INSTITUTE OF INFORMATION TECHNOLOGY

JAHANGIRNAGAR UNIVERSITY

Number of Assignment : 02

Submission Date : 22/11/2020

Course Tittle : Database Management System

Course Code : ICT - 2203

Submitted To

Manan Binth Taj Noor

Lecturer

IIT – JU

Submitted By

Md. Shakil Hossain

Roll – 2023

2nd year 2nd Semester

IIT – JU

Answer to the question no – 1

$$\Pi_{\text{customer name}}\left(\left(\Pi_{\text{ID}}(\text{Customer}) - \Pi_{\text{ID}}(\text{borrower})\right) \bowtie \text{customer}\right)$$

Answer to the question no – 2

$$\Pi_{\text{account number, branch name, balance, employee ID}}\left(\text{account} \bowtie \left(\sigma_{\text{amount} > 2,200000}(\text{Branch})\right)\right)$$

Answer to the question no – 3

$$\mathcal{G}_{\text{count(loan number)}}\left(\text{loan} \bowtie \left(\sigma_{\text{name} = \text{"Donald Oates"}}(\text{employe})\right)\right)$$

Answer to the question no – 4

$$\Pi_{\text{customer name}}\left(\left(\text{depositer} \bowtie \text{customer}\right) \bowtie_{\text{city} \neq \text{b.city}} \text{Branch}\right)$$

Answer to the question no – 5

$$\mathcal{G}_{\text{count (account number)}}\left(\sigma_{\text{branch name} = \text{"motijheel"}}(\text{employee} \bowtie \text{account})\right)$$

Answer to the question no – 6

$$\Pi_{\text{customer name}}\left(\text{customer} \bowtie (\text{loan} \bowtie \text{account}) \bowtie \text{borrower}\right)$$

Answer to the question no – 7

$$\Pi_{\text{name}}\left(\mathcal{G}_{\max}\left(\mathcal{G}_{\text{count (Employee ID)}}(\text{loan}) \bowtie \text{employee}\right)\right)$$

Answer to the question no – 8

$$\Pi_{\text{contact number}}\left(\text{employee} \bowtie \left(\Pi_{\text{employe ID}}(\text{account}) - \Pi_{\text{Employee ID}}(\text{loan})\right)\right)$$

Answer to the question no – 9

$$\Pi_{\text{customer name}}\left(\left(\mathcal{G}_{\text{count (ID)}}(\text{borrower}) \cap \Pi_{\text{ID}}\ \text{depositer}\right) \bowtie \text{customer}\right)$$

Answer to the question no – 10

$\Pi_{\text{customer name}} \sigma_{\text{city} = \text{"Dhaka"}} (\text{Customer})$

Answer to the question no – 11

$\Pi_{\text{name}} (\text{employee} \bowtie (\Pi_{\text{employee ID}} \text{employee} - \Pi_{\text{employee ID}} \text{account}))$

Answer to the question no – 12

$\Pi_{\text{phone number}} (\text{customer} \bowtie (\Pi_{\text{ID}} (\sigma_{\text{branch name} = \text{"motijheel"}} (\text{account} \bowtie \text{depositer})) - \Pi_{\text{ID}} (\text{loan} \bowtie \text{borrower})))$

Answer to the question no – 13

$\mathcal{G}_{\text{count (employee ID)}} (\text{employe} \bowtie (\sigma_{\text{branch name} = \text{"bandhara"}} \text{account} \vee_{\text{branch name} = \text{"Gulsan"}}))$

Answer to the question no – 14

$$\Pi_{\text{customer name}} \left(\text{customer} \bowtie \sigma_{\text{blance} > 20000} \left(\text{depositer} \bowtie \left(\sigma_{\text{branch name} \neq \text{"motijheel"}} (\text{account}) \right) \right) \right)$$

Answer to the question no – 15

$$\Pi_{\text{customer name}} \left(\text{customer} \bowtie \left(\text{Borrower} \bowtie \left(\sigma_{\text{branch name} = \text{"motijheel} \wedge \text{amount} > 200000} (\text{loan}) \right) \right) \right)$$