



Assignment

Faculty Name:	Information Technology
Module Code:	ITDIB2-B44
Module Name:	Database Management System Block 4
Module Leader:	Dr Chinedu Okonkwo
Copy Editor:	Mr Kevin Levy
Total Marks:	80
Submission Date:	22/11/2021 – 26/11/2021

This module is presented on NQF level 6.

5% will be deducted from the student's assignment mark for each calendar day the assignment is submitted late, up to a maximum of three calendar days. The penalty will be based on the official campus submission date.

Assignments submitted later than three calendar days after the deadline or not submitted will get 0%.¹

This is an individual assignment.

This assignment contributes 40% towards the final mark.

Instructions to Student

1. Remember to keep a copy of all submitted assignments.
2. All work must be typed.
3. Please note that you will be evaluated on your writing skills in all your assignments.
4. All work must be submitted through Turnitin² and the full Originality Report should be attached to the final assignment. Negative marking will be applied if you are found guilty of plagiarism, poor writing skills or if you have applied incorrect or insufficient referencing. (See the table at the end of this document where the application of negative marking is explained.)

¹ Under no circumstances will assignments be accepted for marking after the assignments of other students have been marked and returned to the students.

² Refer to the PIHE Policy for Intellectual Property, Copyright and Plagiarism Infringement, which is available on myLMS.

5. Each assignment must include a cover page, table of contents and full bibliography, based on the referencing method applicable to your faculty as applied at Eduvos.
6. Use the cover sheet template for the assignment; this is available from *myLMS*.
7. Students are not allowed to offer their work for sale or to purchase the work of other students. This includes the use of professional assignment writers and websites, such as Essay Box. If this should happen, Eduvos reserves the right not to accept future submissions from a student.

Assignment Format

Students must follow the requirements when writing and submitting assignments as follows:

- Use Arial, font size 10.
- Include page numbers.
- Include a title page.
- Print submissions on both sides of the page.
- Write no more than the maximum word limit.
- Ensure any diagrams, screenshots and PowerPoint presentations fit correctly on the page and are referenced.
- Include a table of contents.
- Use the accurate referencing method throughout the assignment.
- Include a bibliography based on the applicable referencing method at the end of the assignment.
- Include the completed Assessment/Project Coversheet (available on *myLMS*).
- Check spelling, grammar and punctuation.
- Run the assignment through Turnitin software.

Essential Embedded Knowledge and Skills Required of Students

- Report-writing skills
- Ability to analyse scenarios/case studies
- Understanding of subject field concepts and definitions
- Ability to apply theoretical knowledge to propose solutions to real-world problems
- Referencing skills

Resource Requirements

- A device with Internet access for research

- A desktop or personal computer for typing assignments
- Access to a library or resource centre
- Prescribed reading resources

Delivery Requirements (evidence to be presented by students)

- A typed assignment³
- A Turnitin Originality Report

Minimum Reference Requirements

At least five references for first year, ten references for second year and fifteen references for third year.

Additional reading is required to complete this assignment successfully. You need to include the following additional information sources:

- Printed textbooks/e-books
- Printed/online journal articles
- Academic journals in electronic format accessed via PROQUEST or other databases
- Periodical articles e.g. business magazine articles
- Information or articles from relevant websites
- Other information sources e.g. geographic information (maps), census reports, interviews

Note

- It is crucial that students reference all consulted information sources, by means of in-text referencing and a bibliography, according to the applicable referencing method.
- Negative marking will be applied if a student commits plagiarism i.e. using information from information sources without acknowledgement and reference to the original source.
- In such cases, negative marking, also known as 'penalty scoring', refers to the practice of subtracting marks for insufficient/incorrect referencing.
- Consult the table at the end of this document, which outlines how negative marking will be applied as well as the way in which it will affect the assignment mark.

³ Refer to the Conditions of Enrolment for more guidance (available on myLMS).

Section A

Learning Objective

Test the student's understanding of database systems management

Assignment Topic

Problems with Database System Management

Scope

Week 1 – 5

Question 1

20 Marks

Study the scenario and complete the question(s) that follow:

Creating a Database Table

A database management system is software that is installed on a computer system and used to manage organisational information. Oracle SQL is an example. A company recently installed SQL developer in order to migrate their data to a DBMS.

To move the data, a database must be created and accessed. A database contains tables, which are collections of records, and records are made up of rows and columns.

SQL is a database tool that is used to create and access databases in order to support software applications. Database management necessitated the use of SQL queries. A query is made up of keywords/commands such as CREATE, UPDATE, AND, LIKE, and so on.

Source: Okonkwo, C. (2021)

You are contracted to setup a database for this company and a sample table is given below.

Salary_list

Id	Fname	Lname	Salary
0001	Mandla	Nkosi	12000
0002	Princewill	Goodluck	28000
0003	Angelina	Duke	9000
0004	Zama	Jobert	16000
0005	James	Stone	20000
0006	Martins	Duke	30000

- 1.1 Write an SQL query that can create the **Salary_list** table. Specify the data types of each column. (10 Marks)
- 1.2 Use the INSERT statement to enter the table data. (5 Marks)
- 1.3 Write two queries to select all the columns in the table. (2½ Marks)
- 1.4 Write a query to filter all the staff with the Lname "Jobert". (2½ Marks)

[Sub Total 20 Marks]

End of Question 1

Study the scenario and complete the question(s) that follow:

Salary Payment

WilConnect, a telecommunications company, pays all employees on the 25th of each month. The company hired new employees in July 2021. Some employees, particularly those who are new to the company, did not receive their salaries during the month of August. It was discovered that their names contain an error. As a result of an underscore character mingling with their surnames, the system was unable to pay them. As a result, all names with underscores must be retrieved in order for the database administrator to edit them. The database output is shown in the table below.

Staff_list

Id	Fname	Lname	Salary
0001	Mandla	Nkosi	12000
0002	Princewill	Goodluck	28000
0003	Angelina	Duke	9000
0004	Zama	Jobert	16000
0005	James	Stone	20000
0006	Blessing	Seli_mont	NULL
0007	Brenda	Ti_tus	NULL
0008	Martins	Duke	30000

Source: Okonkwo, C. (2021)

As a database administrator, you are tasked to search the database and retrieve all the names with underscores.

- 2.1 Write a query to retrieve the Lname with errors. (5 Marks)
- 2.2 Write another query to edit the records with errors. (5 Marks)
- 2.3 Assume that the Lnames with errors are system generated errors that are not supposed to be in the table. Write a query to delete the records. (5 Marks)
- 2.4 Write a query to retrieve the records of all the staff whose Lname starts with 'D'. (5 Marks)

2.5 Write a query to find all the records where the Lname contains the letter 'K' with a salary more than 20000. (5 Marks)

2.6 Write a query to find all the records where the Lname contains the letter 'G' with a salary more than 20000 and less than 40000. (5 Marks)

[Sub Total 30 Marks]

End of Question 2

Study the scenario and complete the question(s) that follow:

Data Manipulation

Data manipulation is the process of modifying data to make it easier to read or more organized. A data log, for example, could be organized alphabetically to make individual entries easier to find. Data manipulation on web server logs is frequently used to allow a website owner to view their most popular pages and traffic sources.

Users in the accounting or related fields frequently manipulate data to determine product costs, sales trends, or potential tax obligations. Computers may also use data manipulation to display information to users in a more meaningful way, based on code in a software program, web page, or data formatting defined by a user. A sample database table is presented below.

Staff_info

Id	Fname	Lname	Salary	Location
0001	Mandla	Nkosi	12000	Midrand
0002	Princewill	Goodluck	28000	Johannesburg
0003	Angelina	Duke	9000	Pretoria
0004	Zama	Jobert	16000	Durban
0005	James	Stone	20000	Cape Town
0006	Martins	Duke	30000	Port Elizabeth

Source: [Online] <https://www.computerhope.com/jargon/d/datamanihtm> [Accessed on: 18/10/2021]

You are tasked to perform some data manipulation using the given table by answering the following questions given the following query:

```
SELECT id, Fname, salary
FROM Staff_info
WHERE salary IN (
10000, 20000, 30000, 40000, 50000,
60000, 70000, 80000, 90000, 100000);
```

3.1 What is the output of this query? (Use the Staff_list table.)

(5 Marks)

- 3.2 Write a query to display all the staff with salaries equal to or greater than 16000. (5 Marks)
- 3.3 Write a query to select all the staff with salaries of either 12000, 28000, or 30000. (5 Marks)
- 3.4 Using a command line, write a query to format the output of column Fname as an alphanumeric field with a width of 11 characters. Explain your query. (5 Marks)
- 3.5 Sort the staff names in ascending order using the Lname column. (5 Marks)
- 3.6 What is the difference between the following: “AND and OR” and %K and %K% operators? (5 Marks)

[Sub Total 30 Marks]

End of Question 3

Section B

Plagiarism and Referencing

Eduvos places high importance on honesty in academic work submitted by students and adopts a zero-tolerance policy on cheating and plagiarism. In academic writing, any source material, e.g. journal articles, books, magazines, newspapers, reference material (dictionaries), or online resources (websites, electronic journals, or online newspaper articles), must be properly acknowledged. Failure to acknowledge such material is considered plagiarism; this is deemed an attempt to mislead and deceive the reader and is unacceptable.

Eduvos adopts a zero-tolerance policy on plagiarism; therefore, any submitted assessment that has been plagiarised will be subject to severe penalties. Students who are found guilty of plagiarism may be subject to disciplinary procedures, and outcomes may include suspension from the institution or even expulsion. Therefore, students are strongly encouraged to familiarise themselves with referencing techniques for academic work. Students can access the Eduvos referencing guides on *myLMS*.

Negative Marking

Second-year Students

- A minimum of 10 additional information sources must be consulted and correctly cited.
- If no additional information sources have been used, a full 10% must be deducted.
- Deduct 1% per missing resource of the required 10. For example:
 - If only five resources cited, deduct 5%.
 - If only three resources cited, deduct 7%.
- Markers to apply the penalties for Category A for insufficient sources and incorrect referencing style.
- To determine the actual overall similarity percentage and plagiarism, markers must interpret the Turnitin Originality Report with reference to credible sources used and then apply the penalties as per the scale in the Policy for Intellectual Property, Copyright and Plagiarism Infringement.
- The similarity report alone is not an assessment of whether work has or has not been plagiarised. Careful examination of both the submitted paper/assignment/project and the suspect sources must be done.

Category A

Minimum Reference Requirements	Deduction from Final Mark
No additional information sources have been used or referenced.	10%