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| --- | --- |
| **Compiler** | **Interpret** |
| Translates program one statement at a time. | Scans the entire program and translates it as a whole into machine |
| It takes less amount of time to analyze the source code but the overall execution time is slower. | It takes a large amount of time to analyze the source code but the overall execution time is comparatively faster |
| No intermediate object code is generated, hence are memory efficient | Generates intermediate object code which further requires linking, hence requires more memory |
| Continues translating the program until the first error is met, in which case it stops. Hence debugging is easy | It generates the error message only after scanning the whole program. Hence debugging is comparatively hard |
| Programming languages like Python, Ruby use interpreters | Programming languages like C, C++, Java use compilers |

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