**Assignment No – 1**

**Q1. Difference between Interpreter and Compiler.**

**Ans.**

| Interpreter | Compiler |
|---|---|
| An interpreter takes a single line of code at a time. | A Compiler takes the entire program in one go. |
| The interpreter never produces any intermediate machine. | The compiler generates an intermediate machine code. |
| Memory requirement is Less. | Memory requirement is More. (Since object code is generated) |
| Due to interpreters being slow in executing the object code, it is preferred less. | Main advantage of compilers is it's execution time. |
| An interpreter is best suited for a software development environment. | The compiler is best suited for production environment. |
| It does not convert source code into object code instead, it scans it line by line. | It converts the source code into object code. |
| An interpreter is used by programming languages such as JavaScript, Python, PHP, Perl, Ruby, etc. | The compiler is used by programming languages such as C, C++, C#, Scala, Java, etc. |
| We can't change the program without going back to the source code. | Interpreted programs can run on computers that have the corresponding interpreter. |
| It is based on language translation linking loading model. | It is based on Interpretation method. |