Kingdom of Saudi Arabia
Ministry of Education
College of Computer
Department of CS

المملكة العربية السعودية
وزارة التعليم
كلية الحاسب
قسم علوم الحاسب

Course Code and Name: CS222 نظام التشغيل
final Exam

term : 471

Student Name:	Student ID:	S.N

Total Marks /50

The exam starts here

Question 1 (5 pts) answer this questions were true or false :

Note : 6 ~ S: 4 1- Program must be brought from disk into memory and placed within a process for it to be run. (✓)

Note: 12 ~ S: 23 2-Fault tolerance– the distributed system should continue to function in the face of failure(✓)

Note: 11 ~ S: 10 3-Live migration – move a running VM from one host to another No interruption of user access (✓)

Note: 6 ~ S: ٢ 4-multilevel page table increases page table in memory (✗)

Note: 12 ~ S: 23 5- Debugging create and introduce error and bug to the system (✗)

Question 2 (5 pts) MCQ - Answer this multiple-choice question.

note : 12
slide : 17
1- Every host has a unique IP address and a??
الجواب Media Access Control (MAC) address

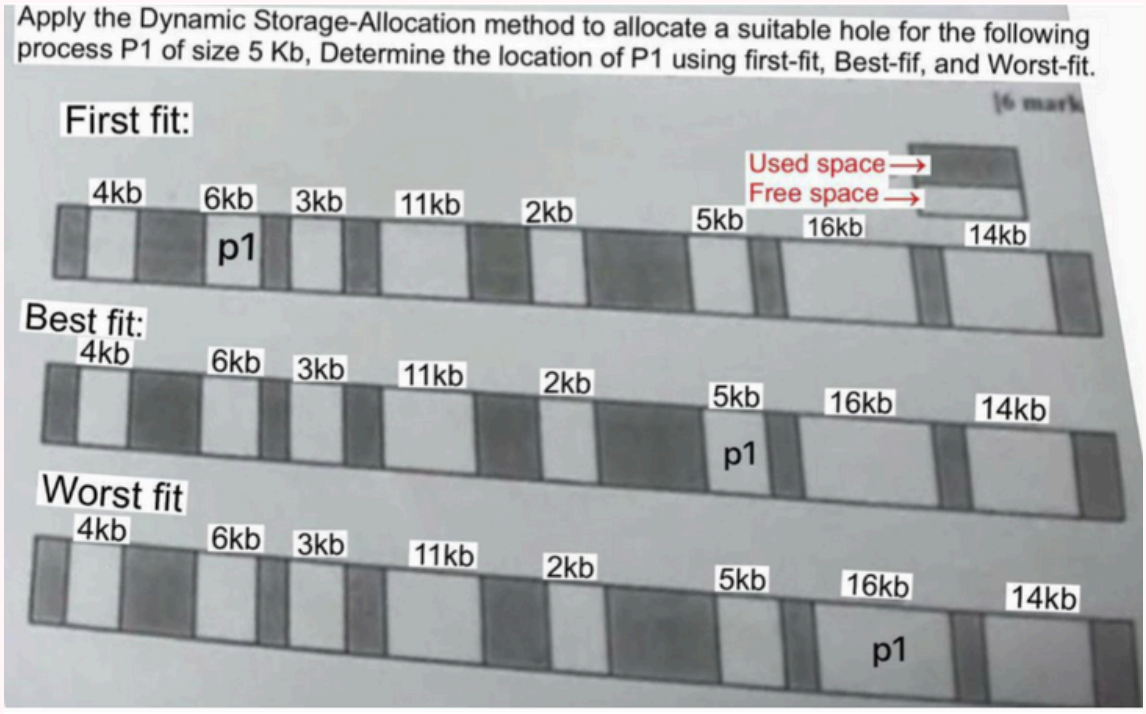
note : 12
slide : 10
2- he network used in public institutions such as libraries and schools ?
الجواب LAN local

note : 2
slide : 35
3- one of Advantages of Microkernel Structure is?
ناسيه الخيارات وش كانوا كانت الصياغة مختلفة عن السلايدات.. لكن غالبا Easier to extend a microkernel

note : 12
slide : 5 or 8
4. Reasons for Distributed Systems ?
ايضا ناسية الخيارات بس غالبا Resource sharing
أو ممكن يكون مميزات الDistributed Systems ..

note : 11
slide : 7
5. Technique in which the guest operating system is modified to work in cooperation with the VMM to optimize performance
الجواب Paravirtualization

مسأله الfirst-best fit متكررة نسخ لصق النماذج 6 درجات



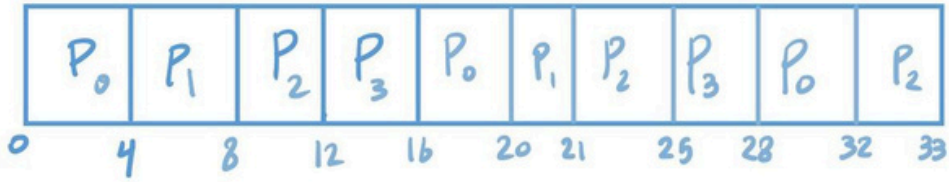
مسأله خوارزمية الRR

وعليها 6 درجات

P	Burst
P_0	12
P_1	5
P_2	9
P_3	7

4 4 4 4 | 4 1 4 3 | 4 1

(RR) with Q = 4



$P_0 = (0 + (16-4) + (28-20)) = 20$

$P_1 = (4 + (20-8) + (28-21)) = 16$

$P_2 = (8 + (21-12) + (32-21)) = 24$

$P_3 = (12 + (25-16)) \longrightarrow = 21$

$$AVG = \frac{(20+16+24+21)}{4} = 20.25$$

المتبقي اسئلة المقالي عليهم 28 درجة

أسئلة مقالي جديدة:

1- Explain the cache consistency problem in a distributed file system.

How can consistency be maintained between cached copies and the original (master) copy of a file?

note : 12 ~ slide : 28-29

- **Cache-consistency problem** – keeping the cached copies consistent with the master file
  - Could be called **network virtual memory**

- Is locally cached copy of the data consistent with the master copy?
- **Client-initiated approach**
  - Client initiates a validity check
  - Server checks whether the local data are consistent with the master copy
- **Server-initiated approach**
  - Server records, for each client, the (parts of) files it caches
  - When server detects a potential inconsistency, it must react

2- List the basic file operations in a file system. and Briefly describe each operation.

note : 7 ~ slide : 8



File Operations

- File is an **abstract data type** (ADT is a set of objects together with a set of operations.)
- **Create**
- **Write**
- **Read**
- **Reposition within file**
- **Delete**
- **Truncate (cut off)**
- *Open*(F_i) – search the directory structure on disk for entry F_i, and move the content of entry to memory
- *Close* (F_i) – move the content of entry F_i in memory to directory structure on disk

المتبقي اسئلة المقالي عليهم 28 درجة

أسئلة مقالي جديدة:

3- List the methods used to implement the access matrix? note : 9 ~ slide : 15-17

Option 1 – Global table

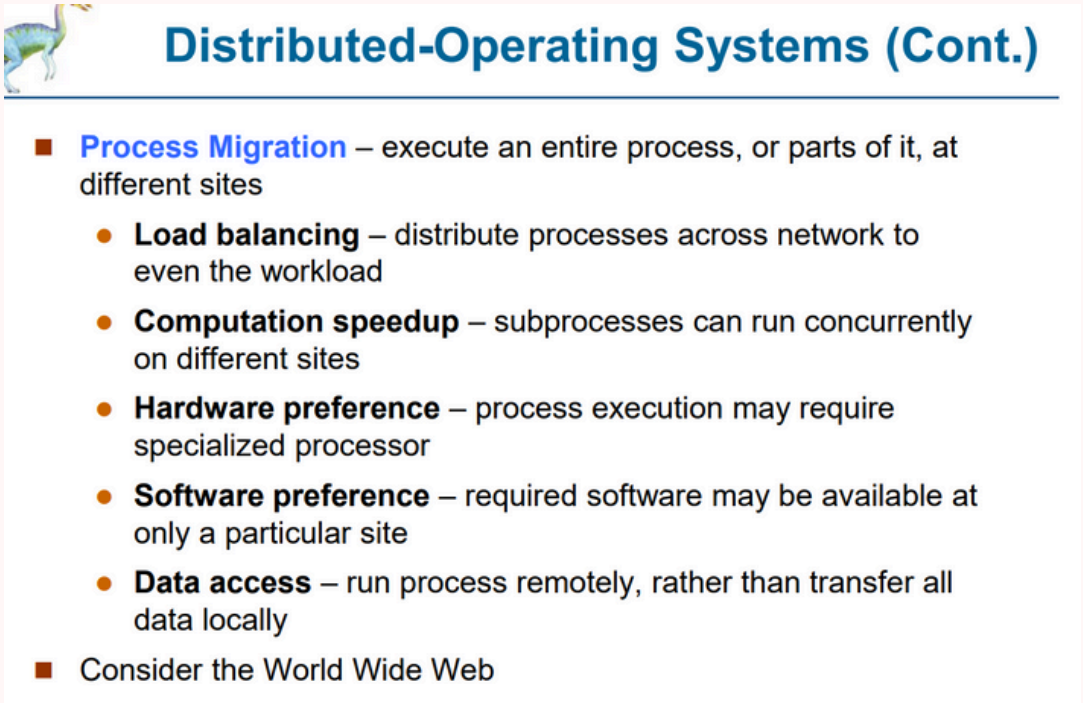
Option 2 – Access lists for objects

Option 3 – Capability list for domains

Option 4 – Lock-key

4- Explain process migration in distributed operating systems. What are the advantages of it?

note : 12 ~ slide : 9



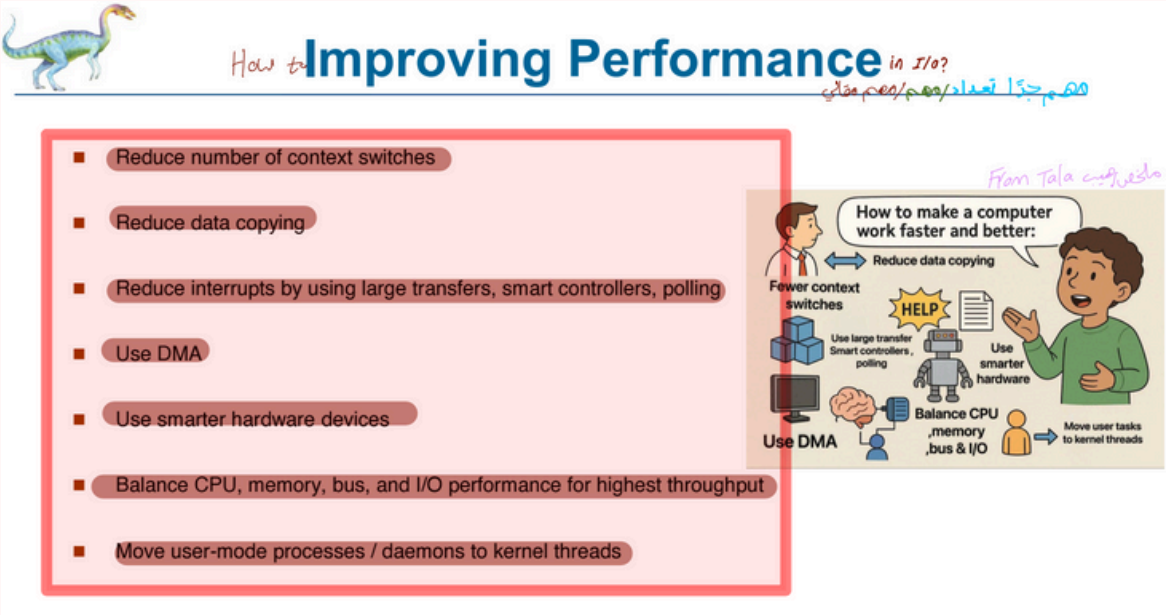
المتبقي اسئلة المقالي عليهم 28 درجة

متكرر من نماذج سابقة:

list 5 ways to improve performance input/output system

note : 8

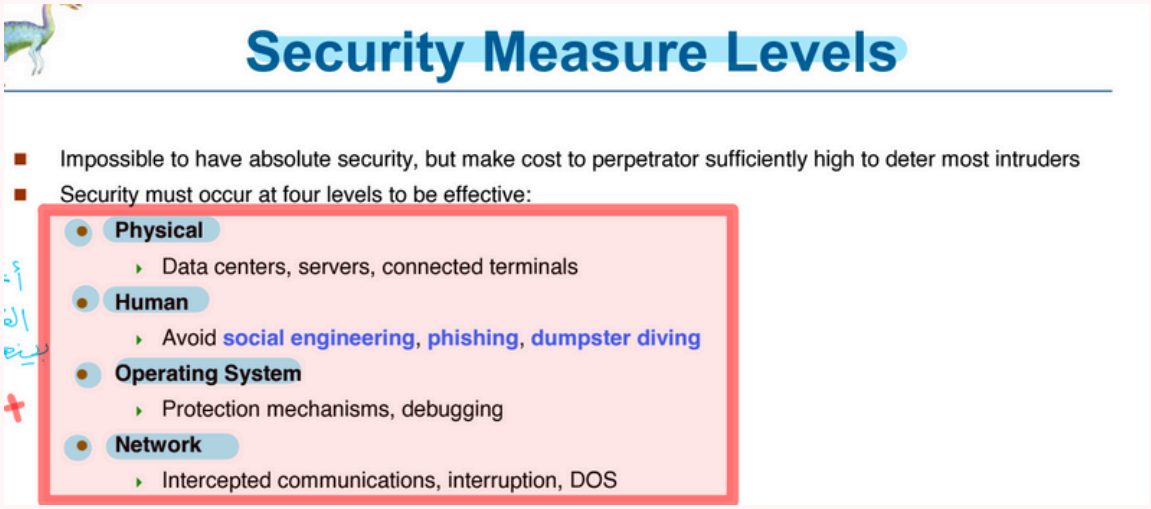
slide : 40



2-list security level

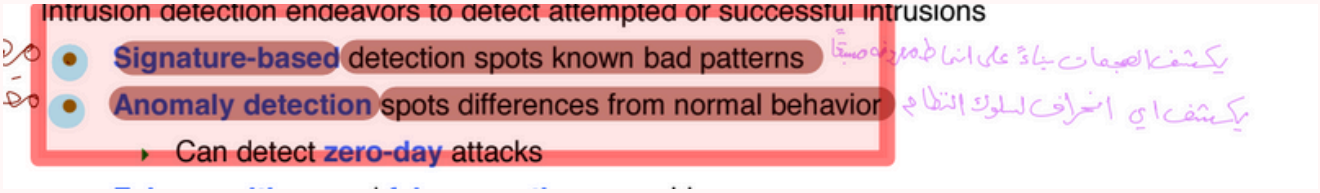
note : 10

slide : 8



note : 10 ~ slide : 27

3- Signature-based and behavior detection ?



Done🎉🎊

بالتوفيق للجميع🌟

لاتنسون تدعون للي سوا هالنموذج ولكل من شارك بالتجميع🙏🏻