1. endian :

The order of bytes within a binary representation of a number when saving data in continuous memory. There are two types; big endian, and little endian. In big endian case, the most significant value goes to the first address, and in little endian case, the least significant value goes to the first address.

2. Cisc vs Risc :

Cisc (Complex Instruction Set Computer) is a CPU composed of various and complex instructions. Its instructions are in a long length (large bits). Since Cisc possesses all instructions a CPU can control, it has a very complicated structure. If we reduce the instruction set by remaining ones that we use frequently, it was found to be much more time efficient. In this sense, a computer system using one pipeline is Risc (Reduced Instruction Set Computer), an opposite concept of Cisc. Risc uses separated instructions and data cache, so Risc has one machine cycle per one instruction.

3. register :

The main memory is only a place to save data and commands, so when doing tasks such as arithmetic or accumulating works, register is a place to temporarily place data and commands. There are various registers depending on purposes; accumulator, arithmetic register, instruction register, shift register, index register, and so on. These registers are usually located in CPU.

4. cache :

It is a high speed buffer memory installed between main memory and CPU. Its memory capacity is small, but it is much faster than main memory and accessible

5. floating point :

A way that a number's decimal point (binary point) floats. Floats here means that it can be placed anywhere relative to the significant digits of the number.

6. two’s complement :

One kind of mathematical operations on binary numbers. It is the most common method of representing signed integers on computers. The two's complement of an N-bit number is defined as its complement with respect to 2 to the N. For example, binary 0101’s two’s complement will be 1011 which is 1010 plus 0001.

7. Boolean :

Any kind of logic, function, expression, or theory based on the work of George Boole is called Boolean. In system context, the Boolean data type is a data type that has one of two possible values which are truth and false.

8. Expand :

An expansion is a term when you add an additional hardware to your computer.

9. Truncate :

Cutting the edge, or the whole data to make it to a desirable size. One example situation we do truncating is when a file or other data is stored in a location too small to accommodate its entire length.

10. Justify :

Justifying means to adjust characters in lines by spacing so that the lines will end evenly at the margin.

11. Negation (Math) :

Determining what the opposite of a given mathematical statement is. This is usually referred to as "negating" a statement. For example if a statement is true, then its negation is false.

12. Rounding (Math) :

Rounding means making a number simpler but keeping its value close to its origin. The result is less accurate, but easier to use. For example, 73 rounded to the nearest ten is 70, and 78 rounded to the nearest ten is 80.

13. Power of 2 (Math) :

It is a number of the form 2 to the n where n is an integer. The result is multiplying 2 for n times. For example, 3 powers of 2 is 8 which is a result of multiplying 2 for three times.

14. Ceiling and floor (Math) :

The floor function is the function that makes a real number x to the greatest integer less than or equal to x. Similarly, the ceiling function makes x to the least integer greater than or equal to x. For example, floor(2.4) =2, and ceil(2.4) = 3.

15. Monotonicity :

The term derives from monotonic mathematical functions, also known as non-decreasing functions, in which the value of the dependent variable never decreases as the value of the independent variable increases.

16. Commutative / Associative / Distributive :

Commutative Law is that we can get the same result even we swap the number.

Associative Law say that it doesn't matter how we group the number.

Distributive Law says that we get the same answer when we multiply a number by a group of numbers added together, or doing each multiply separately then add them.

17. Branch :

A branch is an instruction in a computer program that can cause a computer to begin executing a different instruction sequence and thus deviate from its default behavior of executing instructions in order.

18. GCC :

GCC (GNU Compiler Collection) is a compiler system produced by the GNU Project supporting various programming languages. GCC is a key component of the GNU toolchain and the standard compiler for most projects related to GNU and Linux, including the Linux kernel.

19. Compiler :

A compiler is a computer program that translates computer code written in one programming language (the source language) into another language (the target language). There are many different types of compilers, and if the compiled program can run on a computer whose CPU or operating system is different from the one on which the compiler runs, the compiler is a cross-compiler.

20. Linker :

Linker is a computer System program that takes one or more object files generated by a compiler or an assembler and combines them into a single executable file, library file, or another 'object' file.

21. Loader :

Loader is the part of an operating system that loads programs and libraries. It is one of the essential stages in the process of starting a program, as it places programs into memory and prepares them for execution.

22. Assembly :

Assembly is a runtime unit consisting of types and other resources. Assembly language is a computer language that is produced by compiling source code from a high-level programming language like C/C++, but can also be written from scratch. Assembly code can be converted to machine code using an assembler.

23. Difference between x86 and x86-64 :

X86 is simply a group of processors and instruction set. The term x86 started out as a 16-bit instruction set for 16-bit processors, and it is extended to 64 bit processors now. When 64 bit processors is structured with x86 architecture, they are called as x86-64. x86-64 enables 64-bit processor to possess increased memory space and process more data per clock cycle. The 64 bit computers can run both 32bit programs and 64 bit programs, but 32 bit computers cannot run 64 bit programs. The main difference between x86 and x86-64 would be bit sizes.

24. Microarchitecture :

Microarchitecture is the way a given instruction set architecture is implemented in a particular processor. A given instruction set may be implemented with different microarchitectures. Implementations may vary due to different goals of a given design or due to shifts in technology. Computer architecture is the combination of microarchitecture and instruction set architecture.

25. Modulo :

Modulo operation finds the remaining part after division. For example 5 mod 2 would be 1.

26. RAM and ROM :

RAM (Random Access Memory) and ROM (Read Only Memory) are types of computer memory that allows users to access to information stored on a computer. RAM is the memory available for the operating system, programs and processes to use when the computer is running. ROM is the memory that comes with your computer that is pre-written to hold the instructions for the computer booting. Also, RAM is volatile memory while ROM is non-volatile.

27. Virtual address, physical address, linear address

These are three types of memory addresses.

A virtual address is a binary number in virtual memory that allows a process to use the location of main memory independently of other processes and temporarily delegate some of its contents to the hard disk to use more space than actually exists in the main storage.

Virtual address can be said to be composed of segments, and linear address is created by adding logical address to the base of those segment. It can be turned into physical address by paging unit.

Physical address is a memory address expressed in binary in the address bus circuit, so the data bus can access registers in a specific storage cell in main memory or a memory mapped I / O device. Physical address can be seen as an actually existing address.

28. stack and heap :

Stack is a special space in your computer's memory that stores temporary variables created by each function. The stack is a last in, first out data structure. It is a kind of an ordered list in which insertions and deletions are made at one end called the “top”.

The heap is a region of your computer's memory that is not managed automatically for you, and is not as tightly managed by the CPU. It is a more free-floating region of memory. Heap memory is slightly slower to be read from and written to, because you have to use pointers to access memory on the heap.