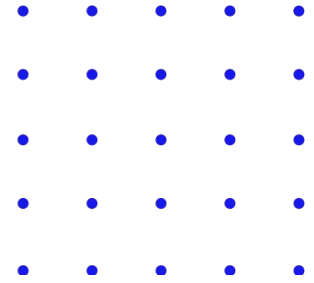


The locator



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Outlines

- Introduction
- Linker Script

Introduction

- Locator is used to **assign physical addresses** to the **relocatable** file generated by the linker.

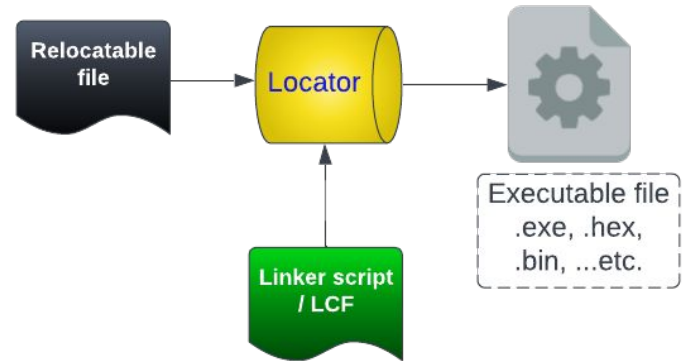
- **Input:**

- Relocatable file
 - Linker Script / Linker Configuration File

- **Output:**

- Machine code executable file.

- The locator can be found as a separate tool or with the linker.



Linker Script

- **Linker Script** File or **linker configuration** file tells the locator **how to map** the executable into proper **addresses**.
- It **provides information** about the **memory** on the target board as input to the locator.
- It **defines physical memory** layout (Flash/SRAM) and **placement** of the **different** program **regions**.
- It is **highly compiler dependent**

```
ENTRY(Reset_Handler)

MEMORY
{
    FLASH(rx):ORIGIN =0x08000000,LENGTH =1024K
    SRAM(rwx):ORIGIN =0x20000000,LENGTH =128K
}

SECTIONS
{
    .text :
    {
        *(.isr_vector)
        *(.text)
        *(.rodata)
        _etext = .;
    } > FLASH

    .data :
    {
        _sdata = .;
        *(.data)
        _edata = .;
    } > SRAM AT> FLASH

    .bss :
    {
        _sbss = .;
        *(.bss)
        _ebss = .;
    } > SRAM
}
```

Summary

- Now you have good understanding about the locator and its operation.
- Linker Script or Linker Configuration File provides the physical addresses that will be assigned to the relocatable file to convert it to an executable file.