1. Difference between Python 2 and Python 3

- Python 2 has been the most popular version for over a decade and a half, it is still entrenched in the software at certain companies.

However, since more companies are moving from Python 2 to 3, someone who wants to learn Python programming for beginners may wish to avoid spending time on a version that is becoming obsolete.

- Since Python 3 is the future, many of today's developers are creating libraries strictly for use with Python 3.

  Similarly, many older libraries built for Python 2 are not forwards-compatible.

- In Python 3, text strings are Unicode by default. In Python 2, strings are stored as ASCII by default–you have to add a "u" if you want to store strings as Unicode in Python 2.x.

  This is important because Unicode is more versatile than ASCII. Unicode strings can store foreign language letters, Roman letters and numerals, symbols, emojis, etc., offering you more choices.

- In Python 2, if you write a number without any digits after the decimal point, it rounds your calculation down to the nearest whole number.

  For example, if you're trying to perform the calculation 5 divided by 2, and you type 5 / 2, the result will be 2 due to rounding. You would have to write it as 5.0 / 2.0 to get the exact answer of 2.5.

  However, in Python 3, the expression 5 / 2 will return the expected result of 2.5 without having to worry about adding those extra zeroes.

- Essentially, in Python 3, the print statement has been replaced with a print () function.

  For example, in Python 2 it is print "hello" but in Python 3 it is print ("hello").

2. Difference between compiler and interpreter.

- Compile will parse or analyses all of the language statements for its correctness. If incorrect, throws an error

  Whereas, in interpreter source statements executed line by line during execution.

- In Compiler the program code is already translated into machine code. Thus, it code execution time is less. Whereas, Interpreters are easier to use, especially for beginners.

- In Compilers you can't change the program without going back to the source code. Whereas, Interpreted programs can run on computers that have the corresponding interpreter.

- Compiled code run faster. Interpreted code run slower.

- The compiler sees the entire code upfront. Hence, they perform lots of optimizations that make code run faster. Whereas, Interpreters see code line by line, and thus optimizations are not as robust as compilers.

3. What is escape sequence? Explain with example.

   - An escape sequence in C language is a sequence of characters that doesn't represent itself when used inside string literal or character.
   - It is composed of two or more characters starting with backslash \. For example: \n represents new line.
   - \a -> Alarm or Beep

     \b -> Backspace

     \n -> new line

4. Good features of python programming language.

   - Python is high level programming language.Python is very easy to learn language as compared to other language like c, c#, java script, java etc.It is very easy to code in python language.
   - Python language is freely available at official website and you can download it from the given download link below click on the Download Python kyeword.
   - One of the key features of python is Object-Oriented programming.Python supports object oriented language and concepts of classes, objects encapsulation etc.
   - Python is a high-level language.When we write programs in python, we do not need to remember the system architecture, nor do we need to manage the memory.
   - Python has a large standard library which provides rich set of module and functions so you do not have to write your own code for every single thing.