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|  | **COMPILER** | **INTERPRETER** |
| 1 | Scans the entire program and translates it as a whole into machine code. | Translates program one statement at a time. |
| 2 | It takes a large amount of time to analyze the source code but the overall execution time is comparatively faster. | It takes less amount of time to analyze the source code but the overall execution time is slower. |
| 3 | Generates intermediate object code which further requires linking, hence requires more memory. | No intermediate object code is generated, hence are memory efficient. |
| 4 | It generates the error message only after scanning the whole program. Hence debugging is comparatively hard. | Continues translating the program until the first error is met, in which case it stops. Hence debugging is easy. |
| 5 | Programming languages like Python, Ruby use interpreters. | Programming languages like C, C++, Java use compilers. |
| 6 | The program code is already translated into machine code. Thus, it code execution time is less. | Interpreters are easier to use, especially for beginners. |
| 7 | It is based on language translation-linking-loading model. | It is based on Interpretation Method. |
| 8 | Program execution is separate from the compilation. It performed only after the entire output program is compiled. | Program Execution is a part of Interpretation process, so it is performed line by line. |

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