Parent(<u>parent_SSN</u>,first_name,last_name,username,password,address,gender,email,home_num)

Parent-mobile_num(parent_SSN, mobile_num)

Parent-mobile_num.parent_SSN

references

Parent.parent SSN

Child(child SSN, first name, last name, birth date, age, gender)

Where Child.age =currrent year - Child.birth date

Parent-child(parent_SSN,child_SSN)

Parent-child.parent SSN Parent-child.child SSN

references references Parent.parent SSN Child.child SSN

Student(s id,child SSN,s name,s address,username,password,grade)

Student.child_SSN references Student.s name

references

Child.child_SSN School.s name

Student.s_address references

School.s_address

Where Student.grade is decided based on Student.age

School(<u>s_name,s_address</u>,general_info,phone_number,email,type,main_language,vision,mission,URL)

School_grades(s_name,s_address,grade)

School_grades.s_name School_grades.s_address references references

School.s_name School.s_address

School fees(s_name,s_address,fees)

 $School_fees.s_name$ School_fees.s_address references references School.s name School.s_address

Elementary_school(s_name, s_address)

Elementary_school.s_name ${\bf Elementary_school.s_address}$ references references School.s_name School.s_address

Constraint: Elementary_school is a predicate -defined relation: School_grades.grade

Elementary_supplies(s_name, s_address, supply)

Elementary_supplies.s_name Elementary_supplies.s_address references references School.s_name School.s_address

Middle school(s name, s address)

MIddle_school.s_name $Middle_school.s_address$ references references

School.s_name School.s_address ${\it Constraint: Middle_school is \ a \ predicate \ -defined \ relation: School_grades.grade}$

High_school(s_name, s_address)

 High_school.s_name
 references
 School.s_name

 High_school.s_address
 references
 School.s_address

Constraint: High school is a predicate -defined relation: School grades.grade

Parent-child-school(child_SSN,parent_SSN,s_name,s_address)

Parent-child-school.parent_SSNreferencesParent.parent_SSNParent-child-school.child_SSNreferencesChild.child_SSNParent-child-school.s_namereferencesSchool.s_nameParent-child-school.s_addressreferencesSchool.s_address.

Parent-review-school(parent_SSN,s_name,s_address, review)

 Parent-review-school.parent_SSN
 references
 Parent.parent_SSN

 Parent-review-school.s_name
 references
 School.s_name

 Parent-review-school.s_address
 references
 School.s_address

Course(code, name, description, grade,s_name,s_address)

Course.e_id references Teacher.e_id //course is given by teacher

Course.s_name references School.s_name Course.s_address references School.s_address

Student-has-course(s_id, code, e_id)

Student-has-course.s_idreferencesStudent.s_idStudent-has-course.codereferencesCourse.codeStudent-has-course.e_idreferencesTeacher.e_id

Course-is-prerequisite(code1,code2)

Course-is-prerequisite.code1 references Course.code
Course-is-prerequisite.code2 references Course.code

 $\label{lem:local_end_end} Employee (\underline{\textbf{e_id_}} first_name, middle_name, last_name, username, password, address, age, gender, email, birth_date, salary, email, s_name, s_address) \\$

Employee.s_name references School.s_name Employee.s_address references School.s_address

Where Employee.age =currrent_year - Employee.birth_date

Teacher(e_id, start date, years of experience)

references

Employee.e_id

Where Teacher.years of experience =currrent year - Teacher.start date Supervisor(<u>e_id</u>)

Supervisor.e_id

Teacher.e_id

references Teacher.e id

Constraint: Supervisor is a predicate -defined relation: Teacher.years_of_experience

Other(**e_id**, supervisor id)

Other.e id

Other.supervisor_id

references Teacher.e id

references Supervisor.e id

Constraint: Other is a predicate -defined relation: Teacher.years_of_experience

Parent-rate-Teacher(parent_SSN,e_id_, rating)

Parent-rate-Teacher.parent_SSN Parent-rate-Teacher.e_id references

Parent.parent_SSN

references Teacher.e_id

Question(course_code,s_id,question,answer,date,e_id)

Question.course_code

references

Course.code

Question.s_id Question.e_id

references

Student.s_id

references

Teacher.e_id // question answered by teacher

Assignment(course_code,e_id,post_date,due_date,duration,content)

Assignment.course_code

references

Course.code Teacher.e id

Assignment.e_id references

Where Assignment.duration = Assignment.due_date - Assignment.post_date

Teacher-grade-Assignment(course code,e id,s id,score)

Teacher-grade-Assignment.course_code references

Course.code

Teacher-grade-Assignment.e_id references
Teacher-grade-Assignment.s_id references

Teacher.e_id Student.s_id

Student-solve-Assignment(course_code,e_eid,s_id_,answer)

Student-solve-Assignment.course_codereferencesCourse.codeStudent-solve-Assignment.e_idreferencesTeacher.e_idStudent-solve-Assignment.s_idreferencesStudent.s_id

Report(e_id,s_id, date, teacher_comment)

Report.e_id references Teacher.e_id
Report.s_id references Student.s_id

Parent-reply-report(<u>e_id</u>,<u>s_id</u>,<u>parent_SSN</u>,<u>date</u>, reply)

----- ----- -----

Parent-reply-report.e_id references Teacher.e_id
Parent-reply-report.s_id references Student.s_id

Parent-reply-report.parent_SSN references Parent.parent_SSN

Admin(e_id)

Admin.e_id

references Employee.e_id

Announcement(date,title,e_id,description,type)

Announcement.e_id references Admin.e_id

Parents-Students-view-Announcements(<u>parent_SSN</u>,<u>s_id</u>,<u>date</u>,<u>title</u>)

Parents-Students-view-Announcements.parent_SSNreferencesParent.parent_SSNParents-Students-view-Announcements.s_idreferencesStudent.s_idParents-Students-view-Announcements.datereferencesAnnouncement.dateParents-Students-view-Announcements.titlereferencesAnnouncement.title

Activity(date,location,description,type,equipment,a_id,t_id)

Activity.a_id references Admin.e_id Activity.t_id references Teacher.e_id

Club(c_name, purpose)

High_School-offers-club(name, s_name, s_address)

 High_School-offers-club.name
 references
 Club.name

 High_School-offers-club.s_name
 references
 School.s_name

 High_School-offers-club.s_address
 references
 School.s_address

Student-join-club(<u>name, s_id</u>)

Student-join-club.name Student-join-club.s_id references references Club.name Student.s_id