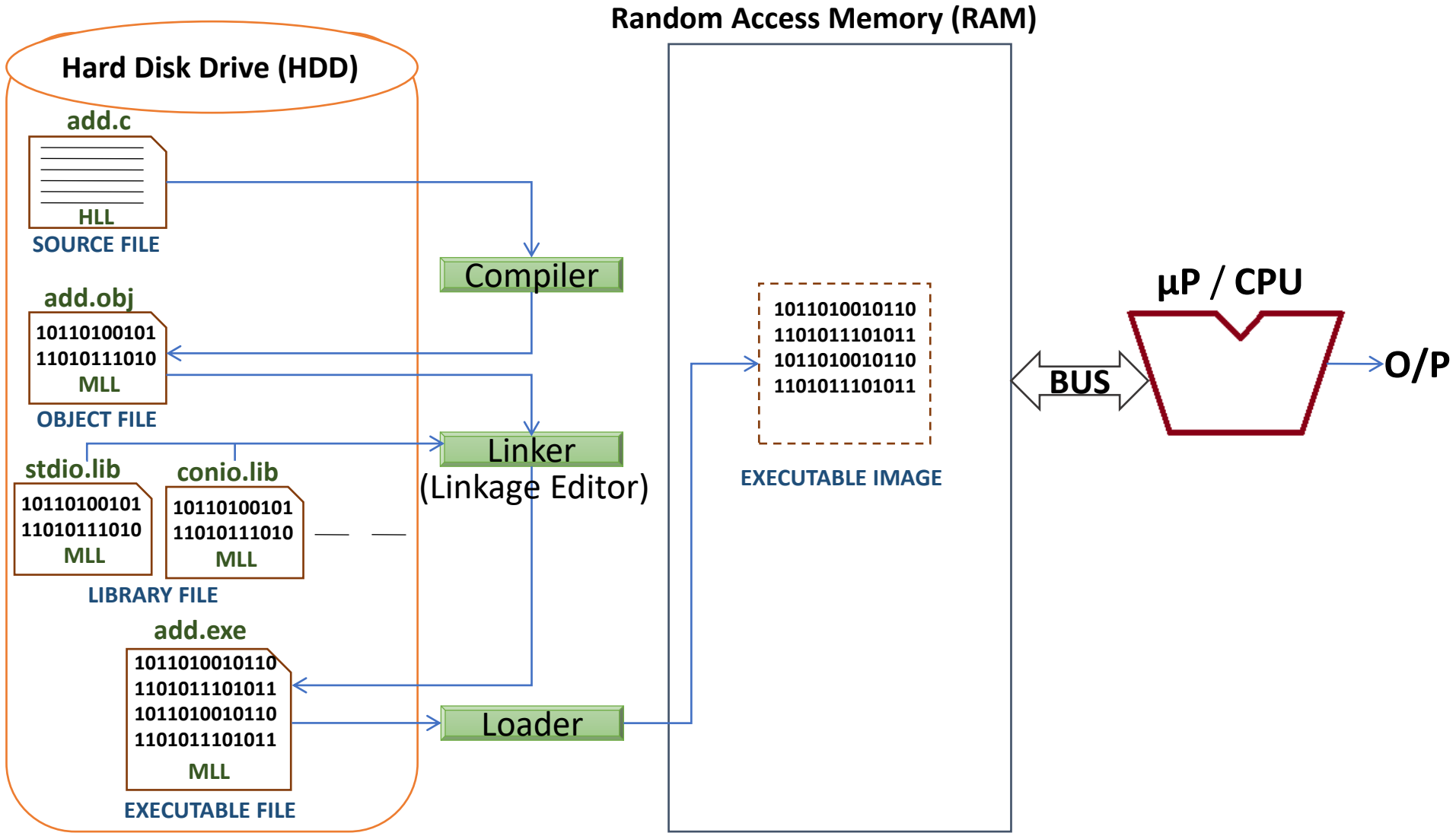
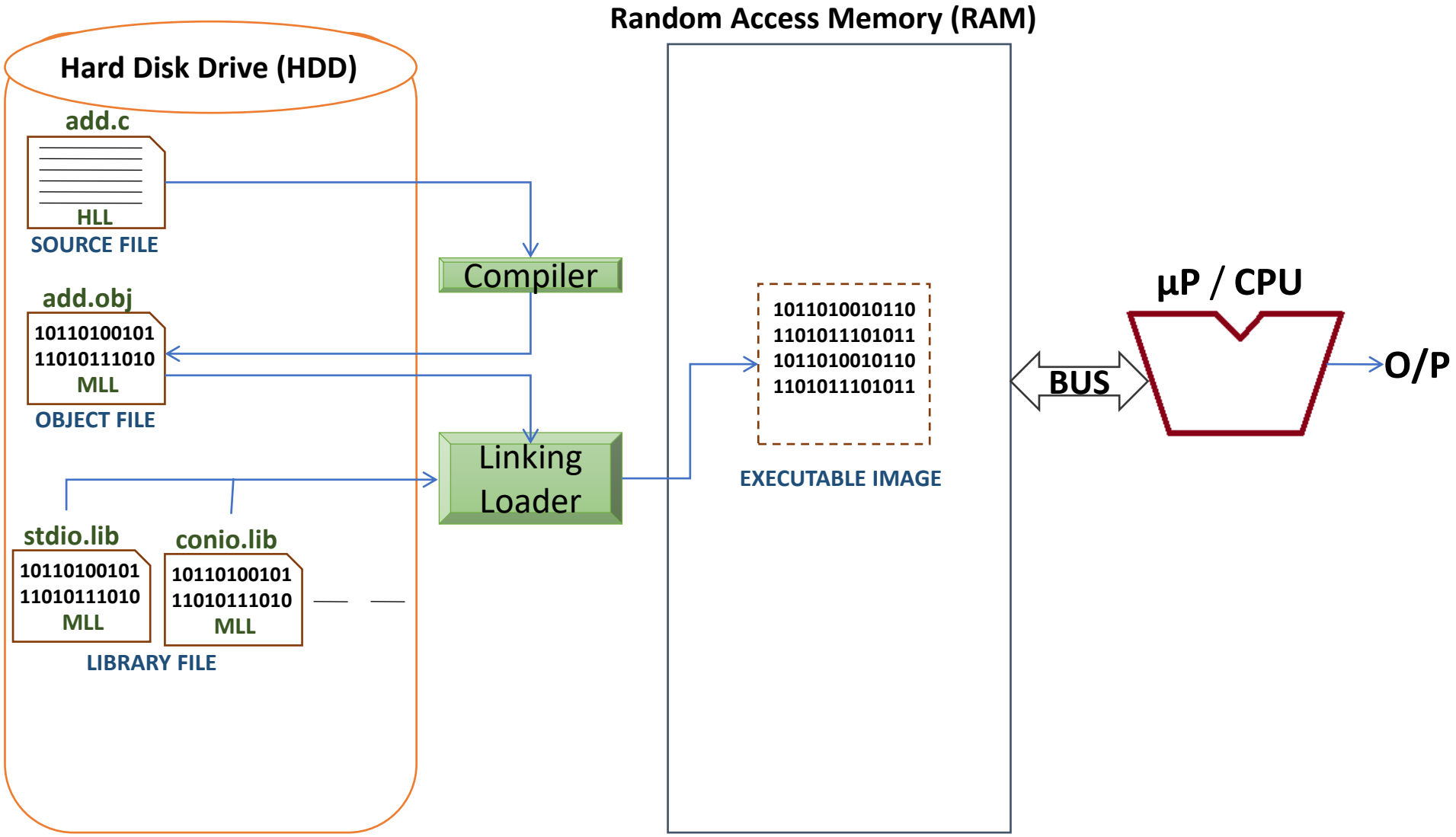

Random Access Memory (RAM)
Hard Disk Drive (HDD)
add.c
HLL
SOURCE FILE
Compiler
add.obj
10110100101
11010111010
MLL
OBJECT FILE
Linker
(Linkage Editor)
stdio.lib
10110100101
11010111010
MLL
conio.lib
10110100101
11010111010
MLL
LIBRARY FILE
add.exe
1011010010110
1101011101011
1011010010110
1101011101011
MLL
EXECUTABLE FILE
Loader
1011010010110
1101011101011
1011010010110
1101011101011
EXECUTABLE IMAGE
µP / CPU
BUS
O/P


Random Access Memory (RAM)
Hard Disk Drive (HDD)
add.c
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SOURCE FILE
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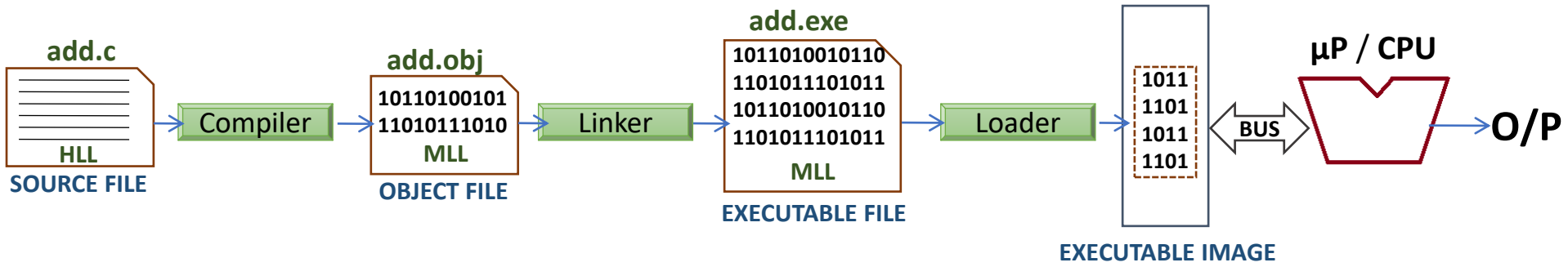
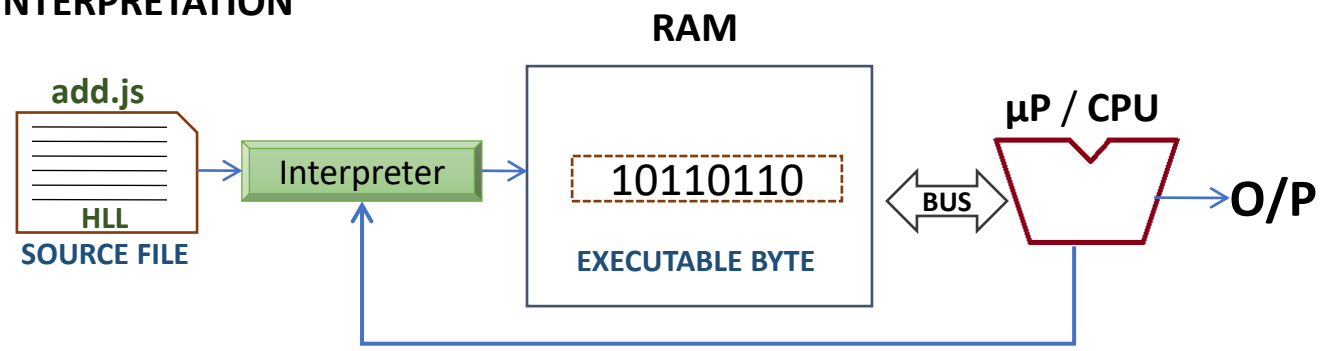
EXECUTABLE IMAGE
µP / CPU
BUS
O/P
stdio.lib
10110100101
11010111010
MLL
conio.lib
10110100101
11010111010
MLL
LIBRARY FILE

COMPILATION



INTERPRETATION



⇒ Compilation is the process of converting HLL Code into MLL Code using Compiler as the software.

During compilation process, the entire HLL Code is converted into MLL Code in one go.

⇒ Interpretation is the process of converting HLL Code into MLL Code using Interpreter as a Software.
During Interpretation process, each HLL instruction is converted into MLL Code instruction by instruction.

Compiler	Interpreter
→ Entire HLL Code is converted into MLL Code in one shot	→ HLL Code is converted into MLL Code instruction by instruction, one at a time.
→ The process of execution is faster	→ The process of Execution is slower.
→ Debugging is difficult.	→ Debugging is easy.
→ Intermediate Code will be generated	→ Intermediate Code will not be generated.
→ Source file is not needed for multiple Execution.	→ Source file is required for every execution.
→ MLL Code will be stored on the Hard disk.	→ MLL Code will not be stored on the Hard disk. Rather, it will be directly loaded on to the RAM.
→ Example of pure Compiled languages: C, C++, C#, etc.	→ Example of pure Interpreted languages: Javascript, Ruby, Perl, PHP, etc..

NOTE

Java is a hybrid programming language as it is both compiled and Interpreted.