

**.For 3 page frames, the following is the reference string: 7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1  
How many page faults does the LRU page replacement algorithm produce?**

Select one:

11

10

12

15

**Optimal page – replacement algorithm is difficult to implement, because \_\_\_\_\_**

Select one:

it is too complex

it is extremely expensive

it requires future knowledge of the reference string

it requires a lot of information

**Locality of reference denotes that a process \_\_\_\_\_ is referencing a page.**

Select one:

is likely to be one of the pages used in the last few page references

will always be one of the pages existing in memory

will always lead to page faults

will always be to the page used in the previous page reference

**On media that use constant linear velocity (CLV), the \_\_\_\_\_ is uniform.**

Select one:

density of bits per sector

density of bits on the disk

the density of bits per track

none of the mentioned

**If a process needs I/O to or from a disk, and if the drive or controller is busy then \_\_\_\_\_**

Select one:

the request will not be processed and will be ignored completely

none of the mentioned

the request will be placed in the queue of pending requests for that drive

the request will be not be placed

**The advantages of being able to run a program that is only partially in memory include**

\_\_\_\_\_

Select one:

Programs for an extremely large virtual space can be created

All of the mentioned

Throughput increases

The amount of physical memory cannot put a constraint on the program

\_\_\_\_\_ is possible thanks to virtual memory.

Select one:

a program to be smaller than the physical memory

execution of a process that may not be completely in memory

execution of a process without being in physical memory

a program to be larger than the secondary storage

**What is the Optimal page – replacement algorithm?**

Select one:

Replace the page that will not be used for a long time

Replace the page that has not been used for a long time

None of the mentioned

Replace the page that has been used for a long time

**Consider the following page reference string: 1 2 3 4 2 1 5 6 2 1 2 3 7 6 3 2 1 2 3 6 For FIFO page replacement algorithms with 3 frames, the number of page faults is?**

Select one:

11

14

15

16

**The page replacement working set concept is based on the \_\_\_\_\_ assumption.**

Select one:

random access

globalization

locality

modularity

**When a page needs to be replaced, which algorithm selects the one that hasn't been accessed for the longest amount of time?**

Select one:

counting based page replacement algorithm

additional reference bit algorithm

first in first out algorithm

least recently used algorithm

**Virtual memory makes it possible for \_\_\_\_\_ to share memory.**

Select one:

instructions

processes

none of the mentioned

threads

**One problem with the global replacement algorithm is that \_\_\_\_\_**

Select one:

a process cannot control its own page – fault rate

only a few frames can be allocated to a process

many frames can be allocated to a process

it is very expensive

**The algorithm in which we split  $m$  frames among  $n$  processes, to give everyone an equal share,  $m/n$  frames is known as \_\_\_\_\_**

Select one:

none of the mentioned

equal allocation algorithm

proportional allocation algorithm

split allocation algorithm

**\_\_\_\_\_ replacement allows each process to only select from its own set of allocated frames.**

Select one:

Global

Local

Public

Universal

**Whenever a process starts up but has no pages in memory?**

Select one:

a page fault occurs for every page brought into memory

process execution becomes impossible

none of the mentioned

process causes system crash

**Consider the following page reference string: 1 2 3 4 2 1 5 6 2 1 2 3 7 6 3 2 1 2 3 6 For Optimal page replacement algorithms with 3 frames, the number of page faults is?**

Select one:

15

16

14

11

**Locality is \_\_\_\_\_**

Select one:

none of the mentioned

a space in memory

an area near a set of processes

a set of pages that are actively used together

**The aim of creating page replacement algorithms is to \_\_\_\_\_**

Select one:

replace pages faster

to allocate multiple pages to processes

decrease the page fault rate

increase the page fault rate

**When does a page fault occur?**

Select one:

a page is invisible

a page cannot be accessed due to its absence from memory

a page gives inconsistent data

all of the mentioned

**When a page needs to be replaced in the FIFO page replacement process, \_\_\_\_\_**

Select one:

oldest page is chosen

none of the mentioned

random page is chosen

newest page is chosen

**Consider the following page reference string: 1 2 3 4 2 1 5 6 2 1 2 3 7 6 3 2 1 2 3 6 For LRU page replacement algorithm with 5 frames, the number of page faults is?**

Select one:

8

10

14

11

**The maximum number of frames per process is defined by \_\_\_\_\_**

Select one:

operating System

instruction set architecture

the amount of available physical memory

none of the mentioned

**A process refers to 5 pages, A, B, C, D, E in the order : A, B, C, D, A, B, E, A, B, C, D, E. If the page replacement algorithm is FIFO, the number of page transfers with an empty internal store of 3 frames is?**

Select one:

9

10

7

8

\_\_\_\_\_ has a direct correlation with effective access time.

Select one:

page-fault rate

hit ratio

none of the mentioned

memory access time

**.In the \_\_\_\_\_ algorithm, the disk head moves from one end to the other, servicing requests along the way. When the head reaches the other end, it immediately returns to the beginning of the disk without servicing any requests on the return trip.**

Select one:

LOOK

C-SCAN

C-LOOK

SCAN

**If a process is thrashing \_\_\_\_\_**

Select one:

swapping can not take place

it is spending less time paging than executing

page fault occurs

it is spending more time paging than executing

**In virtual memory. the coder\_\_\_\_\_ of overlays.**

Select one:

all of the mentioned

none of the mentioned

does not have to take care

has to take care

**When a program tries to access a page that is loaded in physical memory but not mapped in address space, then \_\_\_\_\_**

Select one:

fatal error occurs

no error occurs

page fault occurs

segmentation fault occurs

**\_\_\_\_\_ is a concept where a process is copied from the secondary memory into the main memory as needed.**

Select one:

Swapping

Demand paging

Paging

Segmentation



**Consider a disk queue with requests for I/O to blocks on cylinders: 98 183 37 122 14 124 65 67  
Considering FCFS (first cum first served) scheduling, the total number of head movements is, if the disk head is initially at 53 is?**

Select one:

600

620

630

640

**The algorithm in which we allocate memory to each process according to its size is known as**

\_\_\_\_\_

Select one:

proportional allocation algorithm

equal allocation algorithm

none of the mentioned

split allocation algorithm

**The minimum number of frames to be allocated to a process is decided by the** \_\_\_\_\_

Select one:

none of the mentioned

instruction set architecture

operating System

the amount of available physical memory

**Whenever the working set window is too big** \_\_\_\_\_

Select one:

it will not encompass entire locality

it may overlap several localities

it will cause memory problems

none of the mentioned

**Whenever a process needs I/O to or from a disk it issues a \_\_\_\_\_**

Select one:

all of the mentioned

system call to the operating system

a special procedure

system call to the CPU

**SSTF algorithm, like SJF \_\_\_\_\_ of some requests.**

Select one:

will cause starvation

does not cause starvation

causes aging

may cause starvation

**\_\_\_\_\_ replacement generally results in greater system throughput.**

Select one:

Global

Universal

Local

Public

**LRU page – replacement algorithm associates with each page the \_\_\_\_\_**

Select one:

the time of that page's last use

page after and before it

all of the mentioned

time it was brought into memory

**\_\_\_\_\_ replacement allows a process to select a replacement frame from the set of all frames, even if the frame is currently allocated to some other process.**

Select one:

Universal

Local

Public

**Global**

**.If no frames are free, \_\_\_\_ page transfer(s) is/are required.**

Select one:

**two**

one

four

three

**There is swap space in \_\_\_\_\_**

Select one:

primary memory

none of the mentioned

cpu

**secondary memory**

**In the \_\_\_\_\_ algorithm, the disk arm goes as far as the final request in each direction, then reverses direction immediately without going to the end of the disk.**

Select one:

C-SCAN

SCAN

## LOOK

C-LOOK

**What are the two methods of the LRU page replacement policy that can be implemented in hardware?**

Select one:

RAM & Registers

Registers

Counters

Stack & Counters

**When a page fault occurs before an executing instruction is complete if \_\_\_\_\_**

Select one:

the instruction must be completed ignoring the page fault

none of the mentioned

the instruction must be restarted

the instruction must be ignored

**A pager is interested in specific process \_\_\_\_\_, whereas a swapper manipulates \_\_\_\_\_.**

Select one:

parts, the entire process

none of the mentioned

pages, the entire process

segments, all the pages of a process

**Compared to page replacement algorithms, segment replacement techniques are more difficult because \_\_\_\_\_**

Select one:

Pages are better than segments

Segments have variable sizes

Segments are better than pages

Segments have fixed sizes

**In this situation, what does the valid - invalid bit mean?**

Select one:

the page is not in memory

the page is illegal

the page is not legal

the page is in memory

**In the \_\_\_\_\_ algorithm, the disk arm starts at one end of the disk and moves toward the other end, servicing requests till the other end of the disk. At the other end, the direction is reversed and servicing continues.**

Select one:

LOOK

C-SCAN

SCAN

C-LOOK

**The instruction being carried out must be in \_\_\_\_\_**

Select one:

physical memory

logical memory

physical & logical memory

none of the mentioned

**Consider a machine in which all memory reference instructions have only one memory address, for them we need at least \_\_\_\_\_ frame(s).**

Select one:

none of the mentioned

one

three

two

**The choice of \_\_\_\_\_ affects the working set's precision.**

Select one:

working set size

number of pages in memory

memory size

working set model

**Random access in magnetic tapes is \_\_\_\_\_ compared to magnetic disks.**

Select one:

fast

very slow

very fast

slow

**Whenever the page fault rate is minimal \_\_\_\_\_**

Select one:

the effective access time decreases

the effective access time increases

the turnaround time increases

turnaround time & effective access time increases

**CPU use \_\_\_\_\_ when there is thrashing.**

Select one:

increases

keeps constant

none of the mentioned

decreases

**Which of the following page replacement algorithms suffers from Belady's Anomaly?**

Select one:

FIFO

Both optimal replacement and FIFO

LRU

Optimal replacement

**Magnetic tape drives can write data at a speed \_\_\_\_\_ disk drives.**

Select one:

much lesser than

none of the mentioned

comparable to

much faster than

**The working set at time t1 (....7 5 1) is \_\_\_\_\_ if DELTA = 10 in the working set model, for:**

**2 6 1 5 7 7 7 5 1 6 2 3 4 1 2 3 4 4 4 3 4 3 4 4 4 1 3 2 3**

Select one:

{1, 6, 5, 7, 2}

{1, 2, 3, 4, 5}

{2, 1, 6, 7, 3}

{1, 2, 4, 5, 6}

**A subroutine's call signals \_\_\_\_\_**

Select one:

none of the mentioned

it defines a new locality

it is in the same locality from where it was called

it does not define a new locality

**A program is generally composed of several different localities, which \_\_\_\_ overlap.**

Select one:

must

must not

may

do not

**When a page fault happens, the interrupted process's state is\_\_\_\_\_**

Select one:

none of the mentioned

saved

invalid

disrupted

**When a page is selected for replacement, and its modify bit is set \_\_\_\_\_**

Select one:

the page has been modified since it was read in from the disk & page is dirty

the page is clean

the page has been modified since it was read in from the disk

the page is dirty

**The pager is focused on the \_\_\_\_\_**



Select one:

individual page of a process

entire thread

first page of a process

entire process

**A FIFO replacement algorithm associates with each page the \_\_\_\_\_**

Select one:

size of the page in memory

page after and before it

time it was brought into memory

all of the mentioned

**A memory page containing a heavily used variable that was initialized very early and is in constant use is removed, then the page replacement algorithm used is \_\_\_\_\_**

Select one:

LFU

None of the mentioned

LRU

FIFO

**Employing a pager \_\_\_\_\_**

Select one:

increases the amount of physical memory needed

decreases the swap time

decreases the swap time & amount of physical memory needed

increases the swap time

**If the overall size of the working set exceeds the total number of frames available \_\_\_\_\_**

Select one:

the memory overflows

then the process crashes

the operating system selects a process to suspend

the system crashes

**Which of the following is TRUE?**

Select one:

Both P and Q are true, and Q is the reason for P

Both P and Q are true, but Q is not the reason for P

Both P and Q are false

P is false but Q is true

**Optimal page – replacement algorithm is difficult to implement, because \_\_\_\_\_**

Select one:

it requires a lot of information

it is too complex

it is extremely expensive

it requires future knowledge of the reference string

**A process refers to 5 pages, A, B, C, D, E in the order : A, B, C, D, A, B, E, A, B, C, D, E. If the page replacement algorithm is FIFO, the number of page frames is increased to 4, then the number of page transfers \_\_\_\_\_**

Select one:

decreases

remains the same

increases

none of the mentioned

**Consider a disk queue with requests for I/O to blocks on cylinders: 98 183 37 122 14 124 65 67  
Considering SSTF (shortest seek time first) scheduling, the total number of head movements  
is, if the disk head is initially at 53 is?**

Select one:

240

245

224

236

**Consider the following page reference string: 1 2 3 4 2 1 5 6 2 1 2 3 7 6 3 2 1 2 3 6 For LRU  
page replacement algorithm with 4 frames, the number of page faults is?**

Select one:

11

8

14

10

**With either equal or proportional algorithm, a high priority process is treated \_\_\_\_\_ a low  
priority process.**

Select one:

none of the mentioned

same as

lesser than

greater than

**Consider the following page reference string: 1 2 3 4 2 1 5 6 2 1 2 3 7 6 3 2 1 2 3 6 For FIFO  
page replacement algorithms with 4 frames, the number of page faults is?**

Select one:

16

15

14

11

**If the working set window is inadequate\_\_\_\_\_**

Select one:

none of the mentioned

it will not encompass entire locality

it may overlap several localities

it will cause memory problems

**Error handler codes, to deal with uncommon issues are \_\_\_\_\_**

Select one:

executed very often

none of the mentioned

almost never executed

executed periodically

**Magnetic tape drives can write data at a speed \_\_\_\_\_ disk drives.**

Select one:

much faster than

comparable to

none of the mentioned

much lesser than