

FreeProductsExtendedProfile

September 4, 2018

Group : $C_2 * C_3$

Searching up to index : 2500

How many normal groups are found : 527

Total Time in s : 446.5

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	1771	0.0	0.0	0.0	0.0
MustCheckP	1706	0.0	0.0	0.0	0.0
NextPrimeInt	1706	0.0	0.0	0.0	0.0
MinSubgroupSizes	1706	0.0	0.0	0.0	0.0
GroupHomomorphismByImagesNC	2696	0.2	0.0	0.0	0.0
GModuleByMats	18220	0.2	0.0	0.0	0.0
NaturalHomomorphismBySubspace	404	0.5	0.0	0.0	0.0
EpimorphismQuotientSystem	915	0.7	0.1	0.1	0.0
Index	297377	1.4	0.0	0.4	0.0
GeneratorsOfMagmaWithInverses	1711555	1.4	0.2	0.0	0.0
IsomorphismFpGroup	1086	2.2	0.0	0.2	0.0
PQuotient	1830	2.6	0.0	0.2	0.0
ExponentSum	124472	3.9	0.0	0.3	0.0
PreImagesRepresentative	46544	4.2	0.0	0.2	0.0
Image	138872	7.1	0.0	1.2	0.0
Intersection	156126	7.4	0.3	1.1	0.0
LowIndexSubgroupsFpGroup	2	8.2	0.0	1.4	0.0
Core	5032	10.3	7.4	1.7	1.1
PullBackH	404	13.9	2.7	1.6	0.2
SMTX_BasesMaximalSubmodules	272	14.7	0.0	2.1	0.0
FindTQuotients	1	19.6	19.5	3.3	3.3

FindIntersections	246	29.6	29.5	12.0	12.0
Kernel	404	30.5	30.5	18.5	18.5
PreImage	10398	30.5	0.4	18.5	0.0
IsSubgroup	10755	346.4	0.5	200.1	0.0
AddGroup	724	347.8	347.2	200.6	200.5
FindPModules	932	397.1	395.9	213.3	213.1
FindPQuotients	247	397.2	397.2	213.3	213.3
LowIndexNormal	1	446.5	446.5	228.6	228.6

Group : $C_2 * C_4$

Searching up to index : 500

How many normal groups are found : 688

Total Time in s : 201.7

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
LowIndexSubgroupsFpGroup	2	0.0	0.0	0.0	0.0
MinSubgroupSizes	1182	0.0	0.0	0.0	0.0
Core	199	0.0	0.0	0.0	0.0
GroupHomomorphismByImagesNC	3095	0.2	0.0	0.0	0.0
FindTQuotients	1	0.2	0.2	0.0	0.0
Intersection	90004	0.2	0.0	0.0	0.0
GModuleByMats	12276	0.3	0.0	0.0	0.0
NaturalHomomorphismBySubspace	599	0.3	0.0	0.0	0.0
EpimorphismQuotientSystem	546	0.3	0.0	0.0	0.0
Index	376760	0.8	0.0	0.0	0.0
IsomorphismFpGroup	707	1.0	0.0	0.1	0.0
ExponentSum	73447	1.1	0.0	0.1	0.0
GeneratorsOfMagmaWithInverses	1659173	1.4	0.2	0.0	0.0
PreImagesRepresentative	32352	1.5	0.0	0.1	0.0
PQuotient	1092	1.6	0.0	0.1	0.0
Image	102068	3.4	0.0	0.4	0.0
PullBackH	599	4.5	0.7	0.5	0.0
SMTX_BasesMaximalSubmodules	331	7.7	0.0	0.8	0.0

PreImage	1414	12.1	0.4	2.8	0.0
Kernel	599	12.1	12.1	2.8	2.8
FindIntersections	304	14.7	14.4	4.2	4.2
IsSubgroup	21837	164.9	1.0	60.8	0.0
AddGroup	903	166.5	165.4	61.0	60.9
FindPModules	596	186.6	185.6	61.9	61.9
FindPQuotients	305	186.6	186.6	61.9	61.9
LowIndexNormal	1	201.7	201.7	66.3	66.3

Group : $C_2 * C_5$

Searching up to index : 2000

How many normal groups are found : 205

Total Time in s : 186.3

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	707	0.0	0.0	0.0	0.0
NextPrimeInt	894	0.0	0.0	0.0	0.0
MustCheckP	894	0.0	0.0	0.0	0.0
MinSubgroupSizes	894	0.0	0.0	0.0	0.0
GModuleByMats	9962	0.1	0.0	0.0	0.0
GroupHomomorphismByImagesNC	1335	0.1	0.0	0.0	0.0
Index	69735	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
GeneratorsOfMagmaWithInverses	757232	0.6	0.0	0.0	0.0
LowIndexSubgroupsFpGroup	2	1.5	0.0	0.2	0.0
PQuotient	1168	1.6	0.0	0.1	0.0
IsomorphismFpGroup	649	1.9	0.0	0.1	0.0
Intersection	51412	2.3	0.1	0.3	0.0
Core	3194	3.4	2.4	0.5	0.3
ExponentSum	80188	4.2	0.0	0.3	0.0
PreImagesRepresentative	34196	4.3	0.0	0.2	0.0
FindIntersections	87	4.4	4.4	1.5	1.5
Image	98236	6.3	0.0	0.2	0.0
FindTQuotients	1	6.7	6.7	1.1	1.1
PreImage	4450	11.6	0.1	2.9	0.0

Kernel	173	11.6	11.6	2.9	2.9
SMTX_BasesMaximalSubmodules	96	12.1	0.0	1.9	0.0
PullBackH	173	14.8	2.8	2.0	0.2
IsSubgroup	5735	124.0	0.2	57.0	0.0
AddGroup	344	124.2	124.1	57.0	57.0
FindPModules	592	175.0	173.6	63.2	63.0
FindPQuotients	88	175.0	175.0	63.2	63.2
LowIndexNormal	1	186.3	186.3	65.9	65.9

Group : $C_2 * C_6$

Searching up to index : 500

How many normal groups are found : 862

Total Time in s : 370.8

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	1947	0.0	0.0	0.0	0.0
NextPrimeInt	1344	0.0	0.0	0.0	0.0
MustCheckP	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
GModuleByMats	18132	0.2	0.0	0.0	0.0
Core	400	0.2	0.1	0.0	0.0
GroupHomomorphismByImagesNC	3889	0.2	0.0	0.0	0.0
Intersection	130204	0.3	0.0	0.0	0.0
NaturalHomomorphismBySubspace	770	0.4	0.0	0.0	0.0
EpimorphismQuotientSystem	626	0.5	0.1	0.0	0.0
FindTQuotients	1	0.7	0.7	0.1	0.1
Index	565667	1.1	0.0	0.1	0.0
IsomorphismFpGroup	819	1.4	0.0	0.1	0.0
PQuotient	1252	1.9	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
GeneratorsOfMagmaWithInverses	3100345	2.8	0.3	0.0	0.0
Image	148546	4.8	0.0	0.4	0.0
PullBackH	770	7.9	1.3	0.8	0.1
SMTX_BasesMaximalSubmodules	398	9.2	0.1	1.0	0.0

PreImage	1952	14.4	0.6	2.7	0.0
Kernel	770	14.4	14.4	2.7	2.7
FindIntersections	362	21.5	21.0	6.1	6.1
IsSubgroup	41075	321.9	2.1	120.4	0.0
AddGroup	1145	324.2	322.6	120.7	120.4
FindPModules	683	348.4	347.1	120.4	120.3
FindPQuotients	363	348.5	348.5	120.4	120.4
LowIndexNormal	1	370.8	370.8	126.7	126.7

Group : $C_2 * C_7$

Searching up to index : 1000

How many normal groups are found : 63

Total Time in s : 17.8

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	248	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
NextPrimeInt	385	0.0	0.0	0.0	0.0
GModuleByMats	1752	0.0	0.0	0.0	0.0
FindIntersections	25	0.0	0.0	0.0	0.0
GroupHomomorphismByImagesNC	530	0.0	0.0	0.0	0.0
Index	6895	0.0	0.0	0.0	0.0
NaturalHomomorphismBySubspace	55	0.0	0.0	0.0	0.0
GeneratorsOfMagmaWithInverses	110609	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	0.2	0.0	0.0	0.0
Intersection	6226	0.2	0.0	0.0	0.0
Core	518	0.4	0.2	0.0	0.0
PreImagesRepresentative	5204	0.4	0.0	0.0	0.0
ExponentSum	14542	0.4	0.0	0.0	0.0
FindTQuotients	1	0.6	0.6	0.1	0.1
Image	16968	0.7	0.0	0.0	0.0
PQuotient	590	0.9	0.0	0.0	0.0
SMTX_BasesMaximalSubmodules	29	1.3	0.0	0.2	0.0

PreImage	626	1.5	0.0	0.2	0.0
Kernel	55	1.5	1.5	0.2	0.2
PullBackH	55	1.8	0.3	0.2	0.0
IsSubgroup	728	9.6	0.0	4.2	0.0
AddGroup	79	9.6	9.6	4.2	4.2
FindPModules	299	17.1	16.9	5.1	5.1
FindPQuotients	26	17.1	17.1	5.1	5.1
LowIndexNormal	1	17.8	17.8	5.2	5.2

Group : $C_2 * C_8$

Searching up to index : 500

How many normal groups are found : 1187

Total Time in s : 1199.8

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	0.5	0.0	0.0	0.0
GModuleByMats	37818	0.5	0.0	0.0	0.0
Intersection	211588	0.5	0.0	0.0	0.0
EpimorphismQuotientSystem	725	0.6	0.1	0.1	0.0
FindTQuotients	1	1.0	1.0	0.1	0.1
NaturalHomomorphismBySubspace	1353	1.3	0.0	0.0	0.0
Index	1226217	2.0	0.0	0.1	0.0
PQuotient	1450	2.1	0.0	0.2	0.0
IsomorphismFpGroup	1023	4.0	0.0	0.3	0.0
ExponentSum	236541	6.8	0.0	0.5	0.0
PreImagesRepresentative	129848	7.9	0.0	0.6	0.0
GeneratorsOfMagmaWithInverses	9765467	8.5	1.2	0.0	0.0
Image	400064	15.6	0.2	1.6	0.0
SMTX_BasesMaximalSubmodules	505	23.3	0.2	2.6	0.0
PullBackH	1353	25.7	4.6	3.0	0.3

PreImage	3138	43.5	1.2	5.2	0.1
Kernel	1353	43.7	43.5	5.2	5.2
FindIntersections	465	44.1	42.5	13.3	13.3
IsSubgroup	107909	1062.6	6.7	365.9	0.0
AddGroup	1761	1067.1	1063.9	366.3	365.9
FindPModules	868	1154.7	1151.3	367.5	367.2
FindPQuotients	466	1154.7	1154.7	367.5	367.5
LowIndexNormal	1	1199.8	1199.8	381.0	381.0

Group : $C_2 * C_9$

Searching up to index : 1000

How many normal groups are found : 358

Total Time in s : 169.2

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
GModuleByMats	10826	0.1	0.0	0.0	0.0
GroupHomomorphismByImagesNC	1907	0.1	0.0	0.0	0.0
EpimorphismQuotientSystem	468	0.3	0.0	0.0	0.0
NaturalHomomorphismBySubspace	339	0.3	0.0	0.0	0.0
Index	128655	0.5	0.0	0.0	0.0
LowIndexSubgroupsFpGroup	2	1.1	0.0	0.1	0.0
GeneratorsOfMagmaWithInverses	1319923	1.1	0.1	0.0	0.0
IsomorphismFpGroup	557	1.6	0.0	0.1	0.0
ExponentSum	89368	2.1	0.0	0.1	0.0
PQuotient	936	2.4	0.0	0.5	0.0
Intersection	84152	2.7	0.1	0.4	0.0
PreImagesRepresentative	29304	2.8	0.0	0.2	0.0
Core	4152	3.9	2.7	0.5	0.4
Image	96586	3.9	0.0	0.3	0.0
FindTQuotients	1	5.5	5.5	0.8	0.8
SMTX_BasesMaximalSubmodules	168	6.7	0.0	0.7	0.0
PullBackH	339	8.8	1.6	0.8	0.1

PreImage	4836	9.7	0.3	1.7	0.0
Kernel	339	9.8	9.7	1.7	1.7
FindIntersections	183	11.2	11.1	3.5	3.5
IsSubgroup	11228	124.8	0.5	47.8	0.0
AddGroup	490	125.4	125.1	47.8	47.8
FindPModules	485	152.3	151.5	48.9	48.9
FindPQuotients	184	152.4	152.4	48.9	48.9
LowIndexNormal	1	169.2	169.2	53.4	53.4

Group : $C_2 * C_{10}$

Searching up to index : 500

How many normal groups are found : 469

Total Time in s : 86.6

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	6998	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
FindTQuotients	1	0.1	0.1	0.0	0.0
Intersection	51102	0.1	0.0	0.0	0.0
NaturalHomomorphismBySubspace	367	0.2	0.0	0.0	0.0
EpimorphismQuotientSystem	442	0.4	0.0	0.0	0.0
Index	170125	0.4	0.0	0.0	0.0
GeneratorsOfMagmaWithInverses	704837	0.6	0.0	0.0	0.0
IsomorphismFpGroup	542	0.9	0.0	0.0	0.0
ExponentSum	60082	1.1	0.0	0.0	0.0
PQuotient	884	1.4	0.0	0.2	0.0
PreImagesRepresentative	21780	1.4	0.0	0.1	0.0
Image	70586	2.6	0.0	0.2	0.0
SMTX_BasesMaximalSubmodules	236	4.1	0.0	0.4	0.0
PullBackH	367	4.1	0.7	0.4	0.0

PreImage	926	6.7	0.2	1.8	0.0
Kernel	367	6.8	6.7	1.8	1.8
FindIntersections	226	7.4	7.3	1.8	1.8
IsSubgroup	10137	62.2	0.4	23.6	0.0
AddGroup	567	62.9	62.5	23.7	23.6
FindPModules	458	78.9	78.3	25.4	25.3
FindPQuotients	227	78.9	78.9	25.4	25.4
LowIndexNormal	1	86.6	86.6	27.3	27.3

Group : $C_2 * C_{11}$

Searching up to index : 1000

How many normal groups are found : 21

Total Time in s : 10.7

Function	Count	AbsT/s	ChildT/s	AbsS/gb	ChildS/gb
IsPowerOf	164	0.0	0.0	0.0	0.0
FindIntersections	5	0.0	0.0	0.0	0.0
MustCheckP	317	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
PreImagesRepresentative	176	0.0	0.0	0.0	0.0
NaturalHomomorphismBySubspace	16	0.0	0.0	0.0	0.0
IsomorphismFpGroup	277	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
PullBackH	16	0.1	0.0	0.0	0.0
EpimorphismQuotientSystem	271	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
GeneratorsOfMagmaWithInverses	598421	0.4	0.0	0.0	0.0
PQuotient	542	0.7	0.0	0.0	0.0
IsSubgroup	186	1.1	0.0	0.5	0.0

AddGroup	28	1.1	1.1	0.5	0.5
LowIndexSubgroupsFpGroup	2	1.9	0.0	0.2	0.0
FindPModules	271	2.3	2.3	0.7	0.7
FindPQuotients	6	2.3	2.3	0.7	0.7
Intersection	85446	4.3	0.2	0.6	0.0
Core	6494	6.3	4.4	1.0	0.6
FindTQuotients	1	8.4	8.4	1.3	1.3
LowIndexNormal	1	10.7	10.7	2.0	2.0

Group : $C_2 * C_{12}$

Searching up to index : 150

How many normal groups are found : 355

Total Time in s : 48.2

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
LowIndexSubgroupsFpGroup	2	0.0	0.0	0.0	0.0
MinSubgroupSizes	494	0.0	0.0	0.0	0.0
Core	22	0.0	0.0	0.0	0.0
FindTQuotients	1	0.0	0.0	0.0	0.0
Intersection	21354	0.0	0.0	0.0	0.0
GModuleByMats	4746	0.0	0.0	0.0	0.0
GroupHomomorphismByImagesNC	1865	0.0	0.0	0.0	0.0
NaturalHomomorphismBySubspace	378	0.1	0.0	0.0	0.0
EpimorphismQuotientSystem	271	0.1	0.0	0.0	0.0
ExponentSum	22348	0.2	0.0	0.0	0.0
Index	109392	0.2	0.0	0.0	0.0
IsomorphismFpGroup	363	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
GeneratorsOfMagmaWithInverses	937520	0.8	0.0	0.0	0.0
PullBackH	378	0.8	0.1	0.0	0.0
Image	40214	0.9	0.0	0.0	0.0
SMTX_BasesMaximalSubmodules	181	1.8	0.0	0.1	0.0

PreImage	800	2.3	0.2	0.2	0.0
Kernel	378	2.3	2.3	0.2	0.2
FindIntersections	151	6.1	6.0	1.6	1.6
IsSubgroup	16260	39.5	0.6	10.9	0.0
AddGroup	476	39.9	39.6	11.0	11.0
FindPModules	308	42.0	41.6	10.2	10.2
FindPQuotients	152	42.0	42.0	10.2	10.2
LowIndexNormal	1	48.2	48.2	11.8	11.8