

①

Details of Examiners who are paper setter of particular subject

(2)  $\gamma_2 \leftarrow$  Examiners of exam  
(Examiner, examid = Exam, examid)

Subject

(Exam.subjectid = Subject.subjectid

AND Subject.subjectname = 'Economics')

$\gamma_2 \leftarrow$  is setter = true ( $\gamma_2$ )

result  $\leftarrow \gamma_2$

(2) Details of Schools where stream are of science.

$\gamma_2 \leftarrow$  School  $\bowtie$  Student  
(School.schoolid = Student.schoolid)

$\bowtie$

Stream

(Student.stream = Stream.sid)

$\gamma_2 \leftarrow$  stream name = "Science" ( $\gamma_2$ )

$\gamma_2 \leftarrow$  School stream | result  $\leftarrow \gamma_2$

~~$\gamma_2 \leftarrow$  School (Schoolid, Name) ( $\gamma_2$ )~~



BETWEEN and LIKE are used as predicate:

- Get list of dependents who are select exam

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(3.) Detail of Examiner who are supervisor of particular school.

$\gamma_2 \leftarrow$  Examiner  $\bowtie$  Centers  
(Centers.Centerid = Examiner.Center)

$\bowtie$  School  
(School.schoolid = Centers.schoolid  
AND School.schoolname = 'St Muriel')

$\gamma_2 \leftarrow \sigma(\text{isSupervisor} = \text{true})(\gamma_1)$

Result  $\leftarrow \gamma_2$

(4.) Count of Number of Students giving exam who is male and are from commerce field

$\gamma_2 \leftarrow fcount(*) (Student)$

$\gamma_2 \leftarrow \sigma(\text{gender} = m \text{ and } stream = 2)(\gamma_1)$

Result  $\leftarrow \gamma_2$

(3)

(5.) How many exams conducts at particular center

$\gamma_2 \leftarrow$  Exam  $\bowtie$  Conducts  
(Exam.ExamId = conducts.ExamId)

$\bowtie$  centers  
(conducts.CenterId = centers.CenterId)

$\bowtie$  School  
(School.SchoolId = center.SchoolId  
AND School.SchoolName = 'St Mary')

$\gamma_2 \leftarrow \{ count(*) (\gamma_1) \}$

result  $\leftarrow \gamma_2$

(6) Schools which are Not centers

$\gamma_2 \leftarrow$  School  $\bowtie$  Centers  
(School.SchoolId  $\neq$  centers.SchoolId)

~~$\gamma_2 \leftarrow$  School~~

result  $\leftarrow \gamma_2$



(4)

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(7) Give names of schools in Gujarat which were centers.

$\gamma_2 \leftarrow$  School  $\bowtie$  Centers  
(School.schoolid = Centers.schoolid)

$\gamma_2 \leftarrow \sigma (\text{state} = \text{'Gujarat'}) (\gamma_2)$

$\gamma_{\text{result}} \leftarrow \gamma_2$

(8) Number of students who had given re-exam and failed.

$\gamma_2 \leftarrow$  exam  $\bowtie$  gives

(exam.examid = gives.examid)

(exam.exam\_type = 're-exam')

$\bowtie$  result

(result.studentid = gives.studentid AND is\_pass = false)

$\gamma_2 \leftarrow f_{\text{count}} (*) (\gamma_2)$

$\gamma_{\text{result}} \leftarrow \gamma_2$

(9) How many student failed from Commerce field.

$r_1 \leftarrow \text{Student} \bowtie \text{result}$   
(~~result~~ result.studentid = student.enrollmentid)

$r_2 \leftarrow r_1 \bowtie \text{stream}$   
(stream = sid)

$r_3 \leftarrow \sigma_{\text{stream\_name} = 'Commerce' \text{ AND } \text{is\_pass} = 'f'}$  ( $r_2$ )

$r_4 \leftarrow \rho_{\text{count} (*)}$  ( $r_3$ )

result  $\leftarrow r_4$

(10) How many students study outside their home town

$r_1 \leftarrow \text{Student} \bowtie \text{School}$   
(Student.schoolid = school.schoolid AND

~~Student.city != School.city~~ Student.city != School.city)



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$r_2 \leftarrow \{ \text{count}(*). (r_2) \}$

$r_3 \leftarrow r_2$

[22] Display number of student in each center

$r_2 \leftarrow \text{student} \bowtie \text{centers}$   
 $(\text{student}. \text{centerid} = \text{centers}. \text{centerid})$

$\bowtie \text{School}$

$(\text{School}. \text{Schoolid} = \text{centers}. \text{Schoolid})$

$r_2 \leftarrow \{ \text{count}(*). (r_2) \}$

$r_3 \leftarrow \Pi (\text{centerid}, \text{Schoolname}, r_2) (r_2)$

$\text{result} \leftarrow r_3$

[22] Give the list of Top 10 students

$r_2 \leftarrow \text{student} \bowtie \text{result}$

$(\text{student}. \text{enrollment\_num} = \text{result}. \text{studentid})$

$r_2 \leftarrow \{ \text{order by} (\text{Percentage}) \text{ limit } 3 \}$

~~Result~~ ~~Exam~~ ~~Failed~~ ~~and~~ ~~Physical~~ ~~Handicap~~

(23) How many people are physically handicapped and failed in exam

$r_2 \leftarrow$  Answer sheet ~~of~~ Student  
(Student.enrollment

Number = answer sheet  
student-enrollment)

~~of~~ Exam

(Exam.exam\_id = Subject.subject\_id)

~~of~~ Subject

(Subject.subject\_id = Exam.subject\_id)

and

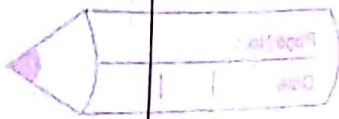
~~subject\_name = 'economics'~~

$r_2 \leftarrow$  (Obtained\_marks > 35 AND  
physical\_handicap = 'Y') ( $r_2$ )

$r_{vi} \leftarrow$  Result

+ 1 mark ~~if~~ ~~handicap~~ ~~and~~ ~~failed~~





(24) who got highest marks in economics

$\gamma_2 \leftarrow$  Student  $\bowtie$  AnswerSheet  
(enrollment No = Student enrollment)

$\bowtie$  Exam

(AnswerSheet. exam id = Exam. exam id)

$\bowtie$  Subject

(Exam.subject id = Subject.subject id)

$\gamma_2 \leftarrow \sigma_{\text{subject id} = 3} (\gamma_1)$  order by

$\gamma_3 \leftarrow$  order by (obtained marks) limit

$\gamma_4 \leftarrow$  first name, middle name, last name

$\gamma_{\text{result}} \leftarrow \gamma_4$

(25) How many boys passed in Exam.

$\gamma_2 \leftarrow$  Student  $\bowtie$  result  
(Student.enrollment = result. Student id)



(9)

$\gamma_2 \leftarrow \sigma_{\text{gender} = 'M' \text{ AND } \text{is\_Pass} = 'Y'}} (\gamma_1)$

$\gamma_{\text{result}} \leftarrow \gamma_2$

[26] How many students are there in each School.

$\gamma_1 \leftarrow \text{Student} \bowtie \gamma_{\text{result}}$   
 (enrollment number = student id)

$\gamma_2 \leftarrow \sigma_{\text{gender} = 'M' \text{ AND } \dots}$

$\gamma_1 \leftarrow \text{Student} \bowtie \text{School}$   
 (School = school; )

$\gamma_2 \leftarrow \# \text{Count} (*) (\gamma_1)$

$\gamma_3 \leftarrow \Pi (\text{School}, \text{SchoolName}, \gamma_2)$

$\gamma_{\text{result}} \leftarrow \gamma_3$

BETWEEN and LIVE are ...  
 Get list of dependents with ...  
 + enon, age(bdate) from comp ...  
 + enon, age(bdate) from comp ...

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(27) Highest Ranking student from particular school.

$r_2 \leftarrow$  Student (School)  
 (Student, Schoolid = school,  
 Schoolid and school  
 Schoolname = 'St. ...')

Answer sheet to

(Student - enrollment = enrollment number)

$r_2 \leftarrow$  Order By (obtained marks) DESC  
 Limit 1 (1, 2)

result  $\leftarrow r_2$

(28) Students who are absent

$r_2 \leftarrow$  Student Answer sheet

(Student - enrollment =  
 enrollment number)

$r_2 \leftarrow r_2$   
 (Null)



(19) How many student can center accommodate.

$x_1 \leftarrow \text{Student} \bowtie \text{Center}$   
(~~Student~~ Center = Center id)

$x_2 \leftarrow f(\text{count}(*))(x_1)$

result  $\leftarrow x_2$

(20) count total number of students giving exam.

$x_1 \leftarrow f(\text{count}(*))(\text{Student})$

result  $\leftarrow x_1$