Interpreter Vs Compiler

Interpreter	Compiler
Translates program one statement at a time	Scans the entire program and translates it as a whole into machine code.
Take less amount of time to analyze the source code, while the overall execution time is comparatively slower than compilers.	Compilers usually take a large amount of time to analyze the source code, while the overall execution time is comparatively faster than interpreters.

--

Interpreter	Compiler
No intermediate object code is generated, hence are memory efficient.	Generates intermediate object code which further requires linking, hence requires more memory.
Programming languages like `Python, Javascript, Ruby` use `interpreters`.	Programming languages like `C, C++, Java` use `compilers`.

--

Java and Python

Java Program

```
// Your First Program
class HelloWorld {
    public static void main(String[] args) {
System.out.println("Hello, World inside main function");
    }
    System.out.println("Hello, World! outside main function");
}
```

- To install java use : `sudo yum install java-devel`
- Execute `javac HelloWorld.java` to compile the Java Code.
- This will create a `HelloWorld.class` file the program can be executed with `java HelloWorld`.

Python Program

- Python follows `indentation` approach
- No Curly brackets in Python
- Create **if_else.py** file and execute using **python3 if_else.py**

```
x=8
if x > 5:
```

```
    print("x is greater than 5")
else:
    print("x is not greater than 5")

print("x is greater than 5 outside if")
```
