

\*\*\*\*\* Corporation

# ANSI C compiler test system

System test report

2005/11/16

Japan Novel Corporation

\*\*\*\*\*V43/NQP-DS-501-1

## Contents

Contents.....	2
1. Evaluated compiler.....	3
1.1. smp-compiler.....	3
2. Evaluated history.....	4
2.1. smp-compiler.....	4
3. Evaluated results.....	5
3.1. smp-compiler -ansi.....	5
3.2. smp-compiler -ansi -O.....	10
4. Error cases.....	14
4.1. 01060101.c(Detection : smp-compiler -ansi, smp-compiler -ansi -O) .....	14
4.2. 01060102.c(Detection : smp-compiler -ansi -O) .....	15

## 1. Evaluated compiler

### 1.1. smp-compiler

VERSION	Special note
Version 0.0.1	

	Compile option	Problems found
OPTION1	-ansi	1
OPTION2	-ansi -O	2

Integer type variable	test	size	BF	Floating-point variable	test	size
int test	○	4	○	float	○	4
char test	○	1	○	double	○	8
short test	○	2	○	long double	○	8
long test	○	4	○			
long long test	×	×	×	ENDIAN		Big Endian

Evaluation period		Evaluation days	Evaluation sources
2001/05/15 ~ 2001/06/03		20 days	88775 sources
Evaluation environment	SunOS 5.8 Generic sun4u sparc Ultra Sparc II i 360Mhz / Memory 128Mbyte		

## 2. Evaluated history

### 2.1. smp-compiler

date	versoin	OPTION	Error cases	Special note
2005/11/16	Version 0.0.1	-ansi	1	
		-ansi -O	2	

### 3. Evaluated results

#### 3.1. smp-compiler -ansi

```
+-----+
| compiler :smp-compiler
| version  :Version 0.0.1
| option   :-ansi
| begin    :01/05/15 16:17:18 end      :01/06/03 04:05:06 |
+-----+
```

Item number	OK	WG	NG	ERR	ETC	line	time1(sec)	time2(sec)	size(K)	contents of test	
_tp1	206	189	0	6	4	7	14950	5.0	73.0	118	unit test program
_tp2	187	173	0	4	7	3	23196	0.0	9.0	169	unit test program
_tp3	97	78	0	8	3	8	9142	0.0	93.0	32	unit test program
_tp4	57	46	0	4	4	3	2498	0.0	0.0	4	unit test program
_tp5	28	12	0	6	9	1	3251	0.0	0.0	14	unit test program
_tp6	100	82	0	2	9	7	2008	0.0	0.0	5	unit test program
a01a	180	180	0	0	0	0	2340	0.0	0.0	5	character literal test
a02a	180	180	0	0	0	0	2520	0.0	0.0	1	variable test
a02b	186	186	0	0	0	0	2604	0.0	0.0	1	variable test
a02c	60	60	0	0	0	0	1320	0.0	0.0	2	variable test
a03c	1320	1230	0	20	30	40	46200	0.0	0.0	329	array test
a03d	660	475	0	46	53	86	30030	0.0	0.0	263	array test
a03g	1320	1169	0	47	57	47	42900	0.0	0.0	244	multidimensional array test
a03h	1320	1159	0	57	57	47	67980	0.0	0.0	505	multidimensional array test
a03k	1320	1113	0	34	87	86	50490	0.0	0.0	316	multidimensional array test
a03l	1320	1145	0	37	95	43	53460	0.0	0.0	455	multidimensional array test
a03o	5016	4860	0	37	34	85	251295	0.0	0.0	1508	multidimensional array test
a03p	1584	1440	0	53	46	45	65736	0.0	0.0	790	multidimensional array test
a04a	900	900	0	0	0	0	31500	0.0	0.0	143	structure test
a04b	1320	1320	0	0	0	0	49890	0.0	0.0	283	bitfield test
a04c	1000	1000	0	0	0	0	244800	0.0	0.0	698	union test
a04d	1000	1000	0	0	0	0	943835	0.0	0.0	4105	structure test
a04e	1000	1000	0	0	0	0	934493	0.0	0.0	3962	structure
a05a	180	180	0	0	0	0	2880	0.0	0.0	5	pointer for variable
a05b	990	990	0	0	0	0	15840	0.0	0.0	73	pointer for variable
a05c	120	27	0	31	27	35	4446	0.0	0.0	13	pointer for array
											01060101.c

a05e	660	538	0	37	49	36	25740	0.0	0.0	166	pointer for array	01060101.c
a05f	660	456	0	57	90	57	33330	0.0	0.0	278	pointer for array	01060101.c
a05g	240	81	0	28	45	86	11424	0.0	0.0	40	pointer for multidimensional array	01060101.c
a05i	1320	1143	0	32	97	48	65340	0.0	0.0	391	pointer for multidimensional array	01060101.c
a05j	1320	1133	0	95	54	38	78540	0.0	0.0	550	pointer for multidimensional array	01060101.c
a05k	360	193	0	35	96	36	18498	0.0	0.0	55	pointer for multidimensional array	01060101.c
a05m	1980	1784	0	83	59	54	105435	0.0	0.0	512	pointer for multidimensional array	01060101.c
a05n	1980	1830	0	33	75	42	106920	0.0	0.0	775	pointer for multidimensional array	01060101.c
a05p	480	286	0	54	43	97	36996	64.0	0.0	562	pointer for multidimensional array	01060101.c
a05q	1584	1394	0	86	59	45	118602	0.0	0.0	296	pointer for multidimensional array	01060101.c
a05r	1584	1368	0	95	35	86	68904	0.0	0.0	634	pointer for multidimensional array	01060101.c
a05t	180	180	0	0	0	0	3780	0.0	0.0	7	pointer for pointer	
a05u	990	990	0	0	0	0	20790	0.0	0.0	88	pointer for pointer	
a05v	750	750	0	0	0	0	15000	0.0	0.0	101	pointer for function	
a05w	750	750	0	0	0	0	15000	0.0	0.0	97	pointer for function	
a05x	480	480	0	0	0	0	9600	0.0	0.0	59	pointer for function	
a05y	750	750	0	0	0	0	15000	0.0	0.0	106	pointer for function	
a06a	1000	1000	0	0	0	0	524000	0.0	0.0	262	oparation test	
a06b	1000	1000	0	0	0	0	524000	0.0	0.0	233	oparation test	
a06c	1000	1000	0	0	0	0	524000	0.0	0.0	244	oparation test	
a06d	1000	1000	0	0	0	0	524000	0.0	0.0	239	oparation test	
a06e	301	301	0	0	0	0	157663	0.0	0.0	65	oparation test	
b01a	50	50	0	0	0	0	64650	0.0	0.0	256	floating point literal test	
b01b	50	50	0	0	0	0	64650	0.0	0.0	256	floating point literal test	
b01c	100	100	0	0	0	0	129300	0.0	0.0	520	floating point literal test	
b01d	50	28	0	22	0	0	82650	87.0	0.0	445	floating point literal test	01060101.c
b01e	50	28	0	22	0	0	82650	32.0	0.0	445	floating point literal test	01060101.c
b01f	100	40	0	60	0	0	165300	436.0	0.0	896	floating point literal test	01060101.c
b02a	1100	1011	0	89	0	0	289410	0.0	0.0	1795	array(B-Lv1)	01060101.c
b02b	1100	1027	0	73	0	0	311168	0.0	0.0	2738	multidimensional array(B-Lv1)	01060101.c
b02c	1100	1035	0	65	0	0	335434	0.0	0.0	3328	multidimensional array(B-Lv1)	01060101.c
b02d	1100	1040	0	60	0	0	361174	8.0	0.0	3688	multidimensional array(B-Lv1)	01060101.c
b03a	1100	1011	0	89	0	0	229240	0.0	0.0	1492	array(B-Lv2)	01060101.c
b03b	1100	1027	0	73	0	0	302412	0.0	0.0	2597	multidimensional array(B-Lv2)	01060101.c
b03c	1100	1035	0	65	0	0	316756	0.0	0.0	3163	multidimensional array(B-Lv2)	01060101.c
b03d	1100	1040	0	60	0	0	332816	0.0	0.0	3412	multidimensional array(B-Lv2)	01060101.c
b04a	900	900	0	0	0	0	439785	23.0	0.0	2974	variable structure(B-Lv1)	
b04b	450	226	0	224	0	0	159340	0.0	0.0	859	variable union(B-Lv1)	01060101.c
b05a	732	528	0	204	0	0	282552	0.0	0.0	1811	variable pointer (B-Lv1)	01060101.c

b05c	900	900	0	0	0	0	665295	436.0	0.0	5411	variable structure (B-Lv1)	
c01a	110	110	0	0	0	0	14300	0.0	0.0	41	variable and literal (Lv1)	
c02a	990	990	0	0	0	0	36630	0.0	0.0	473	array (Lv1)	
c02b	825	825	0	0	0	0	176220	0.0	0.0	988	array (Lv2)	
c02c	825	761	0	64	0	0	213125	0.0	94.0	2098	array (Lv3)	01060101.c
c02d	840	840	0	0	0	0	67410	42.0	0.0	1186	multidimensional array (Lv1)	
c02e	704	704	0	0	0	0	164626	0.0	0.0	1324	multidimensional array (Lv2)	
c02f	704	663	0	41	0	0	181995	0.0	3.0	1993	multidimensional array (Lv3)	01060101.c
c02g	840	840	0	0	0	0	63105	67.0	0.0	1063	multidimensional array (Lv1)	
c02h	880	880	0	0	0	0	227590	0.0	0.0	1927	multidimensional array (Lv2)	
c02i	880	832	0	48	0	0	234520	0.0	5.0	2723	multidimensional array (Lv3)	01060101.c
c02k	792	792	0	0	0	0	224796	0.0	0.0	1918	multidimensional array (Lv2)	
c02l	792	754	0	38	0	0	217800	0.0	0.0	2723	multidimensional array (Lv3)	01060101.c
c02m	880	880	0	0	0	0	231440	0.0	0.0	1648	combination (Lv1)	
c02n	880	880	0	0	0	0	259930	0.0	0.0	2603	combination (Lv1)	
c02o	880	880	0	0	0	0	292490	0.0	0.0	3059	combination (Lv1)	
c02p	880	880	0	0	0	0	326920	64.0	0.0	4163	combination (Lv1)	
c03a	1320	1320	0	0	0	0	78540	0.0	0.0	655	structure (Lv1)	
c03b	1013	1013	0	0	0	0	377437	0.0	0.0	2063	structure (Lv2)	
c03c	1013	1013	0	0	0	0	803464	432.0	0.0	6191	structure (Lv3)	
c03d	1320	1320	0	0	0	0	68090	0.0	0.0	451	union (Lv1)	
c03e	1012	1012	0	0	0	0	309860	0.0	0.0	863	union (Lv2)	
c03f	2032	2032	0	0	0	0	1396412	86.0	0.0	9394	union (Lv3)	
c03g	1680	1680	0	0	0	0	53760	0.0	0.0	379	bitfield (Lv1)	
c03h	1459	1459	0	0	0	0	473252	0.0	0.0	2338	bitfield (Lv2)	
c03i	1766	1766	0	0	0	0	1220271	885.0	0.0	1174	bitfield (Lv3)	
c03j	565	565	0	0	0	0	310170	0.0	0.0	1618	combination (Lv1) structure	
c03k	1013	1013	0	0	0	0	591570	53.0	0.0	5453	combination (Lv2) structure	
c03l	1485	1485	0	0	0	0	102465	0.0	0.0	691	structure array test	
c04a	528	528	0	0	0	0	32604	0.0	0.0	211	pointer test	
c04b	528	528	0	0	0	0	33110	0.0	0.0	266	pointer test	
c06a	275	275	0	0	0	0	22275	0.0	0.0	206	control statement test	
c06b	90	90	0	0	0	0	31650	0.0	0.0	170	switch-case (Lv1-1)	
c06c	90	90	0	0	0	0	31650	0.0	0.0	170	switch-case (Lv1-2)	
c06d	90	90	0	0	0	0	31650	0.0	0.0	170	switch-case (Lv1-3)	
c06e	90	90	0	0	0	0	37550	0.0	0.0	184	switch-case (Lv1-4)	
c06f	990	846	0	52	46	46	163944	0.0	0.0	1214	for statement test program	01060101.c
c06g	90	90	0	0	0	0	31920	0.0	0.0	385	switch-case (Lv2-1)	
c06h	90	90	0	0	0	0	31830	0.0	0.0	382	switch-case (Lv2-2)	

c06i	90	90	0	0	0	0	31920	57.0	0.0	383	switch-case (Lv2-3)	
c06j	90	90	0	0	0	0	31920	87.0	0.0	383	switch-case (Lv2-4)	
c06k	90	90	0	0	0	0	31920	53.0	0.0	383	switch-case (Lv2-5)	
c06l	90	90	0	0	0	0	37860	0.0	0.0	400	switch-case (Lv2-6)	
c07a	605	605	0	0	0	0	39325	0.0	0.0	500	function argument test	
c07b	726	726	0	0	0	0	94380	0.0	0.0	661	function argument test program	
c07c	64	64	0	0	0	0	4544	0.0	0.0	32	function pointer declartion(lv_1)	
c07d	128	128	0	0	0	0	8064	0.0	0.0	61	function pointer declartion(lv_2)	
c07e	128	128	0	0	0	0	11008	0.0	0.0	104	function pointer declartion(lv_3)	
d01a	210	210	0	0	0	0	33180	0.0	0.0	361	character literal test	
d01b	210	210	0	0	0	0	33810	0.0	0.0	362	character literal test	
e01a	32	32	0	0	0	0	3712	0.0	0.0	6	++,--,+=,-= operation	
e01b	32	32	0	0	0	0	1824	0.0	0.0	5	* operation	
e01c	32	32	0	0	0	0	800	0.0	0.0	2	+ operation	
e01d	32	32	0	0	0	0	1720	0.0	0.0	3	- operation	
e01e	32	32	0	0	0	0	1656	0.0	0.0	3	% operation	
e01f	32	32	0	0	0	0	4928	0.0	0.0	11	? : operation	
e01g	32	32	0	0	0	0	1760	0.0	0.0	5	>== operation	
e01h	32	32	0	0	0	0	1760	0.0	0.0	5	<= operation	
e01i	32	32	0	0	0	0	1760	0.0	0.0	5	&= operation	
e01j	32	32	0	0	0	0	1792	0.0	0.0	5	= operation	
e01k	32	32	0	0	0	0	1696	0.0	0.0	5	*,<< operation	
e01l	32	32	0	0	0	0	1024	0.0	0.0	5	=, == operation	
e01m	32	32	0	0	0	0	6304	0.0	0.0	2	judgment of control statement	
e01n	32	32	0	0	0	0	9760	0.0	0.0	3	judgment of control statement	
e01p	32	32	0	0	0	0	3072	0.0	0.0	2	judgment of if statement	
e01q	32	8	0	8	8	8	7584	0.0	0.0	5	judgment of for statement	01060101.c
e01r	32	8	0	8	8	8	13088	0.0	1046.0	37	judgment of for statement_2	01060101.c
e01s	32	8	0	8	8	8	5536	0.0	0.0	32	judgment of for statement_3	01060101.c
e01t	16	16	0	0	0	0	988	0.0	0.0	3	bit operation	
e01u	44	44	0	0	0	0	12320	0.0	0.0	80	array operation in if statement	
e01v	44	40	0	4	0	0	13200	0.0	0.0	97	judgment of switch statement	01060101.c
e01w	33	33	0	0	0	0	2640	0.0	54.0	13	operation with pointer	
e01x	44	44	0	0	0	0	1452	0.0	0.0	1	comparison of operations with variable and constant	
e01y	44	44	0	0	0	0	1232	0.0	0.0	2	&, && operation	
e01z	44	44	0	0	0	0	3025	0.0	0.0	34	operation for array	
e02a	24	24	0	0	0	0	1008	0.0	0.0	2	++,-- operation and adress operaion with pointer	
e02b	32	32	0	0	0	0	3952	0.0	0.0	5	*, /, << operation	

合計 88775 83839 0 2404 1294 1238 20150643 2917.0 1377.0 124455

3.2. smp-compiler -ansi -O

```
+
| compiler :smp-compiler
| version  :Version 0.0.1
| option   :-ansi -O
| begin    :01/05/15 16:17:18 end      :01/06/03 04:05:06
+
```

Item number	OK	WG	NG	ERR	ETC	line	time1(sec)	time2(sec)	size(K)	contents of test	
_tp1	206	120	0	75	4	7	14950	3.0	53.0	91 unit test program	01060101.c, 01060102.c
_tp2	187	153	0	24	7	3	23196	0.0	6.0	151 unit test program	01060101.c, 01060102.c
_tp3	97	40	0	46	3	8	9142	0.0	67.0	26 unit test program	01060101.c, 01060102.c
_tp4	57	28	0	22	4	3	2498	0.0	0.0	5 unit test program	01060101.c, 01060102.c
_tp5	28	2	0	16	9	1	3251	0.0	0.0	19 unit test program	01060101.c, 01060102.c
_tp6	100	20	0	64	9	7	2008	0.0	0.0	6 unit test program	01060101.c, 01060102.c
a01a	180	180	0	0	0	0	2340	0.0	0.0	6 character literal test	
a02a	180	180	0	0	0	0	2520	0.0	0.0	1 variable test	
a02b	186	186	0	0	0	0	2604	0.0	0.0	0 variable test	
a02c	60	60	0	0	0	0	1320	0.0	0.0	2 variable test	
a03c	1320	1230	0	20	30	40	46200	0.0	0.0	547 array test	01060101.c
a03d	660	475	0	46	53	86	30030	0.0	0.0	406 array test	01060101.c
a03g	1320	1169	0	47	57	47	42900	0.0	0.0	411 multidimensional array test	01060101.c
a03h	1320	1159	0	57	57	47	67980	0.0	0.0	452 multidimensional array test	01060101.c
a03k	1320	1113	0	34	87	86	50490	0.0	0.0	411 multidimensional array test	01060101.c
a03l	1320	1145	0	37	95	43	53460	0.0	0.0	752 multidimensional array test	01060101.c
a03o	5016	4860	0	37	34	85	251295	0.0	0.0	2044 multidimensional array test	01060101.c
a03p	1584	1440	0	53	46	45	65736	0.0	0.0	1008 multidimensional array test	01060101.c
a04a	900	842	0	58	0	0	31500	0.0	0.0	18 structure test	01060102.c
a04b	1320	1262	0	58	0	0	49890	0.0	0.0	28 bitfield test	01060102.c
a04c	1000	942	0	58	0	0	244800	0.0	0.0	139 union test	01060102.c
a04d	1000	942	0	58	0	0	943835	0.0	0.0	170 structure test	01060102.c
a04e	1000	942	0	58	0	0	934493	0.0	0.0	1510 structure	01060102.c
a05a	180	180	0	0	0	0	2880	0.0	0.0	1 pointer for variable	
a05b	990	990	0	0	0	0	15840	0.0	0.0	10 pointer for variable	
a05c	120	27	0	31	27	35	4446	0.0	0.0	2 pointer for array	01060101.c
a05e	660	538	0	37	49	36	25740	0.0	0.0	92 pointer for array	01060101.c
a05f	660	456	0	57	90	57	33330	0.0	0.0	14 pointer for array	01060101.c

a05g	240	81	0	28	45	86	11424	0.0	0.0	3 multidimensional pointer for array	01060101.c
a05i	1320	1143	0	32	97	48	65340	0.0	0.0	105 multidimensional pointer for array	01060101.c
a05j	1320	1133	0	95	54	38	78540	0.0	0.0	114 multidimensional pointer for array	01060101.c
a05k	360	193	0	35	96	36	18498	0.0	0.0	5 multidimensional pointer for array	01060101.c
a05m	1980	1784	0	83	59	54	105435	0.0	0.0	82 multidimensional pointer for array	01060101.c
a05n	1980	1830	0	33	75	42	106920	0.0	0.0	103 multidimensional pointer for array	01060101.c
a05p	480	286	0	54	43	97	36996	80.0	0.0	171 multidimensional pointer for array	01060101.c
a05q	1584	1394	0	86	59	45	118602	0.0	0.0	25 multidimensional pointer for array	01060101.c
a05r	1584	1368	0	95	35	86	68904	0.0	0.0	228 multidimensional pointer for array	01060101.c
a05t	180	180	0	0	0	0	3780	0.0	0.0	0 pointer for pointer	
a05u	990	990	0	0	0	0	20790	0.0	0.0	1 pointer for pointer	
a05v	750	750	0	0	0	0	15000	0.0	0.0	44 pointer for function	
a05w	750	750	0	0	0	0	15000	0.0	0.0	13 pointer for function	
a05x	480	480	0	0	0	0	9600	0.0	0.0	7 pointer for function	
a05y	750	750	0	0	0	0	15000	0.0	0.0	24 pointer for function	
a06a	1000	1000	0	0	0	0	524000	0.0	0.0	81 oparation test	
a06b	1000	1000	0	0	0	0	524000	0.0	0.0	59 oparation test	
a06c	1000	1000	0	0	0	0	524000	0.0	0.0	162 oparation test	
a06d	1000	1000	0	0	0	0	524000	0.0	0.0	24 oparation test	
a06e	301	301	0	0	0	0	157663	0.0	0.0	8 oparation test	
b01a	50	50	0	0	0	0	64650	0.0	0.0	1 floating point literal test	
b01b	50	50	0	0	0	0	64650	0.0	0.0	48 floating point literal test	
b01c	100	100	0	0	0	0	129300	0.0	0.0	75 floating point literal test	
b01d	50	28	0	22	0	0	82650	110.0	0.0	13 floating point literal test	01060101.c
b01e	50	28	0	22	0	0	82650	38.0	0.0	163 floating point literal test	01060101.c
b01f	100	40	0	60	0	0	165300	564.0	0.0	7 floating point literal test	01060101.c
b02a	1100	1011	0	89	0	0	289410	0.0	0.0	61 array(B-Lv1)	01060101.c
b02b	1100	1027	0	73	0	0	311168	0.0	0.0	170 multidimensional array(B-Lv1)	01060101.c
b02c	1100	1035	0	65	0	0	335434	0.0	0.0	1364 multidimensional array(B-Lv1)	01060101.c
b02d	1100	1040	0	60	0	0	361174	8.0	0.0	301 multidimensional array(B-Lv1)	01060101.c
b03a	1100	1011	0	89	0	0	229240	0.0	0.0	265 array(B-Lv2)	01060101.c
b03b	1100	1027	0	73	0	0	302412	0.0	0.0	2268 multidimensional array(B-Lv2)	01060101.c
b03c	1100	1035	0	65	0	0	316756	0.0	0.0	226 multidimensional array(B-Lv2)	01060101.c
b03d	1100	1040	0	60	0	0	332816	0.0	0.0	81 multidimensional array(B-Lv2)	01060101.c
b04a	900	857	0	43	0	0	439785	24.0	0.0	19 variablestructure(B-Lv1)	01060102.c
b04b	450	13	0	437	0	0	159340	0.0	0.0	144 variableunion(B-Lv1)	01060102.c
b05a	732	380	0	352	0	0	282552	0.0	0.0	368 variableポインタ(B-Lv1)	01060102.c
b05c	900	857	0	43	0	0	665295	567.0	0.0	507 variablestructure(B-Lv1)	01060102.c
c01a	110	110	0	0	0	0	14300	0.0	0.0	3 variable and literal (Lv1)	

c02a	990	990	0	0	0	0	36630	0.0	0.0	145 array(Lv1)	
c02b	825	825	0	0	0	0	176220	0.0	0.0	362 array(Lv2)	
c02c	825	761	0	64	0	0	213125	0.0	68.0	375 array(Lv3)	01060101.c
c02d	840	840	0	0	0	0	67410	52.0	0.0	129 multidimensional array(Lv1)	
c02e	704	704	0	0	0	0	164626	0.0	0.0	167 multidimensional array(Lv2)	
c02f	704	663	0	41	0	0	181995	0.0	2.0	234 multidimensional array(Lv3)	01060101.c
c02g	840	840	0	0	0	0	63105	84.0	0.0	137 multidimensional array(Lv1)	
c02h	880	880	0	0	0	0	227590	0.0	0.0	393 multidimensional array(Lv2)	
c02i	880	832	0	48	0	0	234520	0.0	4.0	336 multidimensional array(Lv3)	01060101.c
c02k	792	792	0	0	0	0	224796	0.0	0.0	10 multidimensional array(Lv2)	
c02l	792	754	0	38	0	0	217800	0.0	0.0	390 multidimensional array(Lv3)	01060101.c
c02m	880	418	0	462	0	0	231440	0.0	0.0	110 combination(Lv1)	01060102.c
c02n	880	418	0	462	0	0	259930	0.0	0.0	91 combination(Lv1)	01060102.c
c02o	880	418	0	462	0	0	292490	0.0	0.0	1442 combination(Lv1)	01060102.c
c02p	880	418	0	462	0	0	326920	80.0	0.0	3579 combination(Lv1)	01060102.c
c03a	1320	567	0	753	0	0	78540	0.0	0.0	10 structure(Lv1)	01060102.c
c03b	1013	371	0	642	0	0	377437	0.0	0.0	302 structure(Lv2)	01060102.c
c03c	1013	371	0	642	0	0	803464	559.0	0.0	131 structure(Lv3)	01060102.c
c03d	1320	788	0	532	0	0	68090	0.0	0.0	24 union(Lv1)	01060102.c
c03e	1012	371	0	641	0	0	309860	0.0	0.0	10 union(Lv2)	01060102.c
c03f	2032	1569	0	463	0	0	1396412	109.0	0.0	288 union(Lv3)	01060102.c
c03g	1680	1218	0	462	0	0	53760	0.0	0.0	14 bitfield(Lv1)	01060102.c
c03h	1459	992	0	467	0	0	473252	0.0	0.0	650 bitfield(Lv2)	01060102.c
c03i	1766	1123	0	643	0	0	1220271	1147.0	0.0	183 bitfield(Lv3)	01060102.c
c03j	565	253	0	312	0	0	310170	0.0	0.0	163 combination(Lv1) structure	01060102.c
c03k	1013	370	0	643	0	0	591570	66.0	0.0	2222 combination(Lv2) structure	01060102.c
c03l	1485	1110	0	375	0	0	102465	0.0	0.0	315 structurearray test	01060102.c
c04a	528	528	0	0	0	0	32604	0.0	0.0	23 pointer test	
c04b	528	528	0	0	0	0	33110	0.0	0.0	8 pointer test	
c06a	275	275	0	0	0	0	22275	0.0	0.0	79 control statement test	
c06b	90	90	0	0	0	0	31650	0.0	0.0	11 switch-case(Lv1-1)	
c06c	90	90	0	0	0	0	31650	0.0	0.0	13 switch-case(Lv1-2)	
c06d	90	90	0	0	0	0	31650	0.0	0.0	20 switch-case(Lv1-3)	
c06e	90	90	0	0	0	0	37550	0.0	0.0	10 switch-case(Lv1-4)	
c06f	990	846	0	52	46	46	163944	0.0	0.0	183 forstatement test program	01060102.c
c06g	90	90	0	0	0	0	31920	0.0	0.0	189 switch-case(Lv2-1)	
c06h	90	90	0	0	0	0	31830	0.0	0.0	122 switch-case(Lv2-2)	
c06i	90	90	0	0	0	0	31920	71.0	0.0	78 switch-case(Lv2-3)	
c06j	90	90	0	0	0	0	31920	110.0	0.0	22 switch-case(Lv2-4)	

c06k	90	90	0	0	0	0	31920	65.9	0.0	44 switch-case (Lv2-5)
c06l	90	90	0	0	0	0	37860	0.0	0.0	311 switch-case (Lv2-6)
c07a	605	605	0	0	0	0	39325	0.0	0.0	94 function argument test
c07b	726	726	0	0	0	0	94380	0.0	0.0	193 function argument test program
c07c	64	64	0	0	0	0	4544	0.0	0.0	10 function pointer declartion(lv_1)
c07d	128	128	0	0	0	0	8064	0.0	0.0	11 function pointer declartion(lv_2)
c07e	128	128	0	0	0	0	11008	0.0	0.0	0 function pointer declartion(lv_3)
d01a	210	210	0	0	0	0	33180	0.0	0.0	34 character literal test
d01b	210	210	0	0	0	0	33810	0.0	0.0	18 character literal test
e01a	32	32	0	0	0	0	3712	0.0	0.0	2 ++, --, +=, -= operation
e01b	32	32	0	0	0	0	1824	0.0	0.0	1 * operation
e01c	32	32	0	0	0	0	800	0.0	0.0	0 + operation
e01d	32	32	0	0	0	0	1720	0.0	0.0	1 - operation
e01e	32	32	0	0	0	0	1656	0.0	0.0	0 % operation
e01f	32	32	0	0	0	0	4928	0.0	0.0	4 ?: operation
e01g	32	32	0	0	0	0	1760	0.0	0.0	0 >= operation
e01h	32	32	0	0	0	0	1760	0.0	0.0	0 <= operation
e01i	32	32	0	0	0	0	1760	0.0	0.0	0 &= operation
e01j	32	32	0	0	0	0	1792	0.0	0.0	0  = operation
e01k	32	32	0	0	0	0	1696	0.0	0.0	1 *, << operation
e01l	32	32	0	0	0	0	1024	0.0	0.0	0 =, == operation
e01m	32	32	0	0	0	0	6304	0.0	0.0	1 judgment of control statement
e01n	32	32	0	0	0	0	9760	0.0	0.0	2 judgment of control statement
e01p	32	32	0	0	0	0	3072	0.0	0.0	1 judgment of if statement
e01q	32	8	0	8	8	8	7584	0.0	0.0	2 judgment of for statement
e01r	32	8	0	8	8	8	13088	0.0	762.0	1 judgment of for statement_2
e01s	32	8	0	8	8	8	5536	0.0	0.0	7 judgment of for statement_3
e01t	16	16	0	0	0	0	988	0.0	0.0	2 bit operation
e01u	44	44	0	0	0	0	12320	0.0	0.0	52 array operation in if statement
e01v	44	40	0	4	0	0	13200	0.0	0.0	10 judgment of switch statement
e01w	33	33	0	0	0	0	2640	0.0	39.0	8 operation with pointer
e01x	44	44	0	0	0	0	1452	0.0	0.0	0 comparison of operations with variable and constant
e01y	44	44	0	0	0	0	1232	0.0	0.0	0 &, && operation
e01z	44	44	0	0	0	0	3025	0.0	0.0	13 operation for array
e02a	24	24	0	0	0	0	1008	0.0	0.0	1 ++, -- operation and adress operaion with pointer
e02b	32	32	0	0	0	0	3952	0.0	0.0	4 *, /, << operation
合計	88775	74462	0	11781	1294	1238	20152811	3738.0	1001.0	29454

## 4. Error cases

### 4.1. 01060101.c(Detection : smp-compiler -ansi, smp-compiler -ansi -O)

```
/*
 * Name      : 01060101.c
 *             :
 * Detection : _tp1, _tp2, _tp3, _tp4, _tp5, _tp6, a03c, a03d, a03g, a03h, *
 *             : a03k, a03l, a03o, a03p, a05c, a05e, a05f, a05g, a05i, a05j, *
 *             : a05k, a05m, a05n, a05p, a05q, a05r, b01d, b01e, b01f, b02a, *
 *             : b02b, b02c, b02d, b03a, b03b, b03c, b03d, b04b, c02c, c02f, *
 *             : c02i, c02l, c06f, e01q, e01r, e01s, e01v
 *             :
 * Compiler   : smp-compiler -ansi
 *             : smp-compiler -ansi -O
 *             :
 * Content    : When int array buf[]'s initialization value was shown
 *             : in for statement, following phenomena are generated
 *             : by the number of elements.
 *             : <<number=0-4>>
 *             :     The value judgment is not correctly done
 *             :     in for statement.
 *             : <<number=5-9>>
 *             :     Internal Compiler Error was happen.
 *             : <<number=10->>
 *             :     Compilation doesn't end even if ten minutes pass.
 *             :
 * Message    : <<number=0-4>>
 *             : NG... [3]:[3]--->[3]
 *             : NG... [2]:[2]--->[2]
 *             : NG... [1]:[1]--->[1]
 *             : << number=5-9>>
 *             : SMP-COMPILER-ERROR 99 : Internal Compiler Error
 */
#include <stdio.h>

void main( void )
{
    signed int i, err = 0, buf[] = { 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 } ;

```

```
for( i = 9 ; i >= 0 ; i-- ) {
    if( buf[i] != i ) {
        printf( "%-12s %04d:NG... [%d]--->[%d]\n",
                __FILE__, __LINE__, i, i, buf[i] ) ;
        err++ ;
    }
}

if( !err ) printf( "%-12s %04d:OK\n", __FILE__, __LINE__ ) ;
```

**4.2. 01060102.c(Detection : smp-compiler -ansi -O)**

```
/*
/* Name      : 01060102.c
/*
/* Detection : _tp1, _tp2, _tp3, _tp4, _tp5, _tp6, a04a, a04b, a04c, a04d, */
/*           : a04e, b04a, b04b, b05a, b05c, c02c, c02f, c02i, c02l, c02m, */
/*           : c02n, c02o, c02p, c03a, c03b, c03c, c03d, c03e, c03f, c03g, */
/*           : c03h, c03i, c03j, c03k, c03l, c06f
/*
/* Compiler   : smp-compiler -ansi -O
/*
/* Content    : When structure has unsigned int variable member,
/*
/*           : Substitution for the structure variable through the pointer */
/*           : is not correctly done.
/*
/* Message    : NG
/*
/*           : data1[0][0]--->[0][0]
/*
/*           : data2[0][0]--->[2][2]
/*
/*-----*/

```

```
#include <stdio.h>
```

```
void main( void )
{
    struct {
        unsigned int mem1 ;
        signed short mem2 ;
    } data1 = { 1, 1 }, data2 = { 2, 2 }, *p ;

    p = &data1 ;
    p->mem1 = p->mem2 = 0 ;
    data2 = *p ;
```

```
if(
    data1.mem1 == 0 && data1.mem2 == 0 &&
    data2.mem1 == 0 && data2.mem2 == 0
) {
    printf( "%-12s %04d:OK\n", __FILE__, __LINE__ ) ;
} else {
    printf( "%-12s %04d:NG\n", __FILE__, __LINE__ ) ;
```

```
printf( "\tdata1[0][0]--->[%d] [%d]\n",
        data1.mem1, data1.mem2 ) ;
printf( "\tdata2[0][0]--->[%d] [%d]\n",
        data2.mem1, data2.mem2 ) ;
}
```