| Interpreter | Compiler |
|--|--|
| Translates program 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 takes large amount of time to analyze the source code but the overall execution time is comparatively faster. |
| 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 hard. |

F)

| Python 2.X | Python 3.X |
|---|---|
| There's ASCII str type and unicode | All strings (str) are Unicode strings; two |
| type, but no separate type to | byte classes are introduced: bytes and |
| handle bytes of data | bytearray |
| Two types of integers: C-based integers (int) and Python long integer (long) | All integers are long but referred to by the int type |
| Return type of division is int if operands are integers: 5 / 4 gives 1; 4 / 2 gives 2 | Return type of division is float even if operands or result are integers: 5 / 4 gives 1.25; 4 / 2 gives 2.0 |
| round(16.5) returns a float of value 16.0 | round(16.5) returns an int of value 16 |
| Unorderable types can be | Comparison of unorderable types raises |
| compared | a TypeError |

ASCII, abbreviated from American Standard Code for Information Interchange, is a character encoding standard for electronic communication. **ASCII** codes represent text in computers, telecommunications equipment, and other devices.

UTF-8 is a variable width character encoding capable of encoding all 1,112,064 valid code points in Unicode using one to four **8**-bit bytes. The encoding is defined by the Unicode standard, and was originally designed by Ken Thompson and Rob Pike.