Tested in Ubuntu 10.04 LTS and 11.04

1.Download .tgz files

Go to http://www.simplescalar.com/tools.html and download:
1. simplesim-3v0d.tgz
2. simpletools-2v0.tgz
3. simpleutils-2v0.tgz

2.Untar the .tgz files

cd ~
mkdir simplescalar
tar -zxvf simpleXXX.tgz

3.Set environment variables

export HOST = i386-pc-linux
export TARGET = sslittle-na-sstrix
export IDIR = ~/simplescalar

**'echo $HOST'**, ($TARGET, or $IDIR) can be used to check the settings.

4. Compile binutils2.5.2

cd binutils2.5

./configure -host=$HOST -target=$TARGET -with-gnu-as -with-gnu-ld -prefix=$IDIR

make

1. The first error you are going to meet:
make[1]:***[strerror.o] ERROR1
make[1]:Leaving directory '~/simplescalar/binutils-2.52/libiberty'
make:***[all-libiberty] ERROR2

solution: open *binutils-2.5.2/libiberty/strerror.c*, at **line 25**, add '**#undef NEED_sys_errlist**'

Then, type '**make**' in the terminal

2. The second error:
make[1]:***[ldgram.c] ERROR127
make[1]:Leaving directory '~/simplescalar/binutils-2.52/ld'
make:***[all-libiberty] ERROR2

solution: sudo apt-get install flex bison

the terminal will ask you to **enter your password**

Then, type '**make'** in the terminal

3. The third error
make[1]:***[ldlex.o] ERROR1
make[1]:Leaving directory '~/simplescalar/binutils-2.52/ld'
make:***[all-ld] ERROR2

solution: open ld/ldlex.l, to line 476, change 'yy_current-buffer' to
'**YY_CURRENT_BUFFER'**

Then, type '**make'** in the terminal

4. **The forth error**
#error "GCC no longer implements <varargs.h>."
#error "Revise your code to use <stdarg.h>."

solution: open ld/ldmisc.c, to **line 24**, change 'include<vararg.h>' to
'**#include<stdarg.h>'**.

Then, type '**make'** in the terminal

5.The fifth error
ldmisc.c:344: error: expected declaration specifiers before 'va_dcl'
ldmisc.c:357: error: expected '=', ',', ':', 'asm' or '__attribute__' before 'va_dcl'

solution: open ld/ldmisc.c, to **line 346, 358, 392, 403**, comment parts of the code
as following:

```
//va_dcl
{
        /*char *fmt;
        va_list arg;
        va_start(arg);
        fmt=va_arg(arg, char*);
        vfinfo(stdout, fmt, arg);
        va_end(arg);*/
}
```

Now, '**make**' is able to run without errors. Then '**make install**'.

5. Compile simplescalar

cd simplesim-3.0

make config-pisa

make

6.Compile gcc-2.6.3

cd gcc-2.6.3

./configure -host=$HOST -target=$TARGET -with-gnu-as -with-gnu-ld –prefix=$IDIR

make

1. <u>**The first error**</u>
cccp.c:194:error:conflict with 'sys_errlist'

<u>**solution:**</u> open cccp.c to **line 191**, add '**#define bsd4_4**'

Type '**make**' in terminal

2. <u>**The second error**</u>
sdbout.c:57:18:error: syms.h: no such file or folder

<u>**solution:**</u> open sdbout.c to **line 53**, add '**#undef USG**'

Type '**make**' in terminal

3.<u>**The third error**</u>
insn-output.c:676:error: expected ';' before 't'

<u>**solution:**</u> open insn-output.c to **line 675, 750, 823**, add '\' to the end of 'FIXME\n'

Type '**make**' in terminal

4.<u>**The fourth error**</u>
<u>**solution:**</u> open gcc.c to **line 169,** add '**#define bsd4_4**'

5. **The fifth error**
 solution: open cp/g++.c to **line 52**, add '**#define bsd4_4**'

'**make**' is able to run without errors, and then '**make install**'