Exercise 1

We need to store in a file the following information:

The personal data of students who are enrolled in the module database management:

DNI	Surnames	Name	Address	Phone	Studies	Date_of_ birth

A) Based on these data fills in the below table:

Filename:	DATA_STUDENTS_DATABASE_GBD						
Attributes:	DNI	Surnames	Name	Address	Phone	Studies	Date of birth
Sample record:	43125340h	Ruiz Martínez	Pedro Antonio	c/Sagasta nº1	611111111	E.S.O.	11/04/1982

B) If we keep them on the hard drive of your computer, what type of storage device is it?

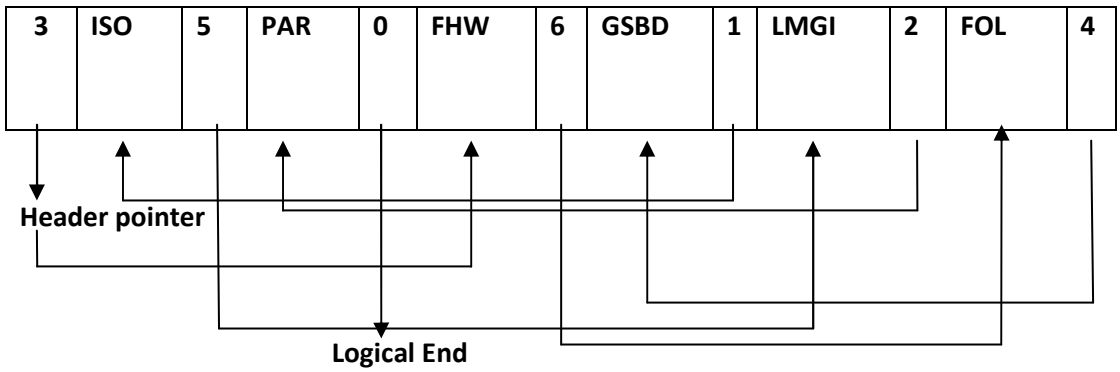
Device of massive storage or secondary memory of directional type.

C) What would be the most appropriate kind of access to query data from a student enrolled if the file has an indexed sequential organization?

Access through a query sequence to the area of indices to determine the segment where you will find the desired entry.

Exercise 2

A) String together the following records with pointers to logically sort in ascending order by the value of its key.



B) What type of organization is it?

Linked-Sequential Organization because are sequential file organization managed by pointers that allow us to have the records sorted by a different logical order of the physical order in which they are recorded.

C) How is called the pointer that marks the first record?

Record header

Exercise 3

Stored in a file with random organization on the following records:

KEY	DATA
ISO	Implementation of operating systems
PAR	Planning and Network Management
FHW	Fundamentals of hardware
GSBD	Database Management
LMGI	Markup Language and information management systems
FOL	Training and Guidance

Keys' transformation algorithm:

For each character in the key, get the corresponding numerical value according to the alphabetically order. Add the equivalent values for all characters and, finally, subtract 32 from the value obtained.

Example: FOL (6 + 16 + 12 = 34-32 = 2). Address storage: 2

Address	KEY	DATA
1	GSBD	Database Management

2	**FOL**	**Training and Guidance**
3		
4		
5	**PAR**	**Planning and Network Management**
6	**FHW**	**Fundamentals of hardware**
7		
8		
9	**LMGI**	**Markup Language and information management systems**
10	**KEY**	**DATA**
11		
12		
13	**ISO**	**Implementation of operating systems**

GRADING CRITERIA: The score assigned to this exercise is 2 points that correspond to the correct calculation of storage addresses and their placement in the file.

Exercise 4:

Create an indexed sequential organization structure with the following information:

MODULE	CODE	HOURS PER WEEK
0369	Implementation of operating systems	8
0370	Planning and Managing Networks	6
0371	Fundamentals of hardware	3
0372	Database Management	6
0373	Markup Language and Information Systems	4
0380	Training and Guidance	3
0374	Operating Systems Administration	7
0375	Network and Internet Services	7
0376	Implementing Web Applications	5
0377	Management management systems of databases	3
0378	Security and high availability	5

0381	**Business and Entrepreneurial Initiative**	**3**

Size of each block or segment: 4

INDEXES AREA

0372	**1**
0376	**5**
0380	**9**

PRIMARY AREA

1	**0369**	**Implementation of operating systems**	**8**
2	**0370**	**Planning and Managing Networks**	**6**
3	**0371**	**Fundamentals of hardware**	**3**
4	**0372**	**Database Management**	**6**
5	**0373**	**Markup Language and Information Systems**	**4**
6	**0374**	**Operating Systems Administration**	**7**
7	**0375**	**Network and Internet Services**	**7**
8	**0376**	**Implementing Web Applications**	**5**
9	**0377**	**Management management systems of databases**	**3**

10	**0378**	**Security and high availability**	**5**
11			
12	**0380**	**Training and Guidance**	**3**

OVERFLOW AREA

0381	**Business and Entrepreneurial Initiative**	**3**

Exercise 5:

We have the following diagram showing the architecture we use in our classes to teach the database module.

Arrange the following software depending on whether it is installed on client or server.

S.G.B.D. MySQL

Apache Web Server

Host Language: PHP

Operating system Windows 2008 server

Operating System Windows 7 professional

GUI graphical access to the database: MySQL Query Browser

Web Browser: Internet explorer.

SERVER SOFTWARE	**S.G.B.D. MySQL, Apache Web Server, Operating system Windows 2008 server, Operating System Windows 7 professional,**
CLIENT SOFTWARE	**Host Language: PHP, Operating system Windows 2008 server, Operating System Windows 7 professional, GUI graphical access to the database: MySQL Query Browser, Web Browser: Internet explorer.**

S.G.B.D. MySQL: It is a data management software which usually resides on the server and performs management of data needed by applications.

Apache Web Server: it is a program specially designed for data transfer hypertext, ie, web pages with all elements (text, widgets, banners, etc). The web server, is waiting for a browser will make a request, such as accessing a web page and responds to the request, sending HTML code via a data transfer network.

Host Language: PHP: Software development customer-oriented applications.

Operating system Windows 2008 server: Software that can be installed on a server machine but can also used by users.

Operating System Windows 7 professional: Software that is usually installed on a client machine can be used as server to be an economic solution.

GUI graphical access to the database: MySQL Query Browser: He resides client and server, providing the client server connection.

Web Browser: Internet explorer: It is a user interface FTP, with operations similar to the Windows Explorer