E) Find 3 differences between a compiler and an interpreter.

| | **How it's Work ??** | **Who's Faster ??** | **Finding Error** | **Like :-** |
|---|---|---|---|---|
| Interpreter | Translates program one statement at a time | It takes less amount of time to analyze the source code but the overall execution time is slower. | Continues translating the program until the first error is met, in which case it stops. Hence debugging is easy. | Python, Ruby |
| Compiler | Scans the entire program and translates it as a whole into machine code | It takes large amount of time to analyze the source code but the overall execution time is comparatively faster. | It generates the error message only after scanning the whole program. Hence debugging is comparatively hard. | C, C++ |

F) Find the difference between Python 2 and 3?

| **Diffrences** | **Python 2** | **Python 3** |
|---|---|---|
| The print function | print | print() |
| Integer division | 3 / 2 = 1 | 3 / 2 = 1.5 |
| Unicode | ASCII str() types, separate unicode(), no byte type | Unicode (utf-8) strings, 2 byte Classes : byte and bytearray |
| xrange | xrange() | range() |
| Handling exceptions | **except** NameError, err: | **except** NameError **as** err: |

G) What is ASCII and UTF-8?

**ASCII :** ASCII (American Standard Code for Information Interchange) is the most common format for text files in computers and on the Internet. In an ASCII file, each alphabetic, numeric, or special character is represented with a 7-bit binary number (a string of seven 0s or 1s). 128 possible characters are defined.

**UTF-8:** is a method for encoding Unicode characters using 8-bit sequences.