1) Map file parser

Main idea:

One of the output files of compiler X is a map file. Which contains some data about the memory organization in the project. For ex.:

- Each section Location.
- Each section size.
- The detailed consumption for each C file.

One of the project activity is to know the memory consumption “ROM and RAM” for each component driver.
Each manually coded components has set of Code files:XXX_prg.c, XXX_cfg.c
However, All AUTOSAR components have many files per component.
For ex. The CanIf module consists of:

- CanIf.c,CanIf_Cbk.c,CanIf_Cfg.c,CanIf_LCfg.c and CanIf_ModeHandler.c

When we need to know the component memory consumption.
The data is organized in the file as the following:

```
77  Module Summary
78
79   Origin + Size     Section          Module
80  000213c0+000020    .text            crt0.o
81  00000000+000028    .note.renesas    <RENESAS ABI INFO>
82  000213e0+000008    .text            AAFS_prg.o
83  00000000+013510    .debug_info      AAFS_prg.o
84  00000000+000171    .debug_abbrev    AAFS_prg.o
85  00000000+003032    .debug_line      AAFS_prg.o
86  00000000+090bc0    .debug_macinfo   AAFS_prg.o
87  00000000+0000c0    .debug_frame     AAFS_prg.o
88  000213e8+00000c    .text            ACOM_prg.o
89  00013510+01356a    .debug_info      ACOM_prg.o
90  00000171+000171    .debug_abbrev    ACOM_prg.o
91  00003032+003047    .debug_line      ACOM_prg.o
92  00090bc0+090bc0    .debug_macinfo   ACOM_prg.o
```

For Example: ACOM_prg.c file at line 88
The section “.text” starts at address 0x213e8 “Origin” and its size is 0xC bytes.
All the debug section will be ignored as in the production phase, no debug info will be used.

Output of this tool:

- The script will run using CMD.
- The script will take arguments “one or more”
- Each argument will be the component name.
- The component name is Case Sensitive.
- The tool shall generate a text file per component.
- The needed section and the format of the generated file shall be as following: “for example: HVLT component”

```
            ***** HVLT component Info *****

 Size of .text   section in HVLT component is = 1458 Bytes
 Size of .rodata section in HVLT component is = 31 Bytes

 Size of .data   section in HVLT component is = 122 Bytes
 Size of .bss    section in HVLT component is = 92 Bytes

-> Size of ROM in HVLT component is = 1489 Bytes
-> Size of RAM in HVLT component is = 214 Bytes
```