**DATABASE WORK**

Outline the relational algebra expressions that satisfy the conditions below.

Publishing

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **FName** | **LName** | **Salary** | **RNo** | **Age** | **SNo** |
| **Joan** | **Nabulya** | **100.000** | **E004** | **44** | **1** |
| **Abdul** | **Kanyike** | **200.000** | **E002** | **29** | **4** |
| **Samuel** | **Loloyo** | **200.000** | **E003** | **35** | **2** |
| **Lizette** | **Nagudi** | **400.000** | **E005** | **32** | **5** |
| **Dean** | **Walulya** | **450.000** | **E006** | **30** | **4** |

|  |  |
| --- | --- |
| **Dep** | **SNo** |
| **Account** | **1** |
| **HR** | **2** |
| **Production** | **3** |
| **Marketing** | **4** |

1. Show employees whose SNO is 4 and earning a salary less than 300000.

Ỽ (operator-condition) (R)

Ỽ (SNo=4 with a salary <300.000) (publishing)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **FName** | **LName** | **Salary** | **RNo** | **Age** | **SNo** |
| **Abdul** | **Kanyike** | **200.000** | **E002** | **29** | **4** |

1. Retrieve the last three attributes and tuples from the employee relation.

Π (list of attributes) (Ỽoperator – condition) (R)

Π (three attributes) AND (Ỽ tuples) (publishing)

|  |  |  |
| --- | --- | --- |
| **RNo** | **Age** | **SNo** |
| **E003** | **35** | **2** |
| **E005** | **32** | **5** |
| **E006** | **30** | **4** |

1. Project Names and SNo for the employee who belongs to the SNo of 4

Π (list of attributes) (Ỽoperator – condition) (R)

Π (Project Names and SNo) (Ỽ the employee who belongs to the SNo of 4) (publishing)

|  |  |  |
| --- | --- | --- |
| **FName** | **LName** | **SNo** |
| **Abdul** | **Kanyike** | **4** |
| **Dean** | **Walulya** | **4** |

1. Retrieve the names of employees earning a salary of at least 350000.

Ỽ (operator-condition) (R)

Ỽ (employees earning a salary > 350000.) (Publishing)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **FName** | **LName** | **Salary** | **RNo** | **Age** |
| **Lizette** | **Nagudi** | **400.000** | **E005** | **32** |
| **Dean** | **Walulya** | **450.000** | **E006** | **30** |

1. Retrieve the Fname and salary of employees whose salary is in the range of 200000 and 300000. (NB the starting and ending values should be excluded).

Π (list of attributes) (Ỽoperator – condition) (R)

Π Fname, salary (ỼSalary>=200.000, salary<=300.000) (publishing)

|  |  |
| --- | --- |
| **FName** | **Salary** |
| **Abdul** | **200.000** |
| **Samuel** | **200.000** |

1. Formulate and write relation Algebra expressions that will satisfy a Natural Join and draw a resultant relation to a natural join.

Publishing joins with selection=лF.name,L.Name,salary,RNo,Age,SNo,Dep,(ỼJoan,Nabulya,100000,E004,44,1,Accounts,-----------)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| F.Name | L.Name | Salary | RNo | Age | SN0 | Dept |
| Joan | Nabulaga | 100,000 | E004 | 44 | 1 | Accounts |
| Abdul | kany |  |  |  |  |  |

1. Write a relation Algebra expressions and draw and draw a resultant relation that satisfies the following.

a) Right outer join operation

Publishing joins with select

Table1∞table2

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| F.Name | L.Name | Salary | RNo | Age | SNo | Dept |
| Joan | Nabulaga | 100,000 | E004 | 44 | 1 | Accounts |
| Abdul | Kanyika | 200,000 | E002 | 29 | 4 | Marketing |
| Samuel | Lalayo | 200,000 | E003 | 35 | 2 | HR |
| Liette | Nagudi | 400,000 | E005 | 35 | 5 | - |
| Dean | Walulya | 450,000 | E006 | 30 | 4 | Marketing |

b) Left outer join operation

Publishing joins with select

Table1∞table2

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| F.Name | L.Name | Salary | RNo | Age | SNo | Dept |
| Joan | Nabulaga | 100,000 | E004 | 44 | 1 | Accounts |
| Abdul | Kanyika | 200,000 | E002 | 29 | 4 | Marketing |
| Samuel | Lalayo | 200,000 | E003 | 35 | 2 | HR |
| - | - | - | - | 35 | 5 | Accounting |
| Dean | Walulya | 450,000 | E006 | 30 | 4 | Marketing |