**Machine code/ Binary code/ Object code**

Machine code is the low-level binary 1s and 0s that make up the instructions to the processor. These are processed directly by the CPU and are the final output of a compiler for given CPU and operating system combination. Machine code for one CPU and OS will not run-on different CPU or OS that isn’t compatible. (i.e. Intel x64 Windows OS machine code will not run on Intel x86 Windows OS ).

**Byte code/ Intermediate code**

Byte code is a ***virtualized machine code***. Unlike machine code for a real processor, byte code is often for an idealized or virtual processor that doesn’t actually exist. Byte code is based on a CPU architecture like a register or stack machine but often uses general features common to any CPU or instructions and concepts that don’t exist on any CPU.

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| **S.NO.** | **Byte Code** | **Machine Code** |
| 01. | Byte Code consisting of binary, hexadecimal, macro instructions like (new, add, swap, etc) and it is not directly understandable by the CPU. It is designed for efficient execution by software such as a virtual machine.intermediate-level | Machine code consisting of binary instructions that are directly understandable by the CPU. |
| 02. | Byte code is considered as the intermediate-level code. | Machine Code is considered as the low-level code. |
| 03. | Byte code is a non-runnable code generated after compilation of source code and it relies on an interpreter to get executed. | Machine code is a set of instructions in machine language or in binary format and it is directly executed by CPU. |
| 04. | Byte code is executed by the virtual machine then the Central Processing Unit. | Machine code is not executed by a virtual machine it is directly executed by CPU. |
| 05. | Byte code is less specific towards machine than the machine code. | Machine code is more specific towards machine than the byte code. |
| 06. | It is platform-independent as it is dependent on the virtual machine and the system having a virtual machine can be executed irrespective of the platform. | It is not platform independent because the object code of one platform can not be run on the same Operating System. Object varies depending upon system architecture and native instructions associated with the machine. |
| 07. | All the source code need not be converted into byte code for execution by CPU. Some source code written by any specific high-level language is converted into byte code then byte code to object code for execution by CPU. | All the source code must be converted into machine code before it is executed by the CPU. |