

GCC

preprocessor files

-save-temps=obj

Linker

- **-as-needed** - do not load symbols from libraries specified in command line when they are not needed. This option causes many unresolved symbol errors when order of libraries specified in command line is not correct. http://savannah.gnu.org/forum/forum.php?forum_id=5655
- **-hash-style** - insert faster GNU hash table instead of SysV table. But loses compatibility with older systems.
<http://stackoverflow.com/questions/11741816/only-one-hash-style-in-embedded-linux-why>

ld script

https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/4/html/Using_ld_the_GNU_Linker/assignments.html
[\[\https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/4/html/Using_ld_the_GNU_Linker/sections.html
https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/4/html/Using_ld_the_GNU_Linker/expressions.html https://ftp.gnu.org/pub/old-gnu/Manuals/ld-2.9.1/html_node/ld_21.html
<https://sourceware.org/binutils/docs-2.27/ld/Builtin-Functions.html>
http://www.math.utah.edu/docs/info/ld_3.html

Place const variables

```
.crc 0x7FFE : { KEEP(*(.crc)) }
```

or

```
.crc (ORIGIN(rom)+LENGTH(rom)-2):
{
    _crcstart = .;
    KEEP(*(.crc))
    _crcend = .;
} >rom
```

```
const uint32_t crcValue __attribute__((section (".crc"))) = 0xDEADBEEF;
```

Place some symbols

```
.bss :
{
    _bss = .;
    *(EXCLUDE_FILE (*redoznes.co) .bss*)
/*    *(.bss*)*/
    *(COMMON)
    _ebss = .;
} > SRAM
._user_heap_stack :
{
    *redzones.co(.bss.redzone1)
    . = ALIGN(4);
    end = .;
    _heap = .; /* "end" for newlib's syscalls, "_heap" for sbrk heap
boundary checks */
    . = . + _Min_Heap_Size;
    _eheap = .;
    *redoznes.co(.bss.redzone2)
    . = . + _Min_Stack_Size;
    . = ALIGN(4);
} > SRAM
```

```
_redzone2_begin = .;
. = . + 16;
_redzone2_end = .;
```

and access them from C code:

```
extern uint8_t _redzone1_begin;
extern uint8_t _redzone1_end;
...
checkRedzone(&_redzone1_begin, &_redzone1_end - &_redzone1_begin);
```

```
empty_ram_size = _estack - ABSOLUTE(.) - _Min_Stack_Size - 16;
. = . + empty_ram_size;
```

Optimize per function

```
int foo(int i) __attribute__((optimize("-O3")));
```

From:

<https://niziak.spox.org/wiki/> - **niziak.spox.org**

Permanent link:

<https://niziak.spox.org/wiki/gcc>

Last update: **2024/04/26 14:39**

