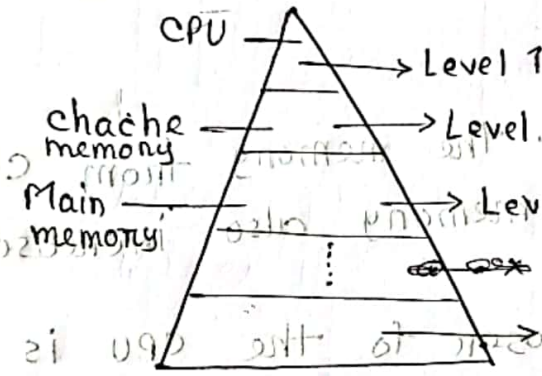
Q: What is the objective of memory hierarchy? According to cost, size, distance and speed compare among the levels of memory.

Ans: The memory hierarchy of computer is like a pyramid ~~shaped~~ structure that have different levels. These levels are used ~~to~~ describe ~~the~~ difference among memory ~~type~~.



Memory hierarchy helps the memory to ~~org~~ organize data and increases the performance at the lowest cost. As memory hierarchy is designed maintaining two principles, e.g., temporal locality and ~~spec~~ spatial locality, the data and requests are organized in a specific manner which ~~helps to search, process and~~ makes it much easier and faster to search the data, process ~~them~~ or use them. For example, all the executable requests are located in the chache memory. If the data is not found there, then we will ~~search~~ the go to the main memory. We don't have to search in the

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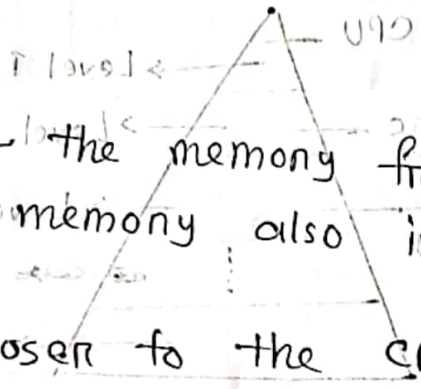
entire memory ~~blocks~~. We just need to check sequencially the memory blocks according to the request. Therefore, it takes less time and ~~mc~~ increases the performance.

Comparison of the levels of memory hierarchy:

(i) According to the cost, the smaller size memories are ~~cheaper tha~~ costly than the bigger ones as the smaller memories have more technology and performs faster.



(ii) As the distance of the memory from CPU increases, the size of the memory also increases.

(iii) The memory closer to the CPU is faster than the memories that are distant, since the requests of CPU ~~than~~ comes ~~dif~~ directly to its adjacent level and also transfers to another adjacent level while travelling. So, the ~~most~~ closest memory (chache) has direct access to the CPU.

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