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Application Engineering

TechNote

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HAL/GNU: Generating Intermixed Assembly Listing With Symbol Table

The HAL/GNU H8/300 Software Tools allow us to generate an assembly listing with symbol table for our C program. This paper will provide the steps in generating the assembly listing with symbol table.

There are two steps to generate the assembly listing with symbol table:

1. Compile the C program with the debugging information into an assembly file.

For example, we have a C program, i.e., Test.c. In order to generate an intermixed assembly file, that is an assembly file with C source code as comments, we need to compile the C program with debugging information. The following command will compile the C program (Test.c) into an assembly file (Test.s):

  GCC -g -S Test.c

where

GCC name of the compiler.
-g compiler switch to generate debugging information.
-S compiler switch to produce an assembly file.

2. Assemble the assembly file with **-a** switch.

We have Test.s file as the output of the above command line. We need to assemble Test.s file with -a switch to produce the intermixed assembly listing with symbol table. By default the output assembly file will be printed to the standard output, i.e., screen. We can redirect the output file to a user-defined file by using the > filename command. The following command line will generate the assembly listing with symbol table:

  AS -a Test.s > Test.lst

where

AS name of the assembler.
-a assembler switch to produce intermixed assembly listing with symbol table.
> redirect the output assembly listing to a user-defined file, i.e., Test.lst.