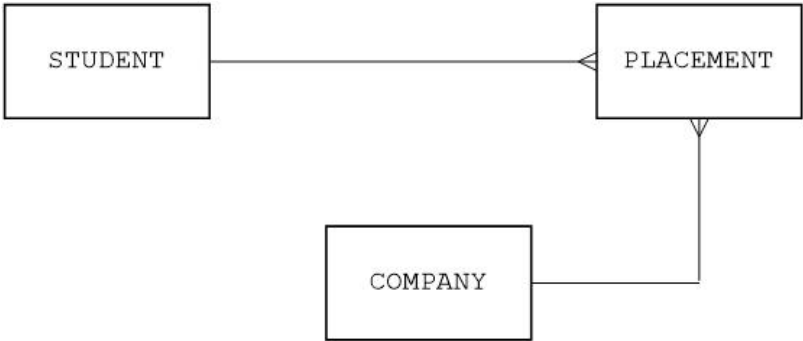
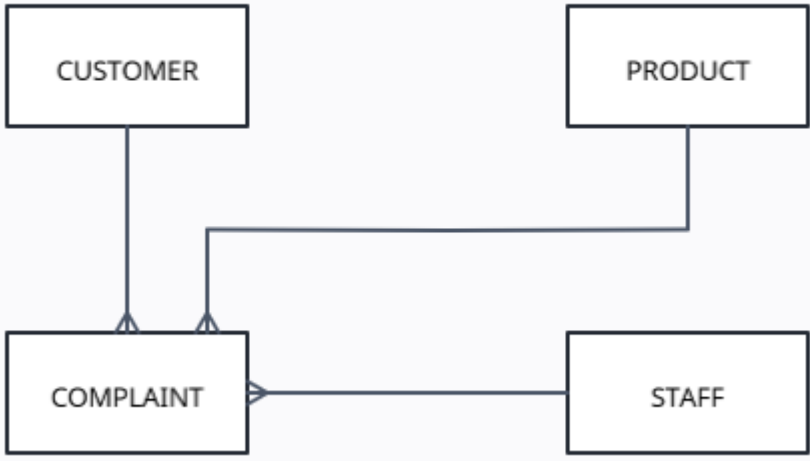


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| 2(a)     | <p><b>1 mark</b> for each correct relationship, <b>max 2</b> marks</p>  <pre> graph LR     STUDENT[STUDENT] --- crow's foot  PLACEMENT[PLACEMENT]     COMPANY[COMPANY] --- crow's foot  PLACEMENT[PLACEMENT]   </pre>                                                                                                                                                                                                              |
| 2(b)     | <p><b>1 mark</b> per bullet point, <b>max 2</b> marks</p> <ul style="list-style-type: none"> <li>• There are no repeating groups of attributes</li> <li>• There are no many-to-many relationships</li> <li>• There are no partial key dependencies // no non-key dependencies // no transitive dependencies</li> </ul>                                                                                                                                                                                               |
| 2(c)(i)  | <p><b>1 mark</b> per bullet point, <b>max 2</b> marks</p> <ul style="list-style-type: none"> <li>• DELETE FROM and correct table</li> <li>• Correct condition</li> </ul> <p>Example answer:<br/> DELETE FROM PLACEMENT<br/> WHERE Complete = TRUE;</p>                                                                                                                                                                                                                                                               |
| 2(c)(ii) | <p><b>1 mark</b> per bullet point, <b>max 4</b> marks</p> <ul style="list-style-type: none"> <li>• SELECT COUNT any appropriate field</li> <li>• AS and an appropriate name</li> <li>• FROM and correct table and WHERE and one correct condition</li> <li>• Two AND clauses with the other two correct conditions</li> </ul> <p>Example answer:<br/> SELECT COUNT (CompanyID)<br/> AS TotalPlacements<br/> FROM PLACEMENT<br/> WHERE CompanyID = "NEAM"<br/> AND StudentID = "LDEA01"<br/> AND Complete = TRUE;</p> |

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| 2(d) | <p><b>1 mark per bullet point, max 3 marks</b></p> <p>Generic mark points (<b>max 2</b>)</p> <ul style="list-style-type: none"> <li>• Referential integrity ensures that related data is consistent</li> <li>• Referential integrity ensures that every foreign key has a corresponding primary key</li> <li>• Referential integrity provides for cascading update / delete</li> <li>• Referential integrity ensures that if a primary key is deleted or modified all linked records in foreign table will be deleted or modified // Referential integrity stops "orphaned records"—records in a table that point to an entry in another table that no longer exists</li> </ul> <p>Specific mark points (<b>max 2</b>) for good examples e.g.</p> <ul style="list-style-type: none"> <li>• CompanyID is a foreign key in PLACEMENT table and is dependent on the primary key CompanyID in COMPANY table</li> <li>• If a record is deleted from the STUDENT table, then all records with the same StudentID will be deleted from the PLACEMENT table</li> <li>• If a CompanyID is modified in the company table, all records with that CompanyID in the placement table will also be modified</li> </ul> |
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| 4(a) | <p><b>1 mark</b> per bullet point, <b>max 2</b> marks</p> <ul style="list-style-type: none"> <li>The relationship between SHIP and CONTAINER is one-to-many (1:M)</li> <li>The primary key <u>ShipID</u> in the SHIP table is linked to the foreign key ShipID in the CONTAINER table</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4(b) | <p><b>1 mark</b> per bullet point, <b>max 2</b> marks</p> <ul style="list-style-type: none"> <li>ALTER TABLE statement</li> <li>Including the additional field with a suitable field name and suitable field type</li> </ul> <p>Example answer</p> <pre>ALTER TABLE CONTAINER ADD InspectionDate DATE;</pre>                                                                                                                                                                                                                                                                                                                                                                                                                |
| 4(c) | <p><b>1 mark</b> per bullet point, <b>max 4</b> marks</p> <ul style="list-style-type: none"> <li>SELECT <u>COUNT</u> statement</li> <li>Using the correct tables</li> <li>Joining the tables</li> <li>The condition for the name</li> </ul> <p>Example Answer 1:</p> <pre>SELECT COUNT(ContainerID) FROM CONTAINER, SHIP WHERE CONTAINER.ShipID = SHIP.ShipID AND ShipName = "Caledonia";</pre> <p>Example Answer 2:</p> <pre>SELECT COUNT(ContainerID) FROM CONTAINER INNER JOIN SHIP ON CONTAINER.ShipID = SHIP.ShipID WHERE ShipName = "Caledonia";</pre>                                                                                                                                                                |
| 4(d) | <p><b>1 mark</b> per bullet point, <b>max 2</b> marks</p> <ul style="list-style-type: none"> <li>To allow the user to create / modify / delete tables // maintain the database</li> <li>To allow the user to set up / modify relationships</li> <li>To allow the user to create a form for data input</li> <li>To allow a user to add tools to a form // for example, drop-down boxes / buttons etc.</li> <li>To allow a user to design a report (to show the output in an organised manner)</li> <li>To allow a user to add a menu to enable a choice of different actions</li> <li>To allow a user to inspect the database contents and metadata</li> <li>... by creating and/or running different SQL queries</li> </ul> |

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| 5(a) | <p><b>1 mark</b> for each correct relationship, <b>max 3</b> marks</p>  <pre> graph TD     CUSTOMER --&gt; COMPLAINT     PRODUCT --&gt; COMPLAINT     STAFF --&gt; COMPLAINT   </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 5(b) | <p><b>1 mark</b> per bullet point, <b>max 4</b> marks</p> <ul style="list-style-type: none"> <li>• Create table with opening and closing brackets and commas separating the attributes</li> <li>• Appropriate data types for StaffFirstName, StaffLastName and Department</li> <li>• Appropriate data types for StaffID and RemoteWorker</li> <li>• Primary key correctly defined</li> </ul> <p><b>Example Answer 1:</b></p> <pre> CREATE TABLE STAFF( StaffID INTEGER, StaffFirstName VARCHAR, StaffLastName VARCHAR, Department CHAR, RemoteWorker BOOLEAN, PRIMARY KEY (StaffID) );   </pre> <p><b>Example Answer 2:</b></p> <pre> CREATE TABLE STAFF( StaffID INTEGER NOT NULL PRIMARY KEY, StaffFirstName VARCHAR, StaffLastName VARCHAR, Department CHAR, RemoteWorker BOOLEAN );   </pre> |

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| 5(c) | <p><b>1 mark</b> per bullet point, <b>max 5</b> marks</p> <ul style="list-style-type: none"> <li>• SELECT and the correct attributes</li> <li>• FROM and the correct tables</li> <li>• Tables joined correctly</li> <li>• Correct condition for the rating</li> <li>• Correct ORDER BY clause</li> </ul> <p><b>Example Answer 1</b><br/> SELECT PRODUCT.ProductID, ProductName, ComplaintDetails<br/> FROM PRODUCT, COMPLAINT<br/> WHERE PRODUCT.ProductID = COMPLAINT.ProductID<br/> AND Rating &lt;=5<br/> ORDER BY Rating DESC;</p> <p><b>Example Answer 2</b><br/> SELECT PRODUCT.ProductID, ProductName, ComplaintDetails<br/> FROM PRODUCT INNER JOIN COMPLAINT<br/> ON PRODUCT.ProductID = COMPLAINT.ProductID<br/> WHERE Rating &lt;=5<br/> ORDER BY Rating DESC;</p>                                                                                                                      |
| 5(d) | <p><b>One mark</b> for identification of method <b>one mark</b> for corresponding description<br/> <b>max 4</b> marks</p> <ul style="list-style-type: none"> <li>• Authentication methods / passwords / biometrics / 2-factor authentication can be implemented</li> <li>• ... which prevents unauthorised access to the customer's data</li> <li>• Access rights / privileges can be set</li> <li>• ... so that only those with correct permissions can read / edit customer's data</li> <li>• Regular backups can be scheduled</li> <li>• ... so that a second copy of the customer's data is available in case of loss/damage</li> <li>• The data can be encrypted</li> <li>• ... so that the customer's data cannot be understood by anyone who gains unauthorized access</li> <li>• Different views can be created</li> <li>• ... so that not everyone can see the customer's data</li> </ul> |