1) The two modes of operations that the OS provides are:
   i) Supervisor / Privileged mode
   ii) User mode.

2) They are instructions that can be executed only by the OS in a specific mode, usually in machine code.

   Examples include input/output and memory management.

3) System s/w are software designed to provide a platform for other s/w.

   eg: Game engine, windows media player, etc.

   These s/w consists of programs written in low level languages, used to interact with the hardware at very basic level.

4) Sysgen is a process of creating a particular unique instance of an OS by combining user specified options and parameters with manufacturer supplied general purpose program code to produce an OS tailored for a particular h/w and s/o environment.