



MODULE NAME:	MODULE CODE:
DATABASE INTERMEDIATE	DATA6212
DATABASE INTERMEDIATE	DATA6212d
DATABASE INTERMEDIATE	DATA6212p

ASSESSMENT TYPE:	TAKE-HOME ASSESSMENT (PAPER ONLY)
TOTAL MARK ALLOCATION:	60 MARKS
TOTAL TIME:	This assessment should take you 1 Hour to complete, however you have 21 hours (midnight to 9pm on the same day) to submit. This additional time has been allocated to allow for the download, completion and upload of your submission.

By submitting this assessment, you acknowledge that you have read and understood all the rules as per the terms in the registration contract, in particular the assignment and assessment rules in The IIE Assessment Strategy and Policy (IIE009), the intellectual integrity and plagiarism rules in the Intellectual Integrity Policy (IIE023), as well as any rules and regulations published in the student portal.

INSTRUCTIONS:

1. Please **adhere to all instructions**. These instructions are different from what is normally present, so take time to go through these carefully.
2. **Independent work is required**. Students are not allowed to work together on this assessment. Any contraventions of this will be handled as per disciplinary procedures in The IIE policy.
3. **No material may be copied from original sources, even if referenced correctly, unless it is a direct quote indicated with quotation marks.**
4. All work must be adequately and correctly referenced.
5. You should paraphrase (use your own words) the concepts that you are referencing, rather than quoting directly.
6. Marks will be awarded for the quality of your paraphrasing.
7. This is an open-book assessment.
8. Assessments must be typed unless otherwise specified.
9. **Ensure that you save a copy of your responses.**
 - a. Complete your responses in a Word document.
 - b. The document name must be your **Name.Student number.Module Code**.
 - c. Once you have completed the assessment, upload your document under the **submission link** in the correct module in Learn.

Additional instructions:

- For open book assessments the students may have open access to all resources inclusive of notes, books (hardcopy and e-books) and the internet. These resources may be accessed as hard copies or as electronic files on electronic devices. All electronic devices batteries must be fully charged before the assessment as no charging of devices will be permitted during the

sitting of the assessment. The IIE and associated brands accept no liability for the loss or damage incurred to electronic devices used during open book assessments.

- *Answer All Questions.*
- *Instructions for practical computer work:*
 - *Use of good programming practice and comments in code is compulsory.*
 - *Create a folder as follows: use the module code and your own student number as per the format shown here:*
 - **Name. Student Number. Module Code.** *Save all files (including any source code files, template files, design files, image files, text files, database files, etc.) within this folder.*
 - *Use this folder throughout the assessment to save all of your files.*
 - *Upload the folder under the **submission link** in the correct module in Learn*

Question 1**(Marks: 40)**

This question relates to creating and altering tables, as well as implementing constraints and referential integrity. Answer all the questions below by creating the necessary script.

Q.1.1

You are required to create the following tables in a database named SICKLEAVE:

(20)

EMPLOYEES		
EMPLOYEE_ID	VARCHAR(5) NOT NULL	PRIMARY KEY
EMPLOYEE_NAME	VARCHAR(30) NOT NULL	
EMPLOYEE_SURNAME	VARCHAR(30) NOT NULL	
DATE_OF_BIRTH	DATE NOT NULL	

DOCTORS		
DOCTOR_ID	VARCHAR(5) NOT NULL	PRIMARY KEY
DOCTOR_NAME	VARCHAR(30) NOT NULL	

EMPLOYEE_SICKLEAVE		
EMPLOYEE_ID	VARCHAR(5) NOT NULL	PRIMARY KEY FOREIGN KEY REFERENCES EMPLOYEES(EMPLOYEE_ID)
START_DATE	DATE NOT NULL	PRIMARY KEY
DOCTOR_ID	VARCHAR(5) NOT NULL	
NUMBER_OF_DAYS	SMALLINT NOT NULL	

Q.1.2

Populate the tables created in **Q.1.1** with the following data:

(10)

EMPLOYEES			
EMPLOYEE_ ID	EMPLOYEE_NAME	EMPLOYEE_ SURNAME	DATE_OF_BIRTH
I0001	Dominique	Woolridge	1993-04-19
I0002	Nico	Baird	1991-11-19
I0003	Derek	Moore	1992-06-24
I0004	Neo	Petlele	1993-12-29
I0005	Andrew	Crouch	1994-01-30

DOCTORS			
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DOCTOR_ID	DOCTOR_NAME
D0001	Thabo Ntlali
D0002	Deon Coetzee
D0003	Kwezi Mbete
D0004	Trevor January
D0005	Julia Robins

EMPLOYEE_SICKLEAVE			
EMPLOYEE_ID	DOCTOR_ID	START_DATE	NUMBER_OF_DAYS
I0001	D0004	2019-01-25	2
I0002	D0001	2019-05-14	1
I0003	D0003	2019-06-07	5
I0003	D0002	2019-06-29	15
I0004	D0001	2019-08-01	3
I0005	D0004	2019-10-22	9
I0005	D0001	2019-12-28	4

Q.1.3	Alter the EMPLOYEES table to add a column as specified below:	(5)				
<table><tr><th colspan="2">EMPLOYEES</th></tr><tr><td>AGE</td><td>SMALLINT</td></tr></table>			EMPLOYEES		AGE	SMALLINT
EMPLOYEES						
AGE	SMALLINT					

Q.1.4	Update the contents of the EMPLOYEES table to populate the new AGE field that was added to the table in Q.1.3 . The age should be calculated based on the current date and the date of birth.	(5)
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Question 2 (Marks: 20)

Q.2.1	Write a query that will display doctors' names that have not issued any doctor's certificates to employees yet.	(5)
<p>Sample Results:</p> <p>DOCTOR_NAME</p> <p>Julia Robbins</p>		

Q.2.2	Write a query to generate a report indicating the total number of sick leave days for each employee. The report should display the employee name and surname and the total number of sick leave days. Arrange the report so that the records are ordered in descending order based on the number of sick leave days.			(10)																		
Sample Results:																						
<table><tr><th>EMPLOYEE_NAME</th><th>EMPLOYEE_SURNAME</th><th>TOTAL SICK LEAVE DAYS</th></tr><tr><td>Derek</td><td>Moore</td><td>20</td></tr><tr><td>Andrew</td><td>Crouch</td><td>13</td></tr><tr><td>Neo</td><td>Petlele</td><td>3</td></tr><tr><td>Dominique</td><td>Woolridge</td><td>2</td></tr><tr><td>Nico</td><td>Baird</td><td>1</td></tr></table>					EMPLOYEE_NAME	EMPLOYEE_SURNAME	TOTAL SICK LEAVE DAYS	Derek	Moore	20	Andrew	Crouch	13	Neo	Petlele	3	Dominique	Woolridge	2	Nico	Baird	1
EMPLOYEE_NAME	EMPLOYEE_SURNAME	TOTAL SICK LEAVE DAYS																				
Derek	Moore	20																				
Andrew	Crouch	13																				
Neo	Petlele	3																				
Dominique	Woolridge	2																				
Nico	Baird	1																				
Q.2.3	Write a query that will indicate which employee has been booked off for the most number of days by doctor 'D0001'. Display the employee name and surname, doctor name, and the number of days.			(5)																		
Sample Results:																						
<table><tr><th>EMPLOYEE_NAME</th><th>EMPLOYEE_SURNAME</th><th>DOCTOR_NAME</th><th>NUMBER_OF_DAYS</th></tr><tr><td>Andrew</td><td>Crouch</td><td>Thabo Ntlali</td><td>4</td></tr></table>					EMPLOYEE_NAME	EMPLOYEE_SURNAME	DOCTOR_NAME	NUMBER_OF_DAYS	Andrew	Crouch	Thabo Ntlali	4										
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END OF PAPER