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MATRIC NUMBER: 17/SCI01/019

COURSE CODE: CSC312

COURSE TITLE: Compiler Construction

ASSIGNMENT

List at least 5 differences between compiler and interpreter.

**Answer**

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| **INTERPRETER** | **COMPILER** |
| Translate programs one statement at a time. | Scans the entire program and translates it as a whole into machine code. |
| It takes less amount of time to analyze the source code but the overall execution time is slower. | It take a larger amount of time to analyze the source code but the overall execution time is comparatively faster. |
| No intermediate 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 harder. |
| Programming languages like Python, Ruby use interpreters. | Programming languages like C, C++, Java use compilers. |
| No saving of machine code at all. | Stores machine language as machine code on the disk. |
| It is based on interpretation method. | It is based on language translation linking-loading model. |
| Do not generate output program.So they evaluate the source program at every execution  | Generates output program as .exe files which can be run independently from the original program |
| It is best suited for the program and development environment | It is bested suited for the production environment |