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Interpreters and compilers are very similar in structure. The main difference is that an interpreter directly executes the instructions in the source programming language while a compiler translates those instructions into efficient machine code.Below is a table comparing the two executors:

|  |  |  |
| --- | --- | --- |
| **BASIS FOR COMPARISON** | **COMPILER** | **INTERPRETER** |
| Input | It takes an entire program at a time. | It takes a single line of code or instruction at a time. |
| Output | It generates intermediate object code. | It does not produce any intermediate object code. |
| Working mechanism | The compilation is done before execution. | Compilation and execution take place simultaneously. |
| Speed | Comparatively faster | Slower |
| Memory | Memory requirement is more due to the creation of object code. | It requires less memory as it does not create intermediate object code. |
| Errors | Display all errors after compilation, all at the same time. | Displays error of each line one by one. |
| Error detection | Difficult | Easier comparatively |
| Pertaining Programming languages | C, C++, C#, Scala, typescript uses compiler. | PHP, Perl, Python, Ruby uses an interpreter |