Source code

Source code is programming statements that are created by a programmer with a text editor or a visual programming tool and then saved in a file.

Object code

Object code generally refers to the output, a compiled file, which is produced when the Source Code is compiled with a suitable compiler to the programming language used to write source code into low level code which is understandable by machine.

**Difference between Source Code and Object Code**

|  | **SOURCE CODE** | **OBJECT CODE** |
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| 01. | Source code is generated by human or programmer. | Object code is generated by compiler. |
| 02. | Source code is high level code. | Object code is low level code. |
| 03. | Source code is written in plain text by using some high level programming language. | Object code is translated code of source code. It is in binary format (0 & 1). |
| 04. | Source code is human understandable. | Object code is not human understandable. |
| 05. | Source code is not directly understandable by machine. | Object code is machine understandable and executable. |
| 06. | It is written in a high-level language like C, C++, Java, Python, etc., or assembly language. | It is written in machine language through compiler or assembler or other translator. |
| 07. | It can be easily modified. | It can not be modified. |
| 08. | It contains comments for better understanding by programmer. | It does not contain comments for understanding by machine. |
| 09. | It contains less number of statements than object code. | It contains more number of statements than source code. |
| 10. | It is less close. towards machine. | It is more close towards machine. |
| 11. | Performance of source code is less than object code as it is less close towards machine. | Performance of object code is more than source code as it is more close towards machine. |
| 12. | Source code is input to compiler or any other translator. | Object code is output of compiler or any other translator. |
| 13. | Source code is not system specific. | Object code is system specific. |
| 14. | It can be changed over time. | Source code needs to be compiled or translated by any other translator to get modified object code. |
| 15. | Language translators like compiler, assembler, interpreter are used to translate source code to object code. | Object code is machine code so it does not require any translation. |
| 16. | The source lines of code gives the readability and understandability to the user. Use of fewer lines of code gives better performance by giving same results in most cases. | This is not the case with object code. |

Resources :

* <https://www.washington.edu/research/glossary/source-code-and-object-code/>
* https://www.geeksforgeeks.org/difference-between-source-code-and-object-code/