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| S.NO | Compiler | Interpreter |
| 1. | Compiler translates compiler source program in a single line. Translates the entire program. | Interpreter translate source program line by line. Translates line by line. |
| 2. | Slow for debugging | Fast for debugging |
| 3. | Execution time is less | Execution time is more |
| 4. | More memory is required | Less memory is required |
| 5. | debugging of the program is comparatively complex | error detection and correction is easy , it shows error if present at specific line |
| 6. | Compiler generates intermediate machine code | Interpreter never produces any intermediate machine |
| 7. | Compiler best suited for production environment | Interpreter is best suited for a software development environment |
| 8. | Compiler used by programming languages like C,C++,Java | Interpreter is used by programming languages such as Python |
| 9. | Execution time becomes short, code runs faster. It consumes less time | Execution is part of interpretation steps, It is slower, it’s is done line-by-line simultaneously. Interpreted programming code runs slower. It consumes more time |
| 10. | It is more efficient | It is less efficient |
| 11. | Compilers are larger in size | Interpreter are smaller than compilers |