinSubgroupSizes	1182	0.0	0.0	0.0	0.0
LowIndexSubgroupsFpGroup	2	0.0	0.0	0.0	0.0
Core	199	0.0	0.0	0.0	0.0
GeneratorsOfMagmaWithInverses	235254	0.1	0.0	0.0	0.0
GroupHomomorphismByImagesNC	3095	0.1	0.0	0.0	0.0
GModuleByMats	12308	0.1	0.0	0.0	0.0
Intersection	90004	0.2	0.0	0.0	0.0
FindTQuotients	1	0.2	0.2	0.0	0.0
NaturalHomomorphismBySubspace	599	0.2	0.0	0.0	0.0
EpimorphismQuotientSystem	546	0.5	0.0	0.0	0.0
IsomorphismFpGroup	707	0.5	0.0	0.0	0.0
Index	287691	0.6	0.0	0.0	0.0
ExponentSum	73447	1.1	0.0	0.1	0.0
PreImagesRepresentative	32352	1.4	0.0	0.1	0.0
PQuotient	1092	1.5	0.0	0.1	0.0
Image	102068	3.1	0.0	0.4	0.0
PullBackH	599	4.4	0.7	0.5	0.0
SMTX_BasesMaximalSubmodules	331	6.8	0.0	0.8	0.0

FindIntersections	304	7.5	7.3	1.6	1.6
PreImage	1414	11.2	0.3	2.5	0.0
Kernel	599	11.2	11.2	2.5	2.5
IsSubgroupFp	16051	12.8	0.0	2.5	0.0
AddGroup	903	14.1	13.2	2.7	2.5
FindPModules	596	38.0	37.2	5.9	5.8
FindPQuotients	305	38.0	38.0	5.9	5.9
LowIndexNormal	1	45.9	45.9	7.6	7.6

Group : $C_2 * C_5$
Searching up to index : 2000
How many normal groups are found : 205
Total Time (in s) in GAP: 64.0

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	707	0.0	0.0	0.0	0.0
MinSubgroupSizes	894	0.0	0.0	0.0	0.0
MustCheckP	894	0.0	0.0	0.0	0.0
NextPrimeInt	894	0.0	0.0	0.0	0.0
GroupHomomorphismByImagesNC	1335	0.0	0.0	0.0	0.0
GModuleByMats	10000	0.1	0.0	0.0	0.0
Index	66170	0.2	0.0	0.0	0.0
GeneratorsOfMagmaWithInverses	470294	0.3	0.0	0.0	0.0
NaturalHomomorphismBySubspace	173	0.4	0.0	0.0	0.0
EpimorphismQuotientSystem	584	0.5	0.0	0.0	0.0
FindIntersections	87	1.0	1.0	0.4	0.4
LowIndexSubgroupsFpGroup	2	1.3	0.0	0.2	0.0
IsomorphismFpGroup	649	1.3	0.0	0.1	0.0
PQuotient	1168	1.4	0.0	0.1	0.0
Intersection	51412	2.1	0.1	0.3	0.0
Core	3194	3.2	2.1	0.5	0.3
ExponentSum	80188	4.0	0.0	0.3	0.0
PreImagesRepresentative	34196	4.3	0.0	0.2	0.0
IsSubgroupFp	5280	5.1	0.0	0.9	0.0
AddGroup	344	5.3	5.2	0.9	0.9
Image	98236	6.0	0.0	0.2	0.0

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
FindTQuotients	1	6.8	6.7	1.0	1.0
SMTX_BasesMaximalSubmodules	96	11.3	0.0	2.2	0.0
PreImage	4450	11.5	0.1	2.9	0.0
Kernel	173	11.5	11.5	2.9	2.9
PullBackH	173	14.2	2.6	2.0	0.2
FindPModules	592	56.1	54.9	8.7	8.5
FindPQuotients	88	56.1	56.1	8.7	8.7
LowIndexNormal	1	64.0	64.0	10.2	10.2

Group : $C_2 * C_6$
Searching up to index : 500
How many normal groups are found : 862
Total Time (in s) in GAP: 58.8

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	1947	0.0	0.0	0.0	0.0
MustCheckP	1344	0.0	0.0	0.0	0.0
NextPrimeInt	1344	0.0	0.0	0.0	0.0
MinSubgroupSizes	1344	0.0	0.0	0.0	0.0
LowIndexSubgroupsFpGroup	2	0.0	0.0	0.0	0.0
Core	400	0.1	0.1	0.0	0.0
GModuleByMats	18190	0.2	0.0	0.0	0.0
GroupHomomorphismByImagesNC	3889	0.2	0.0	0.0	0.0
GeneratorsOfMagmaWithInverses	337990	0.2	0.0	0.0	0.0
Intersection	130204	0.3	0.0	0.0	0.0
EpimorphismQuotientSystem	626	0.3	0.0	0.0	0.0
NaturalHomomorphismBySubspace	770	0.4	0.0	0.0	0.0
FindTQuotients	1	0.5	0.5	0.0	0.0
IsomorphismFpGroup	819	0.8	0.0	0.0	0.0
Index	440212	0.8	0.0	0.1	0.0
PQuotient	1252	1.7	0.0	0.2	0.0
ExponentSum	110834	2.0	0.0	0.1	0.0
PreImagesRepresentative	46326	2.3	0.0	0.2	0.0
Image	148546	4.5	0.0	0.4	0.0
PullBackH	770	7.6	1.3	0.8	0.1
FindIntersections	362	8.5	8.1	1.7	1.7

SMTX_BasesMaximalSubmodules	398	8.6	0.1	1.0	0.0
PreImage	1952	13.7	0.5	3.2	0.0
Kernel	770	13.7	13.7	3.2	3.2
IsSubgroupFp	34133	13.9	0.0	2.6	0.0
AddGroup	1145	15.6	14.4	2.8	2.6
FindPModules	683	49.7	48.5	7.4	7.3
FindPQuotients	363	49.7	49.7	7.4	7.4
LowIndexNormal	1	58.8	58.8	9.2	9.2

Group : $C_2 * C_7$
Searching up to index : 1000
How many normal groups are found : 63
Total Time (in s) in GAP: 8.0

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	248	0.0	0.0	0.0	0.0
NextPrimeInt	385	0.0	0.0	0.0	0.0
MinSubgroupSizes	385	0.0	0.0	0.0	0.0
MustCheckP	385	0.0	0.0	0.0	0.0
GModuleByMats	1756	0.0	0.0	0.0	0.0
FindIntersections	25	0.0	0.0	0.0	0.0
Index	6822	0.0	0.0	0.0	0.0
GroupHomomorphismByImagesNC	530	0.0	0.0	0.0	0.0
GeneratorsOfMagmaWithInverses	71455	0.0	0.0	0.0	0.0
NaturalHomomorphismBySubspace	55	0.0	0.0	0.0	0.0
LowIndexSubgroupsFpGroup	2	0.1	0.0	0.0	0.0
EpimorphismQuotientSystem	295	0.1	0.0	0.0	0.0
IsomorphismFpGroup	316	0.1	0.0	0.0	0.0
Intersection	6226	0.2	0.0	0.0	0.0
Core	518	0.3	0.2	0.0	0.0
ExponentSum	14542	0.4	0.0	0.0	0.0
IsSubgroupFp	630	0.4	0.0	0.0	0.0
AddGroup	79	0.4	0.4	0.0	0.0
PreImagesRepresentative	5204	0.4	0.0	0.0	0.0
FindTQuotients	1	0.6	0.6	0.0	0.0
Image	16968	0.6	0.0	0.0	0.0

PQuotient	590	0.7	0.0	0.0	0.0
SMTX_BasesMaximalSubmodules	29	1.3	0.0	0.2	0.0
PreImage	626	1.4	0.0	0.2	0.0
Kernel	55	1.4	1.4	0.2	0.2
PullBackH	55	1.7	0.3	0.2	0.0
FindPModules	299	7.3	7.2	1.0	0.9
FindPQuotients	26	7.3	7.3	1.0	1.0
LowIndexNormal	1	8.0	8.0	1.1	1.1

Group : $C_2 * C_8$
Searching up to index : 500
How many normal groups are found : 1187
Total Time (in s) in GAP: 159.8

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	2278	0.0	0.0	0.0	0.0
NextPrimeInt	1581	0.0	0.0	0.0	0.0
MustCheckP	1581	0.0	0.0	0.0	0.0
MinSubgroupSizes	1581	0.0	0.0	0.0	0.0
LowIndexSubgroupsFpGroup	2	0.0	0.0	0.0	0.0
Core	415	0.2	0.1	0.0	0.0
GroupHomomorphismByImagesNC	6427	0.3	0.0	0.0	0.0
GModuleByMats	37582	0.4	0.0	0.0	0.0
Intersection	211588	0.4	0.0	0.0	0.0
GeneratorsOfMagmaWithInverses	758221	0.5	0.0	0.0	0.0
FindTQuotients	1	0.6	0.6	0.0	0.0
EpimorphismQuotientSystem	725	0.8	0.1	0.1	0.0
NaturalHomomorphismBySubspace	1353	1.1	0.0	0.0	0.0
Index	1021158	1.7	0.0	0.1	0.0
PQuotient	1450	1.9	0.0	0.2	0.0
IsomorphismFpGroup	1023	2.6	0.0	0.2	0.0
ExponentSum	236541	6.5	0.0	0.5	0.0
PreImagesRepresentative	129848	7.9	0.0	0.6	0.0
FindIntersections	465	14.3	13.0	2.5	2.5
Image	400064	15.1	0.1	1.6	0.0
SMTX_BasesMaximalSubmodules	505	21.9	0.2	2.6	0.0

PullBackH	1353	24.7	4.4	3.0	0.3
IsSubgroupFp	94145	29.9	0.0	4.4	0.0
AddGroup	1761	33.8	30.9	4.8	4.4
PreImage	3138	42.3	1.1	5.1	0.1
Kernel	1353	42.4	42.3	5.1	5.1
FindPModules	868	144.8	141.9	16.5	16.2
FindPQuotients	466	144.8	144.8	16.5	16.5
LowIndexNormal	1	159.8	159.8	19.2	19.2

Group : $C_2 * C_9$

Searching up to index : 1000

How many normal groups are found : 358

Total Time (in s) in GAP: 47.7

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	1016	0.0	0.0	0.0	0.0
NextPrimeInt	916	0.0	0.0	0.0	0.0
MustCheckP	916	0.0	0.0	0.0	0.0
MinSubgroupSizes	916	0.0	0.0	0.0	0.0
GroupHomomorphismByImagesNC	1907	0.1	0.0	0.0	0.0
GModuleByMats	10816	0.1	0.0	0.0	0.0
NaturalHomomorphismBySubspace	339	0.3	0.0	0.0	0.0
GeneratorsOfMagmaWithInverses	550157	0.3	0.0	0.0	0.0
EpimorphismQuotientSystem	468	0.4	0.0	0.0	0.0
Index	108972	0.7	0.0	0.0	0.0
IsomorphismFpGroup	557	1.1	0.0	0.1	0.0
LowIndexSubgroupsFpGroup	2	1.2	0.0	0.1	0.0
ExponentSum	89368	2.0	0.0	0.1	0.0
Intersection	84152	2.5	0.1	0.4	0.0
PQuotient	936	2.5	0.0	0.5	0.0
PreImagesRepresentative	29304	2.9	0.0	0.2	0.0
FindIntersections	183	3.1	3.0	0.7	0.7
Core	4152	3.5	2.5	0.5	0.4
Image	96586	3.7	0.0	0.3	0.0
FindTQuotients	1	5.3	5.3	0.8	0.8
SMTX_BasesMaximalSubmodules	168	5.6	0.0	0.6	0.0

IsSubgroupFp	9102	6.4	0.0	1.1	0.0
AddGroup	490	7.1	6.9	1.2	1.1
PullBackH	339	8.4	1.5	0.8	0.1
PreImage	4836	9.1	0.2	1.7	0.0
Kernel	339	9.1	9.1	1.7	1.7
FindPModules	485	39.2	38.6	5.0	4.9
FindPQuotients	184	39.2	39.2	5.0	5.0
LowIndexNormal	1	47.7	47.7	6.6	6.6

Group : $C_2 * C_{10}$
Searching up to index : 500
How many normal groups are found : 469
Total Time (in s) in GAP: 31.8

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	1302	0.0	0.0	0.0	0.0
MustCheckP	951	0.0	0.0	0.0	0.0
NextPrimeInt	951	0.0	0.0	0.0	0.0
MinSubgroupSizes	951	0.0	0.0	0.0	0.0
LowIndexSubgroupsFpGroup	2	0.0	0.0	0.0	0.0
GModuleByMats	6964	0.0	0.0	0.0	0.0
Core	188	0.1	0.0	0.0	0.0
GroupHomomorphismByImagesNC	2000	0.1	0.0	0.0	0.0
GeneratorsOfMagmaWithInverses	161367	0.1	0.0	0.0	0.0
NaturalHomomorphismBySubspace	367	0.1	0.0	0.0	0.0
Intersection	51102	0.1	0.0	0.0	0.0
FindTQuotients	1	0.2	0.2	0.0	0.0
EpimorphismQuotientSystem	442	0.2	0.0	0.0	0.0
Index	128866	0.3	0.0	0.0	0.0
IsomorphismFpGroup	542	0.5	0.0	0.0	0.0
ExponentSum	60082	1.0	0.0	0.0	0.0
PreImagesRepresentative	21780	1.3	0.0	0.1	0.0
PQuotient	884	1.5	0.0	0.2	0.0
Image	70586	2.2	0.0	0.2	0.0
SMTX_BasesMaximalSubmodules	236	3.8	0.0	0.5	0.0
PullBackH	367	4.0	0.6	0.4	0.0

FindIntersections	226	5.6	5.5	1.3	1.3
PreImage	926	6.2	0.2	1.7	0.0
Kernel	367	6.2	6.2	1.7	1.7
IsSubgroupFp	7770	9.6	0.0	2.0	0.0
AddGroup	567	10.1	9.8	2.1	2.0
FindPModules	458	25.9	25.3	4.4	4.3
FindPQuotients	227	25.9	25.9	4.4	4.4
LowIndexNormal	1	31.8	31.8	5.7	5.7

Group : $C_2 * C_{11}$
Searching up to index : 1000
How many normal groups are found : 21
Total Time (in s) in GAP: 9.2

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
FindIntersections	5	0.0	0.0	0.0	0.0
IsPowerOf	164	0.0	0.0	0.0	0.0
NextPrimeInt	317	0.0	0.0	0.0	0.0
GModuleByMats	156	0.0	0.0	0.0	0.0
MinSubgroupSizes	317	0.0	0.0	0.0	0.0
MustCheckP	317	0.0	0.0	0.0	0.0
PreImagesRepresentative	176	0.0	0.0	0.0	0.0
IsomorphismFpGroup	277	0.0	0.0	0.0	0.0
NaturalHomomorphismBySubspace	16	0.0	0.0	0.0	0.0
Image	1804	0.0	0.0	0.0	0.0
GroupHomomorphismByImagesNC	335	0.0	0.0	0.0	0.0
ExponentSum	2678	0.0	0.0	0.0	0.0
SMTX_BasesMaximalSubmodules	7	0.0	0.0	0.0	0.0
EpimorphismQuotientSystem	271	0.0	0.0	0.0	0.0
PullBackH	16	0.1	0.0	0.0	0.0
Index	30688	0.1	0.0	0.0	0.0
Kernel	16	0.1	0.1	0.0	0.0
PreImage	6524	0.1	0.0	0.0	0.0
IsSubgroupFp	164	0.2	0.0	0.0	0.0
AddGroup	28	0.2	0.2	0.0	0.0
GeneratorsOfMagmaWithInverses	591871	0.4	0.0	0.0	0.0

PQuotient	542	0.8	0.0	0.0	0.0
FindPModules	271	1.3	1.3	0.1	0.1
FindPQuotients	6	1.3	1.3	0.1	0.1
LowIndexSubgroupsFpGroup	2	1.8	0.0	0.2	0.0
Intersection	85446	3.9	0.2	0.6	0.0
Core	6494	5.7	4.0	1.0	0.6
FindTQuotients	1	7.8	7.8	1.3	1.3
LowIndexNormal	1	9.2	9.2	1.4	1.4

Group : $C_2 * C_{12}$
Searching up to index : 150
How many normal groups are found : 355
Total Time (in s) in GAP: 10.3

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	669	0.0	0.0	0.0	0.0
NextPrimeInt	494	0.0	0.0	0.0	0.0
MustCheckP	494	0.0	0.0	0.0	0.0
Core	22	0.0	0.0	0.0	0.0
LowIndexSubgroupsFpGroup	2	0.0	0.0	0.0	0.0
MinSubgroupSizes	494	0.0	0.0	0.0	0.0
FindTQuotients	1	0.0	0.0	0.0	0.0
GModuleByMats	4752	0.0	0.0	0.0	0.0
Intersection	21354	0.0	0.0	0.0	0.0
GeneratorsOfMagmaWithInverses	96878	0.0	0.0	0.0	0.0
NaturalHomomorphismBySubspace	378	0.1	0.0	0.0	0.0
GroupHomomorphismByImagesNC	1865	0.1	0.0	0.0	0.0
Index	90761	0.2	0.0	0.0	0.0
ExponentSum	22348	0.2	0.0	0.0	0.0
IsomorphismFpGroup	363	0.2	0.0	0.0	0.0
EpimorphismQuotientSystem	271	0.3	0.0	0.0	0.0
PreImagesRepresentative	12760	0.3	0.0	0.0	0.0
PQuotient	542	0.6	0.0	0.0	0.0
FindIntersections	151	0.7	0.6	0.0	0.0
PullBackH	378	0.8	0.1	0.0	0.0
Image	40214	0.9	0.0	0.0	0.0

IsSubgroupFp	13375	1.6	0.0	0.1	0.0
SMTX_BasesMaximalSubmodules	181	1.7	0.0	0.1	0.0
AddGroup	476	1.9	1.7	0.2	0.1
PreImage	800	2.5	0.2	0.2	0.0
Kernel	378	2.6	2.5	0.2	0.2
FindPModules	308	9.5	9.2	0.9	0.8
FindPQuotients	152	9.5	9.5	0.9	0.9
LowIndexNormal	1	10.3	10.3	1.0	1.0