DIFFERENCE BETWEEN COMPILER AND INTERPRETER

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| COMPILER | INTERPRETER |
| 1. Scans entire program first and then translates it into machine code. | 1. Translates program line by line |
| 1. Converts entire program to machine code when syntax errors are removed then execution takes place. | 2. Each time the program  is executed every line is checked for syntax error and the code is converted to machine code. |
| 3. A compiler takes a lot of time to analyze the source code. However, the overall time taken to execute the process is much faster. | 3. An interpreter takes very less time to analyze the source code. However, the overall time to execute the process is much slower. |
| 4. A compiler always generates an intermediary object code. It will need further linking. Hence more memory is needed. | 4. An interpreter does not generate an intermediary code. Hence, an interpreter is highly efficient in terms of its memory. |
| 5. Compliers are used by programming languages like C and C++ for example. | 5. Interpreters are used by programming languages like Ruby and Python for example. |