Tutorial-01

Page No.
Date

Q1 Define the following terms
1. Compiler
2. Interpreter
3. Assembler
4. Linker
5. Loader

Q-2 Differentiate compiler and Interpreter.

Q-3 Explain semantic gap.

Q1 a) Compiler => It is a system software that converts the source code which are written in high level language to low level machine understemble assembly language. Eg. mingw, The converted code is assembly language, input to compiler is output of preprocessors.

b) Interpreter =>
It is a software that converts the source code into machine understemball code line by line.
Each statement is executed before interpreter moves to next statement, This all is done without converting the entire source code to object code, ex. python interpretes.

c) Assembler => It takes input from output of compiles which is assembly level code and converts them into machine level object code. It is basically compiler of assembly language. The output is in binary.

d) Linker => It takes output of Assembles, which is object code in binary and gathers them and links them (combines them into single executable file. This combining includes library we import in code.

Page No.
Date

e) **Loader** ⇒ It is a system software (part of O.S.) which is responsible for loading programs and libraries. It places programs into memory and prepares them for execution.

Q-2

Compiler	Interpreter
~~If source code~~	~~assembly lang. code~~,
• It translates entire source code from preprocessor to machine code (assembly lang.) at once.	It translates each statement one by one, ~~before~~ and before moving to next statement, current statement is executed.
◦ It scans entire document even if multiple errors are found.	It scans document until an error comes out that particular statement. No further document is scanned after that statement.
◦ converts source code to object code	does not converts, but directly executes line by line
eg. C, C++, C#	Python, Ruby.

Q-3 Semantic gap is gap b/w application & execution domain, or diff b/w high level programming lang. and assembly level lang. How
The interpretation or conversion done by diff. high level programming lang. may differ and that difference is called semantic gap. The difference in source code & object code.