Question:

10) The advantages and disadvantages of Virtual memory are:

* The advantaged of Virtual memory

Virtual memory offers several advantages that improve the overall performance and efficiency of computer systems. Some of the key benefits are described below:

* Memory management
* Efficient use of primary memory
* Increased capacity
* Program isolation
* Flexible memory allocation
* The disadvantages of Virtual memory

While virtual memory offers numerous benefits, it also has some drawbacks and potential issues that can negatively impact system performance. Some of the key disadvantages and problems associated with virtual memory usage are:

* Performance overhead
* Page faults and increased latency
* Thrashing
* Increased hardware requirements
* Complex management

Exercise:

Ex1:

1. There are blocks of main memory.
2. The format of a memory address as seen by the cache, that is have 11 tag, 5 blocks and 4 word.
3. The memory reference map is in the 22 cache.

Ex2:

1. There are blocks in main memory.
2. The format of a memory address as seen by the cache, that is have 11 tag, and 7 word.
3. The memory reference map is anywhere of the cache.

Ex3:

1. Direct mapped

word

block KB/32 = 11 bits

tag = 24-11-5=8

1. Associative

block = 5blocks

tag = 24-5 = 19bits

1. 4-way set associative

tag = 24-5-3 = 16

set = =3

word = 5